2013-06-20

Evaluating the Effects of Non-Anonymity on Student Team-Member Evaluations

Taylor Robert Smith
Brigham Young University - Provo

Evaluating the Effects of Non-Anonymity on Student Team-Member Evaluations

Taylor R. Smith

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Master of Science

Rollin H. Hotchkiss, Chair
Sheli D. Sillito Walker
E. James Nelson
Kyle M. Rollins

Department of Civil and Environmental Engineering

Brigham Young University

June 2013

ABSTRACT

Evaluating the Effects of Non-Anonymity on Student Team-Member Evaluations

Taylor R. Smith
Department of Civil and Environmental Engineering
Master of Science

This thesis investigates the effect that non-anonymity has upon student team-member evaluations; more specifically, it looked at how to create conditions of openness and honesty in which students will readily give and receive constructive criticism. The central hypothesis of this research is that if students are taught and prepared to properly give and receive constructive criticism, and have multiple opportunities to do so, non-anonymous feedback is the most effective and desirable. In order to gauge the effects of non-anonymity, eight specific hypotheses relating to different aspects of the feedback process were tested. Predictions were made as to the effects upon the self-awareness and defensiveness of those who received feedback, the honesty and candor of those who provided it, as well as the effect upon teams' levels of trust and unity, and levels of performance.

The statistical analysis showed that non-anonymity had no significant effect upon self-awareness, trust and unity, and performance. Significant differences were observed for honesty and candor, as well as defensiveness. Although some of these differences were in favor, others were contrary to the assumptions that were made. One of the results showed that at the beginning of the procedure, non-anonymous ratings were more lenient, but at the end of the process there was no difference. This was as expected. In regards to the overall process, non-anonymous students perceived ratings to be less honest and candid. A second conclusion was that non-anonymous students were actually more defensive towards negative feedback.

In the end, there was no strong evidence for or against non-anonymity, and thus it appears that there was no major treatment effect. There are two justifications as to why this may be the case. These are based upon insights gained from the free-response section of a follow-up survey which the participants took. First, if non-anonymous feedback does indeed produce positive outcomes it may take a longer period of time for these differences to be noticed. This process took place over only about a three-month period, and feedback was received only 3-4 weeks apart. Secondly, when teams are small (i.e., only 3-5 members), it is difficult to maintain anonymity, which essentially removes the treatment.

From these observations, the final recommendation of this report is that for students working in small teams, non-anonymous feedback is preferable. This is because, as just noted, anonymity is difficult to maintain even if it is a required condition. It seems that pretending that anonymity exists, when in fact it does not, actually hinders transparency and trust. Also, it seems that giving feedback non-anonymously will more effectively prepare students for working on teams in their careers, as this is more reflective of the way that feedback will be provided in the workforce.

Keywords: Self-awareness, feedback, self-other agreement, overrater, underrater, in-agreement, accountability, non-anonymous, anonymous

ACKNOWLEDGEMENTS

First and foremost I would like to thank my Heavenly Father. There were many times throughout the process of writing this thesis, and throughout my entire educational experience, that I felt lost and overwhelmed. I know that it was only through His guidance, strength, and support that I made it through. I am grateful that He inspired me to get my education in the first place. I never could have imagined the potential I would achieve and the places it would take me.

Thank you to my wife Judy, who is wiser than she may ever know, and our children Hallie, Ashton, Brody, Brock, and Avery. I could not have achieved what I have without their love and support, and the sacrifices they made on my behalf.

Gratitude is also owed to Dr. Rollin H. Hotchkiss, my adviser, for taking a chance on me. This thesis is quite unconventional for an engineer, and I am thankful that he provided me with the flexibility I needed to pursue my passions. I am also grateful for his patience in this pioneering effort. From my personal experiences with him I learned more about my topic than any amount of academic research ever could accomplish.

I am likewise indebted to Professor Sheli D. Sillito Walker, my co-adviser, for taking the time out of her busy schedule to help out a guy from “the other side of campus”. She was always so understanding and quick to help. I truly could not have accomplished this without her.

Thanks also go to Drs. Grant G. Schultz, D. J. Lee, Morris D. Argyle, and E. James Nelson, for allowing me to use their classes as the subjects for this research, as well as Drs. Renata A. Tonks Forste and Tim B. Heaton for their help with data analysis.

Finally, I would like to thank both my good friend Tory Anderson, as well as Heidi A. Eldredge Lawrence; Tory, for all of his editing and providing feedback, and Sister Lawrence for doing the final review of this manuscript.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 – Introduction

1.1 – Purpose

The purpose of this research is to investigate the effects of non-anonymity upon team-member evaluations for student group projects; this condition of non-anonymity is in contrast to the traditional anonymous method which is generally used. More particularly, this study will gauge the effects of non-anonymity upon the self-awareness and defensiveness of those who receive feedback, the willingness of those who provide feedback to be open and honest, as well as its effects upon teams' levels of trust and unity, and levels of performance. (As a clarifying note, non-anonymity in this instance does not refer to feedback which is given face to face. Rather, the procedure which will be utilized in this study relies upon written feedback, but a person's name is attached to the feedback provided).

This thesis will explore the conditions under which people will be open and honest in providing feedback, and those who are receiving the feedback will be accepting of it. This is in order to properly develop the self-awareness of individual team members so that they can correctly identify and improve upon their weaknesses. It is also to increase a team's level of trust and unity, and, in turn, its performance.

From experience it seems that most students see the great value of open and honest constructive criticism, but have rarely had opportunities in which they felt safe to give it. In the procedure which was carried out for this research, students were instructed on how to provide effective feedback, as well as given opportunities to give and receive feedback to their teammates on a group project. This provided them with experiences which increased their self-awareness, as well as taught them how to communicate more effectively and prepared them for working on teams in their future careers.

1.2 – Research Questions

The central question of this research is regarding the effect which accountability, non-anonymity in particular, has upon the feedback process. The specific research questions are:

1. What effect does non-anonymity have upon a recipient's level of self-awareness?
2. What effect does non-anonymity have upon the candor and honesty of those who provide feedback?
3. What effect does non-anonymity have upon a recipient's level of defensiveness?
4. What effect does non-anonymity have upon a team's level of unity and trust?
5. What effect does non-anonymity have upon a team's performance?

2 – Literature Review

2.1 – Self-awareness Defined

Self-awareness is the ability which people have to observe and analyze themselves, including their own personal thoughts, motivations, and behaviors. This capacity to step outside of oneself is a characteristic which is unique to human beings (Luft, 1969).

2.2 – The Key to Effectiveness

Self-awareness is essential to personal growth and development (Tornow and Paradise, 2001), although not all people possess the same level of self-insight. Those with low self-awareness may view themselves, and what they are capable of, very differently from the way that others see them. Having a correct knowledge of one's own capabilities has considerable value because before people can accept the need for change, and then effectively develop new abilities, they must possess an accurate self-image of their current characteristics and capabilities (Whetten, 2007; Bracken and Timmreck, 2001). In addition, acting on misjudgments of oneself can produce adverse consequences (Bandura, 1982). If people hold overconfident and faulty views of their skills and abilities, they may try to solve problems that are unsolvable (Feather, 1961), place themselves in insurmountable circumstances, and pursue other dead-end courses of action.

Individuals who are highly self-aware tend to be more successful (Yammarino and Atwater, 2001), while inaccurate self-raters are generally poorer performers (Atwater and

Yammarino, 1992). Self-awareness is also a key to communicating, developing relationships, and functioning effectively as a member or leader of a team (Tornow and Paradise, 2001; Caldwell, 2009). One reason may be that those who have higher levels of self-awareness know what their personal trigger points and emotional thresholds are, and are thus more able to self-regulate their emotions, particularly in potentially volatile situations (Whetten, 2007). Furthermore, being more self-aware also allows people to more readily resolve any negative feelings they may have about having to suppress personal desires and ambitions for the good of their team (Jordan and Ashkanasy, 2006). A second advantage of self-awareness is that it makes people more aware of their personal biases and limitations. This in turn provides them with the ability to be more open to, and see things from, alternative viewpoints (Whetten, 2007). In conjunction with this, self-aware persons are also more conscious of how they are perceived by others, and are thus better able to incorporate judgments made of them by others into their own self-image (Caldwell, 2009; Atwater and Yammarino, 1992).

2.3 – Blind Spots

Areas that an individual is unaware of personally, yet are very apparent to others who are outside observers, are referred to as *blind spots* (Luft, 1969). It has been well documented that people (on average) hold inflated views of themselves (Dunning, 2005), and that when they rate themselves they tend to be lenient and are heavily influenced by what is socially desirable (Atwater and Yammarino, 1992). For example, in a survey of college professors, 94% rated their work as above average (Cross, 1977). To put this in perspective, as in reality half of people are above average and half are below, this means that 44% of these professors held false, over-positive beliefs about themselves. It is interesting that many people even overestimate their ability to correctly assess themselves. It should be noted, however, that despite this general tendency, a person with low self-awareness does not necessarily have to hold overconfident views of him- or herself. Some people possess a low level of self-awareness which is accompanied by underconfidence (Dunning, 2005). This implies that they are unaware of, or do not acknowledge, their strengths.

Despite the existence of self-serving biases, and even though the conclusions people make about themselves may be inflated, one should not automatically attribute overoptimistic errors in self-judgment to arrogance. The reality is that people simply have a limited capacity and a lack of information with which to accurately assess themselves. This is why it is difficult to strip people of overconfident self-views. Nevertheless, self-ratings do have accurate components, and people do need to come to some sort of conclusions about themselves, as imperfect as they may be. Making no judgments about oneself causes a person to be tentative, and thus unable to move forward and achieve self-improvement. With that said, people should approach self-awareness with a level of humility. They should always be conscious of the limitations and shortcomings associated with self-perception, and take them into account when making self-assessments (Dunning, 2005; Fleenor et al., 2010).

2.4 – Feedback is the Key to Developing Self-awareness

The two primary methods for developing self-awareness are self-reflection and receiving feedback from others; one is internal and the other external. Although in some cases introspection may be a valid source of self-knowledge (e.g. it often reduces self-enhancing biases), studies have shown that relying too heavily on internal thoughts and feelings can be problematic (Bollich, Johannet, and Vazire, 2011). Harris (1981, in Whetten, 2007) articulated this well when he stated:

> In order to know oneself, no amount of introspection or self-examination will suffice. You can analyze yourself for weeks, or meditate for months, and you will not get an inch further – any more than you can smell your own breath or laugh when you tickle yourself.

Many studies have shown that self-assessments do not align very well with actual results. In a comprehensive review of the literature, Mabe and West (1982) found that the correlation coefficient for the relationship between individuals' self-ratings and actual performance is approximately 0.29. In some cases (e.g. in tasks and skills that are more explicit in nature), the correlation was as high as 0.70, in others it dropped to zero, and very rarely was the relationship negative.

Self-awareness cannot be accomplished alone, and feedback provided by others who are close to and knowledgeable about an individual is the most effective way for one to discover how he or she is viewed by others and bring about personal change (Luft, 1969; Dunning, 2005; Bollich, Johannet, and Vazire, 2011; Tornow and Paradise, 2001). The reason for this is that when a person receives negative feedback, the gap between his or her self-perceived behavior and that which is desired or observed by others creates a "problem" which needs to be solved (Arnold, 1992, in Bracken and Timmreck, 2001). Normally, attempting to reconcile this discrepancy is what encourages self-improvement (Antonioni, 1996). In addition, the feedback process enables change as it provides participants with a lens through which they can observe and analyze performance gaps, make comparisons between themselves and others, as well as track personal development (Bracken, Timmreck, and Church, 2001).

As alluded to previously, in order to improve, people must understand how closely their self-perception aligns with organizational standards and the perceptions of others (Yammarino and Atwater, 2001). The views of others are very useful because others are in a more objective position in which to make more accurate observations, and likely have more factual insight regarding a person's skills, attributes, and behavior (Dunning, 2005; Fleenor et al., 2010). This claim to objectivity seems to be supported by the fact that self-ratings are less accurate than other-ratings when compared to objective measures, as well as by the finding that self-ratings are not as correlated to other-ratings as the other-ratings are to one another (Harris and Schaubroeck, 1988; Atwater and Yammarino, 1992). Furthermore, Ashford and Tsui (1991) found that managers who proactively seek out feedback, negative feedback in particular, hold more accurate self-views.

2.4.1 – The Limitations of Feedback

Stating that feedback is the most effective method for achieving self-awareness does not imply that a perfect view of oneself is ever actually attainable, or that the views of others are flawless and unbiased. Defining one's level of self-awareness is an ambiguous, complex, and "messy" process (Delmhorst, 2006), and there are several limitations which need to be considered. For example, although people need others to help them identify their blind spots, many key aspects of one's personality are internal and unobservable to others; even with observable behaviors, others do not and cannot observe everything that a person does (Bollich, Johannet, and Vazire, 2011). Another major issue is that despite any attempts to achieve objectivity, due to the idiosyncrasies and personal biases of individual raters, there is still a great deal of subjectivity involved in the feedback process. This ambiguity makes it very difficult to define and gauge "standards" of correctness (Delmhorst, 2006; Jordan and Ashkanasy, 2006), and may lead to inaccuracies in ratings.

Luft (1969) provides a thoughtful and thorough discussion of objectivity which addresses these issues. He states that there are two parts in any person's perception of another: the "subjective and the objective". The subjective portion is the view of one individual and is "purely personal"; the objective part is that which is incidentally in agreement with the observations of others, and this collective view has a greater probability of being correct than any single person's perspective. This seems to agree with Bollich, Johannet, and Vazire (2011), who wrote that if feedback from several acquaintances coincides, it is likely that this collective assessment is relatively accurate. Luft continues that the degree to which an individual other-rater's opinion aligns with the consensus is called "consensual reliability".

Under Luft's rationale, the purpose for using the collective opinion as the "objective" view is to mitigate the prejudices and preferences of individual raters. In addition, the underlying assumption is that the standard of correctness is established by organizational and social values, and the rightness of one's behavior is measured by the way that they are perceived by others in relation to those norms (Delmhorst, 2006). This uncertainty may be unnerving to some; however, if truly objective tools and universally accepted standards existed, then they could be used for performing evaluations, and the use of feedback would be pointless (Luft, 1969).

2.4.2 – Validity

In accordance with the previous section, one of the foundational principles behind feedback is that receiving evaluations from multiple raters provides more accurate, meaningful, and useful results than if the ratings are provided by only one source (Antonioni and Woehr, 2001). It seems that the additional accuracy is due to the added perspective which comes with each additional source. In the early twentieth century, when psychologists first began using feedback to measure job performance, Kornhauser (1923, in Hedge, Borman, and Birkeland, 2001) showed that even though ratings were personal opinions and had many inaccuracies, if they were obtained from several sources, they proved to be more useful than production records. He found that even though production records were objective, they were not necessarily reflective of an individual's performance. It seems that production records may fail to capture some vital aspects of performance which are not as explicit in nature.

The challenge with increasing the number of raters, however, is that it also results in an increase in the potential for variability among ratings. This is because each of the parties providing feedback has a unique view of the person they are rating, and "disagreement is likely to be the norm, not the exception" (Murphy, Cleveland, and Mohler, 2001). These differences may be due to factors such as differences in "expectations, kinds and amounts of interactions, behaviors toward certain groups, and observational opportunities" (Tornow and Paradise, 2001). Even though other-ratings have a higher correlation with one another than do self-ratings with other-ratings, several studies throughout the years have shown that correlations between other-ratings are still, in fact, low. Hensel et al. (2010) reported that many studies have suggested that the satisfactory level of reliability for feedback from multiple sources is 0.7. A common practice in peer assessments is to use two or three raters, which only results in reliabilities of 0.45 and 0.5, respectively. It was found that in order to achieve a reliability of 0.7, ten raters were required.

Early on, when correlation was of great concern, the general opinion was that all sources of feedback were not equally accurate or valuable. However, with time, a new perspective has emerged. Because raters may have different perceptions of the ratee (due to their unique interactions and roles relative to them), high correlation, although desirable, should not be an expectation. Furthermore, the ratings of any one person cannot be deemed as being more valid than any other; each rater may produce valid ratings from his or her own perspective (Hedge, Borman, and Birkeland, 2001). In the end, although a high correlation between raters may provide some confidence in the accuracy of the results, it effectively defeats the purpose of obtaining data from multiple sources (Dunnette, 1963). This is not to say that interrater reliability is of no concern, but serves to make the point, once again, that if universal standards and purely objective measurements of human behavior existed, then the use of peer feedback would be ineffectual. The true test of validity is acceptance by the rater, which will discussed hereafter.

The primary problem with relying too heavily upon reliability coefficients as a measure of validity is that it treats human raters as passive, “interchangeable forms of a rating instrument” (Murphy, Cleveland, and Mohler, 2001). Feedback evaluations cannot be designed merely to produce a numerical estimate of one’s performance; performance rating is a complex process, and it may be driven and influenced by an intricate interaction of human factors that are not actually related to a person’s performance. For example, the accuracy of ratings is often influenced by the rater’s ability and reasoning skills; the goals and objectives of the rater (e.g. motivating behavioral change vs. maintaining positive relationships); and the context in which ratings occur. In reality, due to these influencing factors, providing accurate results may be a relatively minor concern of the rater (Murphy and Cleveland, 1995; Murphy, Cleveland, and Mohler, 2001; Fleenor et al., 2010).

Despite the complexities which have just been discussed, one cannot throw caution to the wind when conducting feedback. Although these limitations can likely never be eliminated, steps must be taken to moderate rater biases (Antonioni and Woehr, 2001) in an attempt to obtain the most accurate results possible; this primarily includes getting raters to provide open and honest ratings from an objective mindset.

2.4.3 – Self-other Agreement

In the context of peer feedback, the primary indicator of self-awareness is *self-other agreement*, which is a measure of the difference between people’s self-assessments and the assessments made of them by others. Hence, if a person experiences a significant difference between self- and other-ratings, they are considered to be less self-aware, and those with high self-other agreement have high self-awareness (Delmhorst, 2006; Atwater and Yammarino, 1992; Yammarino and Atwater, 2001).

There are four primary categories of self-other agreement, which are:

- *Overestimator* - self-ratings are higher than other-ratings.
- *Underestimator* - self-ratings are lower than other-ratings.
- *In-agreement and good* - self-ratings are similar to other-ratings, and both are high.
- *In-agreement and poor* - self-ratings are similar to other-ratings, and both are low.

Individuals who are overestimators tend to see themselves in an overly-positive light; that is, they think that they are high performers, but this view does not align with the observations of others. The negative consequences of holding inflated views of oneself is that people who are classified as overestimators tend to be less effective at making work-related decisions; have negative attitudes (including hostility and resentment towards others); fail to see the need for training and development; are prone to high absenteeism, low commitment, and high turnover; and experience frequent conflicts with supervisors and colleagues. However, on the positive side, overestimators are also the most likely to improve their performance as a result of feedback. They also tend to lower, or self-correct, their self-evaluations on follow-up assessments (Yammarino and Atwater, 2001; Johnson and Ferstl, 1999).

In contrast to overestimators, underestimators are inclined to think that they are poor or average performers, even though others see them favorably. This is because they either do not recognize their strengths, or else they are overly modest. In addition, underestimators are somewhat successful performers, and are generally pleasant to be around, although they tend to have low aspirations, have difficulty making job-related decisions, and often do not reach their potential. When they receive feedback from others they generally maintain their level of performance, but raise their self-ratings on subsequent evaluations. Their potential for improvement is significantly increased if they receive continual and ongoing positive feedback from others (Yammarino and Atwater, 2001; Johnson and Ferstl, 1999).

People in the “in-agreement and good” (IAG) category tend to rate themselves highly, and their self-ratings are also in alignment with the views of others. Of the four categories, IAG’s are generally the most successful. Among many other factors, they are effective decision makers; set and achieve realistic expectations for themselves; have very positive attitudes; are highly committed; and experience few conflicts with others. They also use feedback from others constructively to change their behavior as necessary (Yammarino and Atwater, 2001).

Those who are “in-agreement and poor” (IAP) recognize their personal weaknesses, and are also fully aware that they are perceived by others negatively. Even though, by definition of self-other agreement, they can be categorized as “self-aware”, their behaviors and performance are undesirable. IAP’s are generally unsuccessful. They have low knowledge, skills, and abilities, and make poor job-related decisions. They also experience feelings of low self-worth and have negative attitudes. Even though they can accurately diagnose their own weaknesses, they usually do not take much action to improve their performance; however, depending on the cause of poor performance (ex. ability or attitude) they may demonstrate either low or high motivation to improve (Yammarino and Atwater, 2001). Smither et al. (1995) also found that IAP’s do not improve their performance after receiving feedback. They stated that, in congruence with self-consistency theory (Korman, 1976), this is due to people being generally content with feedback which is in harmony with their own self-perception, even if the feedback is not positive.

2.4.4 – Responses to Feedback

When people receive feedback which is not in alignment with their views of themselves, there are five primary response strategies which they can (either intentionally or unintentionally) enact (Delmhorst, 2006; Conger and Toegel, 2003):

1. They can change their behavior
2. They can change their self-ratings
3. They can try to influence the standards and expectations of others
4. They can explain and justify their behavior to others
5. They can downplay and/or avoid the feedback

It appears, then, that overraters are best suited to benefit from receiving feedback. This is because in order for them to reduce the discrepancy between self- and other-ratings, they can either decrease their self-ratings or improve their actual performance. Because of their elevated level of self-esteem, it is unlikely that they will lower their self-ratings, and will rather focus their efforts on improving. Conversely, for underraters to reconcile a discrepancy, they must elevate their self-ratings or decrease others' ratings, both of which do not motivate positive change (Delmhorst, 2006). For those who are in-agreement, because there is no discrepancy, they are unlikely to make any of the changes listed above. For IAP's this may be problematic, as they may remain in a state of poor behavior. For IAG's, however, there is no concern because their performance is already good and thus there is no need for change. Therefore, the ideal state, whether it be in the present or it is being worked toward in the future, is to be in-agreement and good (Delmhorst, 2006). Although, present IAG's must be wary to not develop an attitude of complacency in order to avoid becoming stagnant in their personal progression.

2.4.5 – The Sensitive Nature of Receiving Feedback

A person's reaction to the feedback he or she receives is likely the prime determinant of whether he or she makes effective use of the feedback or not. There are two primary factors which influence this response: (1) the rater's desire for the ratee to change his or her behavior (i.e., does the feedback identify strengths or weaknesses), and (2) how surprising the feedback is to the person being rated (e.g. were the ratings of others in agreement with the person's self-ratings). Based on these two factors, there are four possible reactions to receiving feedback, which are shown in Figure 1.

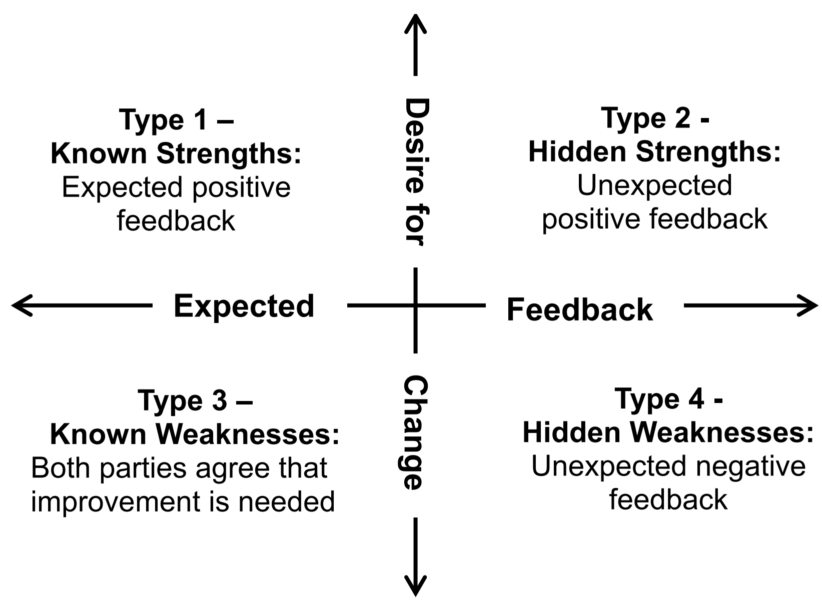


Figure 1: Various Responses to Feedback
(Source: Modified from Antonioni, 1996)

Reactions to Type 1 (in-agreement and good) and Type 2 (underrating) feedback are generally positive. This seems obvious as, regardless of whether the feedback is expected or unexpected, in both cases it recognizes a person's strengths. Reactions to Type 3 (in-agreement and poor) are generally neutral because although the feedback being received is negative, it is expected and is also in agreement with the person's view of him- or herself. Type 4 (overrating) feedback, which is feedback that is both negative and unexpected, is generally the most difficult for people to accept and causes the most negative emotional reactions. These reactions can range from confusion to defensiveness, although people usually come to terms with the criticism once they have had a chance to reflect and process it (Antonioni, 1996). In terms of self-awareness, it is often Type 4 feedback that receives the most attention because it is the kind that identifies blind spots.

There is an underlying tension that accompanies Type 4 feedback. On one hand, people can gain valuable insight which will help them with personal growth. On the other hand, exposing one's blind spots can cause feelings of shame and embarrassment; it can be painful and damaging to people's self-esteem and sense of competence when they discover that they are not all that they think they are. Due to this, people often become defensive and go into a self-justifying mode when they receive negative evaluations from others (Delmhorst, 2006; Whetten, 2007; Luft, 1969; Baumeister and Cairns, 1992). Furthermore, the greater the discrepancy of the feedback, or the more serious the consequences that will result from it, the greater the desire exists to defend against it (Whetten, 2007). Only a small portion of people are at a level of psycho-emotional maturity in which they readily receive, and even invite, negative feedback. For example, one survey found that less than 15% of executives are open to constructive criticism (Taylor, 2010).

When people go into a self-protective mode, there are many strategies which they will use in order to maintain (and even enhance) their desired self-image. For example, individuals will spend significantly more time reviewing assessments that are confirmatory (Swann, Rentfrow, and Guinn, 2002). They also tend to accept positive feedback at face value, but look for ways to scrutinize and discredit negative feedback (Dunning, 2005; Yammarino and Atwater, 2001), including questioning the competency of the rater (Taggar and Brown, 2006). They may put more stock in areas in which they received high ratings, and minimize the importance of the areas in which they were low, as well as attribute poor ratings to causes which they claim are beyond their control. For example, they may rely upon the idea that some raters will never be satisfied, or that low-performing colleagues cannot be expected to be honest and provide accurate ratings (London, Smith, and Adsit, 1997). In addition, people more readily forget negative feedback, or else distort it to make it more agreeable with their predetermined view of themselves (Dunning, 2005). The obvious problem with these tactics is that people in this state of mind may conclude that their preconceived notions about themselves are supported by the facts, when in actuality they may be false. This in turn can have an adverse impact on their ability to make positive changes to their behavior and improve their performance (Caldwell, 2009; Jordan and Ashkanasy, 2006). Studies have found that approximately 30-40% of feedback interventions result in decreased performance (Delmhorst, 2006; Kluger and DeNisi, 1996).

Negative feedback also has the potential to impact personal relationships within teams. This is because if one cannot handle receiving censure, the recipient may interpret the feedback he or she receives from teammates as a personal attack, and he or she may have a desire to punish or retaliate against those who rated them poorly. If subsequent evaluations are performed, these negative feelings may even result in a perpetual negative ratings cycle (Taggar and Brown, 2006). Furthermore, these personal conflicts can lead to a loss of trust and produce significant distractions which can shift the team's focus away from the important matters at hand. In order for controversy to become constructive, the expression of emotions must be restrained and regulated, and concentrated in the right places (Taggar and Brown, 2006; Jordan and Ashkanasy, 2006). As discussed in the opening paragraphs of this literature review, those who have a high sense of self-awareness are generally at a level of emotional maturity which makes them well suited to deal with these concerns in an effective manner.

2.4.6 – The Sensitive Nature of Giving Feedback

Due to its sensitive nature, it is also generally quite difficult for people to provide negative feedback. Even if they recognize the value of candid and honest feedback, people are usually empathetic and do not want to damage the self-esteem of others. As a result, one of the primary biases which exists in the feedback process is leniency. In feedback evaluations it is quite normal to find that a vast majority of people are rated as "above average". It has been well-established that the majority of ratings are positively skewed and that most people receive higher ratings than they actually deserve (Murphy and Cleveland, 1995; Bernardin, Cooke, and Villanova, 2000). People alter feedback to make it more agreeable because it is much easier to express supportive and positive feelings than it is to offer correction and point out others' shortcomings (Whetten, 2007). Bernardin and Villanova (1986, in Bernardin, Cooke, and Villanova, 2000) found that the desire to avoid confrontation was a significant source of rating inaccuracy.

This effect is particularly true when personal relationships (ex. feedback is received by peers) or significant consequences (ex. personnel decisions such as promotions) are on the line. In many instances, raters face a dilemma between helping the people they are rating to improve, and maintaining a positive relationship with them (Ng et al., 2011); leniency most often occurs when the rater is more concerned about the relationship than about accuracy and accountability (Antonioni and Park, 2001). To avoid this predicament, people look for ways to avoid giving feedback (Yammarino and Atwater, 2001). Tesser and Rosen (1975) refer to this reluctance to deliver bad news as the “MUM effect”; that is, people would rather “keep mum” than risk provoking negative reactions on the part of the receiver. Even when people do give negative feedback, in order to avoid full-out lying, they usually focus heavily on positive aspects and gloss over the negatives, as well as use misleading and ambiguous wording; doing this allows them to be “truthful”, yet still leave the other person’s self-esteem intact (Dunning, 2005). What they may not realize is that despite its uncomfortable nature, exposing and positively correcting previously hidden weaknesses can help a person to avoid many hazards (Luft, 1969). People need to receive open and honest feedback in order to help them develop proper self-awareness and bring about positive and effective change. Sugar-coating feedback, or not giving it at all, serves only to amplify the detrimental effects of low self-other agreement and overrating (Yammarino and Atwater, 2001).

2.4.7 – Supportive Communication

The dilemma of “truth versus tact” can properly be solved through supportive communication, which is the open and honest expression of constructive criticism, while still seeking to maintain goodwill and positive relationships.

One of the primary features of supportive communication is that it attempts to provide accurate, meaningful, and bias-free information about a person. It focuses on explicit behaviors and outcomes which provide concrete evidence regarding where one stands relative to others, and is not based on personal relationships or obscure observations (Bollich, Johannet, and Vazire, 2011; Antonioni and Woehr, 2001). Based upon this rationale, qualitative feedback needs to be centered on specific behaviors and goals, and comments should be precise and descriptive; however, feedback should not be too specific, in order to avoid being nitpicky or overly prescriptive (Antonioni and Woehr, 2001; DeNisi and Kluger, 2000).

Due to its honesty, as well as the level of emotional investment required, supportive communication actually strengthens relationships. Although there may be some initial obstacles to overcome, people usually end up feeling accepted, valued, and uplifted, even though the information being communicated is negative (Whetten, 2007).

2.4.8 – True Validity and Acceptance

When receiving negative feedback, most people have a natural tendency to discredit the feedback and self-justify their weaknesses. With that in mind, the most important measure of validity for peer feedback is not determined statistically; the true test of validity is acceptance. In other words, no matter how meticulously a feedback procedure is controlled, administered, and analyzed, in order to achieve desirable outcomes, the person receiving the feedback must be in a position to accept it and put it into action. Acceptance is determined by the degree to which the people receiving the feedback view the results as accurate indicators of their performance; the extent to which this information is useful and meaningful; and the extent to which they use the feedback to achieve personal growth. If feedback is perceived as unfair or biased, it will likely be rejected, and thus cannot motivate a person to change (Ilgen, Fisher, and Taylor, 1979; Bracken and Timmreck, 2001; Murphy, Cleveland, and Mohler, 2001; Tornow and Paradise, 2001). Even if feedback is not positive, and even if it is discrepant, if a person deems the feedback as relevant, accurate, and worthy of their consideration they are much more likely to internalize it (Whetten, 2007; Bracken and Rose, 2011; Peterson, Hicks, and Stoner, 2001).

2.5 – Factors influencing Acceptance and Accuracy

There are many circumstances and factors which affect the accuracy of ratings (both actual and perceived), as well as practices which must be followed in order to increase the probability of acceptance by the person receiving the feedback. Several of these factors and practices are discussed below.

2.5.1 – Time for Reflection

As previously mentioned, even though it is initially difficult to receive, people usually come to terms with negative feedback as long as they have time to process and reflect upon it. It is critical that recipients are not overwhelmed with negative information, and that they are provided with the opportunity to digest it in the most effective way. Findings suggest that individuals are less defensive to feedback, and improve their performance better, when more time and energy are devoted to processing the information. This can be achieved through means such as writing reflections, discussing feedback with those who provided it, and other methods of follow-up support (Antonioni, 1996; Bollich, Johannet, and Vazire, 2011).

2.5.2 – An Atmosphere of Trust and Safety

Some people may be skeptical about accepting feedback due to the concern that the honesty and accuracy of ratings may have been influenced by personal relationships, either positively or negatively (Love, 1981; Taggar and Brown, 2006). There must be an atmosphere present in which raters have incentives to provide thoughtful and honest ratings, and in which they feel protection against the interpersonal consequences of giving negative feedback (Murphy, 2008).

2.5.3 – Rater Ability

Those receiving feedback should feel more confident in the evaluations they receive if the ratings are provided by someone who has been trained. Training improves the rater's ability to be more impartial and accurate when evaluating another person's performance. Rater training is also vital because it communicates to the raters how important they are in the process, which ideally should motivate them to understand their responsibility and not take the process lightly (Antonioni and Woehr, 2001).

2.5.4 – Willingness

As previously mentioned, rating leniency is a pervasive problem which affects nearly all rating procedures. The concern with leniency is that it undermines the accuracy and usefulness of ratings (Bretz, Milkovich, and Read, 1992). In order to provide accurate ratings, raters must not only have the ability, they must also be *willing*. Research has shown that people are more willing to provide honest feedback when they feel that they have the ability to rate others properly, and if they believe that there are benefits to performing the ratings. Willingness is also affected by how much time and effort is required to give the feedback (Westerman and Rosse, 1997; Antonioni and Woehr, 2001). The feedback procedure must not be perceived as burdensome, and the number of traits must be small enough to prevent rater boredom (Hedge, Borman, and Birkeland, 2001).

2.5.5 – Peers as the Source

Peer (i.e., teammates not in a position of authority) ratings are often regarded as a valuable source of performance feedback. Several authors have determined that peer evaluations are the most accurate predictors of the success and future performance. For students, this is as compared to instructor and supervisor evaluations, several objective tests, and even academic grades (Barclay and Harland, 1995; Hedge, Borman, and Birkeland, 2001). Some may argue that peers are less knowledgeable, less competent, and less experienced at performing evaluations than supervisors. They may also be skeptical of peer ratings because they may view the ratings as being influenced by personal relationships and common interests; however, peers have closer and more frequent interactions with their teammates and it is likely that they have a better perspective and understanding of the group's individual circumstances (Love, 1981; Murphy, Cleveland, and Mohler, 2001; Barclay and Harland, 1995; Hedge, Borman, and Birkeland, 2001).

It should be noted, however, that a potential downfall to peer ratings is that teammates often do not like evaluating each other, especially when they are used for decision making purposes (McEvoy and Butler, 1987; Cederblom and Lounsbury, 1980; Love, 1981). In these situations the rater assumes an "administrative" role which may increase the potential for conflict (Hedge, Borman, and Birkeland, 2001). Therefore, employees are usually more accepting of peer ratings if they are used only for developmental, and not administrative, purposes (Farh, Cannella, and Bedeian, 1991).

2.6 – Accountability

The central focus, and most polarizing issue of this thesis research, is accountability. Accountability is the primary determinant of the willingness of a rater to be open and honest and provide accurate responses. It also often determines the willingness of a ratee to put the feedback into action. Unfortunately, most procedures do not have measures in place which compel the rater to provide accurate feedback, and/or which hold the person being rated responsible for utilizing the feedback. The irony is that it seems that both parties in the process want low accountability for themselves but high accountability for the other (London, Smith, and Adsit, 1997).

2.6.1 – Rater Accountability

To obtain useful and valid results, raters must attempt to provide accurate, meaningful, and bias-free ratings, not ratings which are based on personal relationships or obscure observations. In order for this to happen, raters must be held accountable (Antonioni and Woehr, 2001). On the part of the rater, accountability generally refers to the degree of social pressure (either actual or perceived) that they feel to justify their ratings (Tetlock, 1985). There are many mechanisms of accountability which regulate the candor of given feedback: whether the feedback is used for development or assessment; whether justification is required for low ratings; and whether the feedback is given anonymously or non-anonymously (Antonioni and Woehr, 2001; London, Smith, and Adsit, 1997).

2.6.1.1 – Development vs. Assessment

There are two primary objectives for feedback – which are personal development and assessment – and there is a significant difference between the two. There has been an ongoing debate as to which of these purposes feedback (peer or otherwise) should be used for (Tornow and Paradise, 2001; Bracken, Timmreck, and Church, 2001).

When used purely for developmental purposes, feedback serves only to increase self-awareness by informing people about the degree to which they meet, do not meet, or exceed the rater's expectations. Some self-improvement may naturally occur, but there are essentially no external expectations. Because there is nothing at stake, at least in terms of explicit consequences, raters are more willing to provide feedback when they know that it is being used for developmental purposes only (Westerman and Rosse, 1997). Perhaps this is one of the reasons why, in many cases, feedback (of all types) is used for development and not assessment purposes (Tornow and Paradise, 2001).

On the other hand, when feedback is used for assessment there are normally administrative decisions and/or other outward consequences (either positive or negative) tied to the feedback results. This increase in accountability often stifles openness and honesty, as the giver of the feedback does not want the receiver to be punished for poor ratings. Consequently, assessment feedback is more prone to leniency bias (Maylett, 2009; Ng et al., 2011). London and Wohlers (1991) found that 34% of the people in their study reported that they would have provided different ratings if they were to be used for assessment purposes. It is interesting to note that even though many raters do not like their ratings to be used for decision making, they still expect the ratees to be held accountable for making improvements (Antonioni and Woehr, 2001).

In addition to leniency, having consequences on the line is generally more threatening to the person being evaluated, for obvious reasons. As such, administrative feedback often causes the receiver to be more defensive and more prone to feelings of denial (Tornow and Paradise, 2001). It seems clear, then, that rater training and accurate results are especially crucial when feedback is used for decision making (Bracken, Timmreck, and Church, 2001).

2.6.1.2 – Requiring Justification

Requiring raters to provide verbal or written justification for the ratings they give to others (low ratings in particular), is another way to increase accountability for the rater. When justification is obligatory, raters must account for any differences between self- and other-ratings, causing them to be more likely to incorporate the opinions and attitudes of others into their ratings (Longenecker, Sims, and Gioia, 1987). It also causes the rater to consider the consequences that may result from the ratings they give (i.e., personal relationships, retaliation, etc.). As a result of this increased consciousness, Mero and Motowidlo (1995) found that ratings which required justification were more accurate than those which were not justified.

2.6.1.3 – Anonymity

Many authors suggest that in order to achieve the desired level of truthfulness and candor, and in order to avoid damage to personal relationships, feedback needs to be given anonymously (Antonioni, 1994; Tornow and Paradise, 2001). The primary drawback to removing anonymity is that it can prevent people from being as open and honest as they should be. Some studies have shown that non-anonymous ratings are more inaccurate than anonymous ratings due to leniency (Tornow and Paradise, 2001; London, Smith, and Adsit, 1997). This seems to be confirmed by London and Wohlers (1991) study in which 24% of respondents reported that they would have rated more leniently if the feedback was given openly (Tornow and Paradise, 2001). As such, most feedback procedures are conducted anonymously. However, one of the drawbacks to anonymity is that there is a lack of accountability.

Although anonymity may be less susceptible to leniency bias, according to Cleveland and Murphy (1992) the lack of accountability associated with anonymity likely diminishes the quality and effectiveness of ratings. It provides raters with a greater opportunity to be less thoughtful and objective in their responses. Once again, the whole point of the feedback process is objectivity, and feedback which is not thoughtfully crafted can be just as unrealistic and inaccurate as feedback which is watered-down. The main benefit to non-anonymity is that it naturally demands the justification of judgments made about others. This is not necessarily referring to the outward justifications described previously, but more so to what occurs internally on the part of the rater. While not ignoring its proneness to leniency, the level of accountability created by non-anonymity normally causes one to be more thoughtful and deliberate in order to produce justifiable results (Ford and Weldon, 1981). Tetlock (1983) labeled this internal justification as “preemptive self-criticism”. Perhaps most importantly, the issue with anonymous feedback is that it may send the message, and create an atmosphere where people feel that they cannot trust one another to be honest (Mitchell and Klimoski, 1984). On the other hand, in order for feedback to be given openly, there generally must be a considerable amount of transparency and trust (Tornow and Paradise, 2001).

2.6.2 – Ratee Accountability

An effective feedback procedure requires accountability not only on the part of the rater, but also depends heavily upon the person being rated. Simply receiving a report does not in and of itself motivate behavioral change. Feedback which results in no observable change in behavior is called "dead-end feedback". This type of feedback should be avoided because it creates feelings of cynicism and skepticism towards the feedback process (Waldman and Atwater, 2001).

In order to bring about change, people need to be held accountable for responding to the feedback they have received (Antonioni, 1996). One's motivation to act upon feedback can be either intrinsic or extrinsic; that is, a person can be motivated to change by their own consciousness, or else by the threat of external consequences. It has been observed that when people are left to figure out for themselves how, and whether, to improve low-rated behaviors, their ability to improve is compromised (Antonioni, 1996). In addition, there is a significant difference in the amount of learning which is experienced between those people who merely use feedback to understand what others think of them and those who use it as a catalyst for personal development (Peterson, Hicks, and Stoner, 2001).

There are several extrinsic factors which increase accountability and motivate change. These include: setting goals; making these goals known to others; and discussing the feedback with others face-to-face (Antonioni and Woehr, 2001; London, Smith, and Adsit, 1997).

2.6.2.1 – Goal Setting

In the feedback process, people can only successfully improve performance when they set personal improvement goals in relation to the evaluations they have received (Renn and Fedor, 2001; Antonioni, 1996). Those who set specific goals outperform those who simply "do their best" (Locke et al., 1981). This is because having clear goals establishes a focus and direction which facilitates improved performance (Lynn and Reilly, 2000).

2.6.2.2 – Disclosure

When disclosure is incorporated into team-member evaluations it can help people to overcome self-justification and self-deception. If one reveals the evaluations they have received to others, they are compelled to pay more attention to negative feedback. When results are kept private there is no one to challenge their inaccurate perception of themselves (Baumeister and Cairns, 1992). In addition to disclosing the feedback itself, when individuals also share their personal goals with their teammates, as well as make public commitments to achieve them, this added accountability provides much greater motivation to follow through with these commitments. This disclosure should be done at regularly scheduled meetings so that it is expected and can be planned for (Antonioni, 1996).

Just as with receiving feedback from others, self-disclosure may bring about feelings of vulnerability, embarrassment, and anxiety (Luft, 1969). As some individuals may not be as comfortable sharing their results with others, they may need additional assistance in order to make this happen (Tornow and Paradise, 2001). Despite its uncomfortable nature, when people become more open with others, they almost always experience feelings of deep satisfaction; this is in contrast to previous feelings of loneliness, hostility, and estrangement (Luft, 1969). Disclosure will also likely improve communication between teammates, and issues which were once undiscussable can now be addressed in a safe environment (Antonioni, 1996).

2.6.2.3 – The Need for Follow-up and Support

Another aspect of feedback which is critical to bringing about a change in behavior is that, regardless of the tool which is used, feedback needs to be repeated at frequent intervals, and there must be follow-up (Bracken, Timmreck, and Church, 2001; Waldman and Atwater, 2001; Van Velsor and Leslie, 2001; Tornow and Paradise, 2001; Shipper, 2010; Whetten, 2007). With each iteration, improvements that have been made since the previous feedback was received should be acknowledged (Taggar and Brown, 2006). It has been found that those who receive poor evaluations will improve their skills even more than people with moderate or high skills, as long as there is follow-up support (Shipper, 2010). One of the reasons for this is that multiple feedback sessions allow a person to track their progress, as well as receive support and suggestions (DeNisi and Kluger, 2000). Unfortunately, a lack of follow-up is one of the most common problems observed with the feedback process (Waldman and Atwater, 2001).

In many situations only one evaluation is performed. It is usually at the end of a project, and is done only for assessment purposes (this is known as *outcome feedback*). One of the primary problems with this is that it leaves a powerful self-improvement tool effectively untapped, as feedback received after the fact is too little too late. In addition it deprives a team of opportunities to improve communication and build trust. Conducting a single intervention also effectively eliminates accountability, both for the giver and the receiver. A final benefit is that when people receive ongoing *process feedback*, they tend to set more goals for themselves, which in turn leads to increased performance (Korsgaard and Diddams, 1996, italics added).

A single intervention is also insufficient to produce a difference in self- and others' evaluations (Shipper, 2010), as it eliminates the opportunity to implement that which was learned from previous evaluations. Several studies have shown that with subsequent ratings, receiving constructive feedback tends to increase self-other agreement, and that those with more accurate self-ratings are those who have likely altered their behavior in response to past feedback (Ashford, 1989; Yammarino and Atwater, 2001; Antonioni, 1996).

2.7 – Outcomes

As covered in this literature review, process (or ongoing) feedback serves many purposes and functions. It has the potential to produce many positive outcomes. These include:

1. Increasing self-awareness resulting from an increase in the awareness of the perceptions and expectations of others;
2. Improving behavior and performance;
3. Making people less defensive and more accepting of negative feedback;
4. Making people more comfortable with providing negative feedback.

Many people assume that feedback is unidirectional and is only for the benefit of the receiver. However, when conducted properly, the feedback process should not only improve the behavior of the person being rated, it should also improve communication (Antonioni, 1996). It seems that, in turn, this should lead to better personal relationships, higher levels of trust, and increased team performance.

3 – Hypothesis

The central hypothesis of this research is that, when students are taught and prepared to properly give and receive constructive criticism, non-anonymous feedback is the most effective and desirable. As was discussed in the literature review, some people assert that open feedback decreases the likelihood of truthfulness and candor (Antonioni, 1994; Tornow and Paradise, 2001), as well as poses a significant threat to a team's level of cohesiveness; while in some cases this may be true, this hypothesis is based upon the idea that feedback which is provided non-anonymously increases the level of accountability on the part of the giver of the feedback. It is assumed that increased accountability causes people giving feedback to have to justify and stand behind their words, thus making them more thoughtful and conscientious. This in turn allows them to provide more accurate responses. It also seems that non-anonymous conditions should provide the level of transparency necessary to achieve a high level of interpersonal trust. As a result of receiving more thoughtful and justifiable feedback, as well as due to the increase in trust, those receiving the feedback should view the assessments of others as being more authentic and accurate. It seems that if a person views feedback as realistic and unbiased they should be less likely to become defensive and go into denial, and more likely to internalize it and use it to bring about personal change.

It is important to note that in the feedback procedure followed by students in this study, there were three evaluations performed. In many cases student usually only perform one evaluation at the end of a project. It is hypothesized that this repetition, and the opportunity it provides for follow-up support, is what should make it possible to overcome the difficulties associated with non-anonymous feedback. It seems that with each successive iteration students should feel more and more comfortable, both giving and receiving feedback; negative feedback in-particular. This is due to their past experience with actually providing the feedback itself (i.e., they are more skilled), the increased understanding they have of another person which naturally occurs over time, as well as from the improved communication and level of interpersonal trust that ideally results from the evaluation process.

For the statistical analysis which was performed, there were eight specific hypotheses which were tested. These hypotheses are outlined in the following paragraphs.

3.1 – Self-other Agreement

> *Hypothesis 1*: Although self-other agreement will likely increase over time regardless of treatment, non-anonymous feedback will result in a greater increase in self-other agreement than when feedback is given anonymously. It is predicted that this effect will take place regardless of the classification of the ratees (i.e., agreement, overrater, or underrater).

The prediction that non-anonymity will increase self-other agreement follows from the notion that when feedback is not anonymous it produces more thoughtful, justified, and thus more accurate results. This increase in accuracy, whether actual or perceived, will increase the students' ability and willingness to align both their behavior and their view of themselves with the views of others.

3.2 – Self- and Other-ratings

As noted in the literature review, when multiple evaluations are performed, there are two reactions to previously received feedback which affect self-other agreement: people can alter their self-ratings in order to bring them into harmony with the expected ratings of others; or they can alter their performance (and thus the ratings of others) in order to align their behavior with what is expected by others (Delmhorst, 2006; Conger and Toegel, 2003). In order to provide a more complete picture, the next two hypotheses look more specifically at the effect of non-anonymity on self-ratings and performance (i.e., other-ratings).

> *Hypothesis 2*: Non-anonymous students who are not in-agreement will change their self-ratings on subsequent ratings more than those who receive feedback anonymously. For overraters, this change will be a reduction in self-ratings, and for underraters it will be an increase. For students who are in-agreement there will be no treatment effect.

These predictions are based upon the rationale that, in response to feedback, overraters are the most likely to lower their self-evaluations and undderraters are the most likely to increase their self-evaluations (Yammarino and Atwater, 2001; Johnson and Ferstl, 1999). It is anticipated that the increased accuracy of non-anonymous ratings will amplify these effects. For those who are in-agreement, their self-ratings are already in harmony with other-ratings, and therefore feedback produces little stimulus for change. It seems that this will be true regardless of whether the feedback is anonymous or non-anonymous.

> *Hypothesis 3*: With successive evaluations, the other-ratings of overraters in the non-anonymous group will increase more than the other-ratings of overraters in

the anonymous group. For underraters and those who are in-agreement there will be no treatment effect.

The basis of the prediction regarding overraters is that they are the most likely to improve their performance as a result of feedback. It is assumed that the increase in accuracy which results from non-anonymity will amplify the effects of self-improvement. As far as underraters, an increase in the accuracy of feedback will have no effect because underraters tend to maintain their level of performance after receiving feedback (Yammarino and Atwater, 2001; Johnson and Ferstl, 1999). It is presumed that in this instance, non-anonymity will not provide any additional motivation for students to improve their performance. For those who are in-agreement, because the self- and other-ratings are already in harmony with one another, there is little motivation to make improvements; this is regardless of whether the feedback is anonymous or non-anonymous. Although the self- and other-ratings for those who are in agreement may increase with each successive evaluation, this improvement is not necessarily in response to feedback or the manner in which it was received.

3.3 – Leniency and Honesty

Hypothesis 4: In the first evaluation, quantitative feedback scores will be higher (i.e., more lenient) for the non-anonymous students than for the anonymous students; however, although the scores may be more lenient in the beginning, with subsequent evaluations there will be no difference between non-anonymous and anonymous scores. In addition, there will be no perceived difference in the overall level of honesty and candor between the anonymous and non-anonymous groups.

It is assumed that at first the non-anonymous students may feel more uncomfortable providing negative feedback, but with time and experience, they will be more open and honest and become less susceptible to leniency bias.

3.4 – Defensiveness and Acceptance

> *Hypothesis 5*: Non-anonymity will produce more thoughtful, sincere, and accurate feedback. This is both on the part of those who provide it, as well as in regards to the manner in which it is received. As a result, those receiving it will be more accepting of it.

Students in the non-anonymous group should perceive the feedback they receive as more accurate and objective. This, once again, is due to the idea that non-anonymity produces more thoughtful and justifiable results. This predication is also based upon the increased transparency and context which is inherent with non-anonymity. In addition, another explanation is that students in the non-anonymous group should be less defensive because they will receive higher ratings (due to leniency), and thus the feedback will be more consistent with their views of themselves.

3.5 – Cohesiveness, Trust, and Unity

> *Hypothesis 6***:** Teams whose members evaluate one another non-anonymously will, with time, be more comfortable expressing opinions and ideas, as well as dealing with conflicts, within their teams. These teams will also experience higher levels of perceived cohesiveness and trust.

Providing feedback naturally requires the expression of feelings, opinions, and ideas regarding other people's behaviors. Due to the sensitive nature of providing constructive criticism, this requires showing a great deal of vulnerability; doing so non-anonymously requires an even greater level of emotional investment. This hypothesis is based on the logic that although providing feedback non-anonymously may create a greater risk to personal relationships, the inherent transparency of non-anonymity also provides great potential for improving them (see 2.4.7 – Supportive Communication). At time-1, there may be less trust, as students will likely be less comfortable with non-anonymous feedback, but it is assumed that with time and experience this effect will be overcome. The measures for this hypothesis are based upon students' perceptions of the overall process, rather than at any particular points in time.

3.6 – Team Performance

Hypothesis 7: The performance of non-anonymous teams will be rated higher than the performance of anonymous teams.

This hypothesis is essentially the culmination of all of the other outcomes which were hypothesized just previous. That is, by increasing the self-awareness of individuals, producing more honest responses, overcoming defensiveness and increasing the acceptance of feedback, and increasing unity and trust, the overall performance of a team will be improved.

3.7 – Future Feedback

Hypothesis 8: Students in the non-anonymous group will be just as likely to prefer to provide non-anonymous feedback in the future as those in the anonymous group will be to want to provide anonymous feedback in the future.

It is predicted that although students may be uncomfortable providing non-anonymous feedback at first, after performing the three evaluations and gaining experience they will prefer to give feedback non-anonymously in the future. As those who provided feedback anonymously likely have not done so non-anonymously, and therefore do not have a point of contrast to weigh the pros and cons, they will likely desire to continue to provide feedback anonymously.

4 – Method

4.1 – Subjects

The subjects of this research were students at Brigham Young University who were enrolled in a sophomore-level ethics and leadership class primarily for engineering students, as well as seniors enrolled in a civil engineering capstone course. For the leadership course, there were three class sections of approximately 80 students each (77, 79, and 83 respectively). For the senior capstone project class, there was one class section of 52 students, for a total of 291 students who participated in the feedback procedure designed for this research. There were 36 students who either declined or abstained from consenting for their responses to be used for research, as well as 16 students whose results were unusable because they did not complete self-evaluations. This provided a total of 239 subjects.

All of the participants worked on a major term project in which they were required to work in groups. The students in the leadership class worked on a non-technical "social change" project, and were for the most part in groups of five (there were 42 teams of five and six groups of four). The students in the capstone class worked on a technical engineering design project, and there were sixteen teams; twelve teams of four and four teams of three.

4.2 – Procedure

For this study, a procedure was developed which incorporated many of the elements of effective feedback which were outlined in the literature review. These include rater training, justification of ratings, time for reflection and goal setting, disclosure, as well as repetition and follow-up. This procedure is outlined in the following paragraphs.

A primary feature of the feedback procedure which was developed was that it included three evaluations performed throughout the course of the semester (i.e., beginning, middle, and end). This was in order to provide students with the opportunity for repetition and follow-up. In the past, the classes who participated in this study included only one group-member evaluation, which was conducted at the end of the semester, and was done anonymously. Because the activities associated with this procedure were a part of the curricula, all students in these classes participated in the procedure; however, students were allowed to withdraw their responses from the data set if they did not wish to be included in the research.

In order to provide training, prior to the first evaluation the students reviewed a reading assignment on supportive communication. They also received a ten-minute PowerPoint lecture about attaining self-awareness through feedback and how to effectively give and receive feedback. They were told to pay particular attention to “The Eight Attributes of Supportive Communication” in Table 4.2 on pg. 247 of the reading (see Appendix A for a copy of the reading and also the PowerPoint slides which were presented). The students were also informed whether they were going to be providing feedback anonymously or non-anonymously. In order to keep them blind to the treatment, no mention was made in the presentation to the students regarding the pros and cons of anonymity and non-anonymity. They were also not made aware that other class sections were participating in this procedure and that some sections were providing feedback anonymously, while others were providing it non-anonymously.

The evaluations were conducted via Qualtrics, which is a web-based survey tool. The first portion of the survey was quantitative, with ratings from 1 to 7 on a Likert scale (1 being the negative end of the scale, and 7 the positive end of the scale) being provided in each of the following areas: attendance, contribution, interpersonal skills, quality of work, timeliness, responsibility and accountability, task support and overall performance. These attributes were a compilation of other feedback rubrics provided by Dr. Jim Nelson (the capstone class coordinator), Dr. Sheli Sillito Walker (a professor of Organizational Behavior and Leadership at BYU), and one which was obtained from the web (University at Buffalo, n.d.). There were also two open-ended questions at the end of the survey; one in which the rater was to identify the greatest weakness of the person they were rating and justify/clarify any poor ratings which were provided in the quantitative portion of the survey; and the other in which they did the same, only regarding strengths instead of weaknesses. For each evaluation, each student assessed him- or herself as well as each of his or her individual teammates. To view a full version of the survey, see Appendix B. The data for the analysis of self-awareness was obtained from these surveys.

Before the results were distributed to the students, the data were manually checked for errors and corrected. The most common errors included students selecting the wrong team number, selecting the wrong name from the pull-down list for either the rater or ratee, as well as not completing a self-evaluation. Once the evaluations were corrected, the responses were exported to a spreadsheet which automatically compiled each student's feedback into a formatted report. The reports were then e-mailed out to the students. The only difference in the format of the feedback received by the two treatment groups was that for students who received non-anonymous feedback, the names of those who evaluated them were attached to the responses.

Once students received the feedback, they had a chance to review and reflect upon it. They were instructed to then set a personal goal based upon the feedback. This was followed by a follow-up team meeting. It was recommended that this meeting should take approximately 15 minutes, and that it should likely be done at the beginning of one of their team's regularly scheduled meetings, as was suggested in the literature review. In this meeting each student was to share with the remainder of their team the personal goal which they set for themselves based upon the feedback they received. Each team was also to discuss its performance as a whole, and set collective goals for the team. This meeting was to be facilitated by a designated member of the team, chosen by the team.

For the second evaluation the same procedure was followed; however, the instructions on how to provide effective feedback were not repeated (although the students were to review the reading on supportive feedback on their own). On the third evaluation, students did not review the reading or receive instruction. Another difference was that, as the project was complete, the final team meeting did not include goals going forward. Rather, it was a recap of the project. Each of the steps of this procedure was part of graded assignments which were submitted by the students. Students were not graded for correctness, only for completion. The intent of rewarding points was solely in order to incentivize the students to complete the evaluations.

After the third and final evaluation was complete, the participants also completed a follow-up survey in order to assess the effect which anonymity/non-anonymity had upon the way in which they gave and received feedback, as well as the effect it had upon their team as a whole. Measures for honesty and candor, defensiveness and acceptance, team trust and unity, as well as team performance, came from this survey. For most of the questions, students provided a response on a 5-point scale, 1 being negative and 5 being positive. At the end of the survey there was also one open-ended question in which students were free to provide comments regarding their experience with providing feedback. See Appendix B for a full copy of this survey.

4.3 – Measures

Self-other agreement is most often measured by way of a difference score, which represents the algebraic difference between the students' self-rating and the mean of the ratings provided by their teammates. In this study, both raw difference scores and absolute value difference scores were used (Jordan and Ashkanasy, 2006). The scores used for analysis were obtained from the "Overall" category in the feedback survey.

Absolute difference scores were used in the analysis of self-other agreement (i.e., Hypothesis 1). This was because the question of interest was in regards only to one's level of accuracy, not whether they were due to low or high self-ratings (i.e., underrating or overrating).

For hypothesis 2, raw difference scores were used to classify students into one of three categories of self-other agreement (i.e., in-agreement, overrater, or underrater), according to the scores provided at the first time interval. Those whose raw difference scores were within one standard deviation above or below the mean of the raw difference scores were categorized as in-agreement. Those who were more than one standard deviation above were classified as overraters, and those who were more than one standard deviation below as underraters. Based upon this definition of agreement, there were 180 students who were in agreement, 31 overraters, and 28 underraters. Some suggest that the appropriate cut-off for being in-agreement should be 0.5 standard deviations above and below the mean (Atwater and Yammarino, 1992); however, one of the reasons that one standard deviation was used was to ensure that the overraters and underraters were truly over and under in their self-ratings, and that it was not merely a matter of chance. Although it is not a part of this study, further analysis may be needed to determine what the most appropriate standard is for determining the cut-off for those who are in-agreement and those who are not, as well as at what time interval the classification should take place. As will be discussed near the conclusion, some students questioned the accuracy of the first evaluation because it was performed early on in the project. They stated that they did not have time to become acquainted with, and make adequate observations of their teammates.

4.4 – Experiment Design and Method of Analysis

This study was a random block design. Each class section was randomly assigned to one of two treatments, anonymous or non-anonymous. In order to be clear, there was no splitting of class sections; there was no treatment effect within class sections because all students within a particular class were subjected to the same conditions.

For the statistical analysis of self-awareness data (i.e., self- and other-ratings from the feedback, not the follow-up survey), hierarchical linear modeling (HLM) was used. HLM is a statistical method which is often used when the subjects of a study may be classified in groups that have qualities that may contribute to variability, and influence the outcomes of the study. It allows for "the study of relationships at any [hierarchical] level, while not ignoring the variability associated with each level" (Scientific Software International, n.d.). HLM was chosen for this study in order to account for potential variability across the class sections, which may have been due to differences in the instructors, as well as any other unique circumstances. In particular, this was necessary due to the fact that the capstone class had a completely different curriculum, and that it was composed primarily of seniors. (Although the leadership class was a sophomore-level class, it consisted of students of all class ranks). In addition, it was used to examine change in the students over time (see *Applied Longitudinal Data Analysis* by Singer and Willett). Under HLM, the self- and other-ratings at each time interval form level-1 of the hierarchy, the teams are at level-2, and level-3 is the class section.

As mentioned just previous to hypotheses 2 and 3, increases in self-other agreement can result from a person either changing their self-ratings or changing their performance (i.e., other-scores) on later evaluations. Another factor which may affect other-scores, and which also needs to be considered, is that non-anonymous raters are likely more susceptible to leniency bias. If this is the case, it is possible that non-anonymous raters will become more honest, and change their ratings on subsequent evaluations. In order to break it down into these component causes, three separate analyses were performed: one for self-other agreement itself, and then one each for self- and other-ratings (i.e., hypotheses 1, 2, and 3).

The follow-up survey was designed to provide measures for the other four principle research questions (i.e., candor and honesty, acceptance, team unity and trust, and team performance), not directly related to self-awareness. Within the survey there were multiple questions which were intended to measure each of these constructs. Cronbach's alpha was used to determine how well these questions correlated with one another, and thus if they were in fact measuring the same underlying concept which they were intended to. For Cronbach's alpha, anything above 0.70 being considered as satisfactory. T-tests, cross-tabulation, and odds ratios were then used to compare the differences in the responses between the two groups.

4.5 – Limitations

For the analysis of self-other agreement, the other-scores were obtained from the mean score of the teammates. One of the limitations to the data is that not all students completed the evaluations. As a result, in some instances the mean other-score was based upon 1 or 2 raters, while in others there were four other-raters. In the capstone class, as some groups only had three members to begin with, if even one person did not participate in the evaluations, the other-score was based solely upon one individual.

For the follow-up survey, for each construct (i.e., trust, performance, etc.) a mean score was calculated for each team. As a result, although the sample size for the individual students was quite adequate, the sample size for the number of teams was not very large (N_{Anon} = 33, N_{Non} =32). In addition, team performance was measured from student responses on this survey. It would have been more preferable to use another variable, such as grades or some other standardized measure, to evaluate performance more explicitly; however, due to the variability in grading across sections, as well as due to the fact that the capstone students completed an entirely different project, this was not deemed a viable option. One other limitation which was also observed was that although HLM was used to account for variability between class sections and to determine trends over time, in some cases when the actual data was plotted the relationship over the three time periods in one (or both) groups did not appear to be linear.

5 – Results

5.1 – Hypothesis 1: Self-other Agreement

Hypothesis 1: Although self-other agreement will likely increase over time regardless of treatment, non-anonymous feedback will result in a greater increase in self-other agreement than when feedback is given anonymously. It is predicted that this effect will take place regardless of the classification of the ratees (i.e., agreement, overrater, or underrater).

For the analysis of whether there was a greater increase in self-other agreement for non-anonymous students, absolute difference scores were used to measure self-other agreement. The analysis was first performed including all participants, and then once again for each of the self-other agreement categories. This was in order to observe not only whether self-other agreement increased for all non-anonymous students, but also whether this trend differed for those classified as in-agreement, as overraters, and as underraters. Table 1 shows the results.

Table 1: Effect of Non-anonymity on Absolute Difference Scores

	$Mean_{t=1}$	Wave	Difference	p-value
All Participants	0.65	-0.13	0.06	0.267
In-agreement	0.47	-0.05	0.04	0.433
Overraters	0.78	-0.18	-0.08	0.559
Underraters	1.94	-0.66	-0.27	0.157

In this table, the "mean" column shows the mean absolute difference score at time-1 for those in the anonymous group. The "wave" column represents the slope of the regression lines, or in other words, how much the ratings changed per time interval. The "difference" column represents the algebraic difference between the regression lines of the two groups, indicating how much higher or lower the mean scores were for the non-anonymous students as compared to the mean anonymous scores. The far right column indicates the level of significance of the "difference" column, with $p<0.05$ being generally accepted as the threshold of statistical significance.

The original hypothesis was that for those in-agreement there would be no treatment effect. It was also that non-anonymous overraters would decrease their scores more, and non-anonymous underraters would increase their scores more, than their anonymous counterparts. For all participants, and for those who were in-agreement, the mean non-anonymous scores were higher by 0.06 and 0.04 respectively, and lower by 0.08 for overraters and 0.27 for underraters; however, the high p-values show that for all classifications of participants these differences are not significant. Based upon this, the only hypothesis which was confirmed is that there was no significant difference for those who were in-agreement, and thus no treatment effect; however, this is not very conclusive, as none of the p-values for any of the groups were significant.

Although it is not shown in this table, another result is that the absolute difference between self- and other-ratings for the non-anonymous group converged at a rate of 0.05 points greater per time period than the anonymous group; however, the p-value of 0.252 once again indicates that this is not a significant difference. Finally, although there is not a significant difference between treatment groups, it should be noted that the p-value for the mean absolute difference score is 0.000, revealing that for both groups there was in fact an increase in self-other agreement, and that this was not due to chance but as a result of the procedure.

Even though the analysis did not show statistically significant differences between treatment groups, it is still of interest to look at a plot of the actual results. Figure 2 shows the absolute difference scores at each evaluation for all participants.

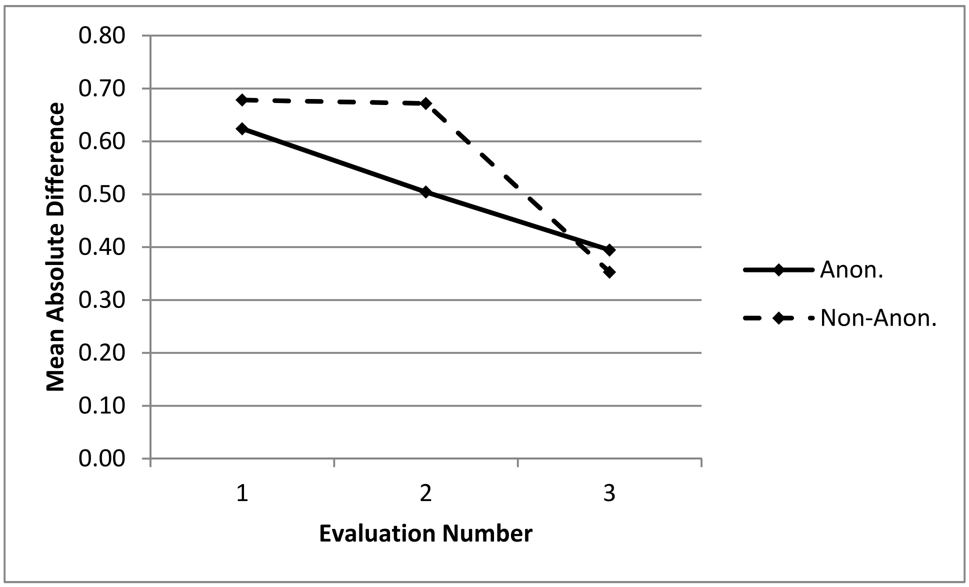


Figure 2: Self-other Agreement (All Participants)

In this figure, the downward trend in both groups illustrates the reduction in the difference between self- and other-ratings, and thus an increase in self-other agreement, as has already been discussed. It seems that both groups begin and end at approximately the same level of self-other agreement, but for the non-anonymous students it looks as if there is a delayed reaction followed by a period of more rapid progress. (This “hinge” effect provides an example of what was stated earlier about how some of the trends in the data do not appear to actually be linear, although this appearance may simply be due to the scale of the graph).

5.2 – Hypotheses 2 and 3: Self- and Other-ratings

Hypothesis 2: Non-anonymous students who are not in-agreement will change their self-ratings on subsequent ratings more than those who receive feedback anonymously. For overraters, this change will be a reduction in self-ratings, and for underraters it will be an increase. For students who are in-agreement there will be no treatment effect.

Hypothesis 3: With successive ratings, the other-ratings of overraters in the non-anonymous group will increase more than the other-ratings of overraters in the anonymous group. For underraters and those who are in-agreement there will be no treatment effect.

The purpose of hypotheses 2 and 3 was to take a closer look at the two primary factors which contribute to self-other agreement: changes in self-ratings and changes in other-ratings. Table 2 displays the results for self-ratings, and Table 3 shows the analysis for other-ratings. In this case the values in the mean column are the means of the self- and other-scores (out of 7) which were provided by those doing the rating. The remaining columns represent the same measures that were indicated in the previous analysis.

Table 2: Effect of Non-anonymity on Self-ratings

	$\text{Mean}_{t=1}$	Wave	Difference	p-value
All Participants	6.17	0.21	-0.10	0.144
In-agreement	6.24	0.18	-0.03	0.666
Overraters	6.80	-0.09	-0.19	0.192
Underraters	4.66	0.76	0.32	0.234

Table 3: Effect of Non-anonymity on Other-ratings

	$Mean_{t=1}$	Wave	Difference	p-value
All Participants	6.51	0.12	0.03	0.467
In-agreement	6.57	0.10	0.01	0.866
Overraters	6.04	0.25	0.18	0.415
Underraters	6.54	0.06	0.01	0.931

The raw numbers in the mean and difference columns show what was expected from the hypothesis for self-scores. That is, for those who were in-agreement the difference between treatment groups was quite small; the overraters had the highest self-scores, and self-scores were lower for the non-anonymous group; and, the underraters had very low self-scores, with self-scores being higher for the non-anonymous group. Once again, however, high p-values show that none of these differences are statistically significant.

For other-scores, non-anonymous overraters did experience the greatest increase over their anonymous counterparts (0.18 for overraters vs. 0.01 for both in-agreement and underraters) as was expected; however, this difference still only produced a p-value of 0.415, and therefore no conclusions can be made as to a treatment effect.

Although, once again, there is no statistical significance the plots of the actual results seem to provide some insight into how those in each of the different categories reacted to feedback. Figure 3, 4, 5 and 6 show the self- and other-scores for: all participants, those who are in-agreement, overraters, and underraters respectively. The graphs for both the anonymous and non-anonymous groups within each of these categories are shown side-by-side for easy comparison.

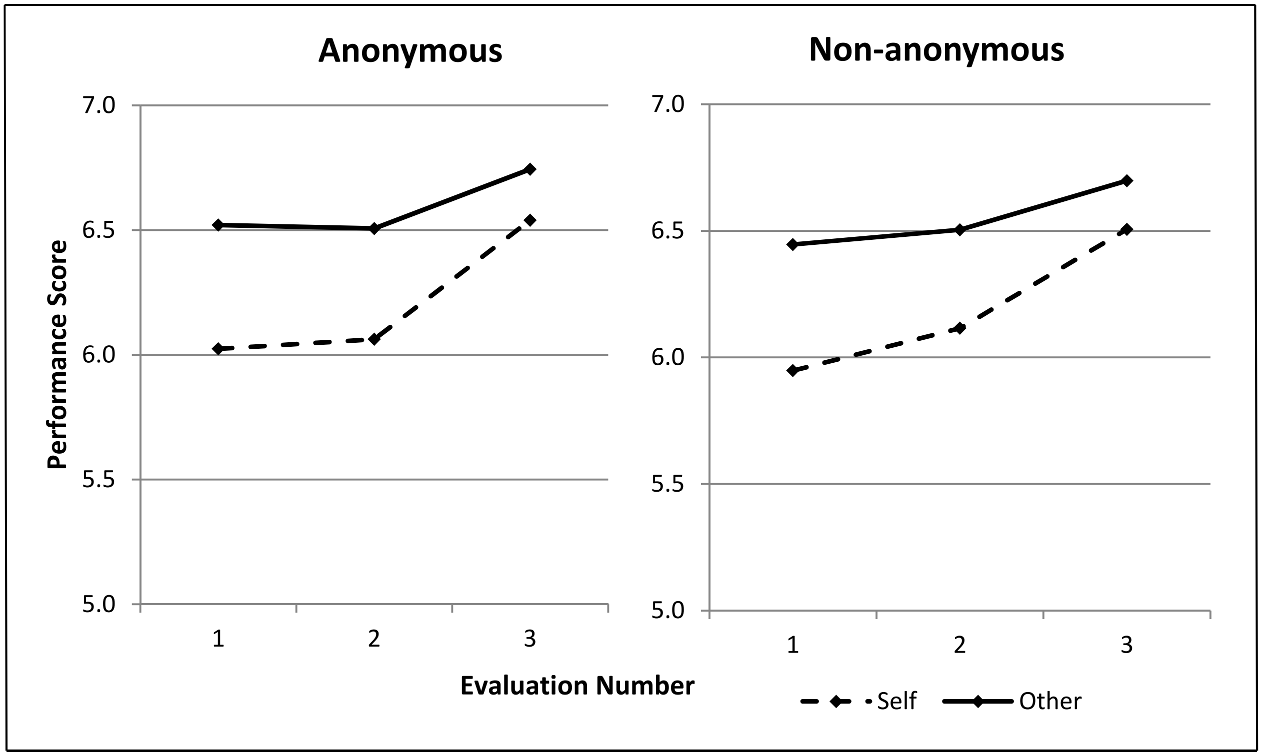


Figure 3: Self- and Other-scores for All Participants

Across all participants, and also across treatment groups, the trends in self- and other-scores are nearly identical. One observation from the graphs above is that the self-lines are lower than the other-lines, therefore it seems that, on average, the students in this study underrated themselves, with the mean difference between self- and other-scores being approximately 0.5. The graphs also show a narrowing of the gap between the self- and other-lines for both treatment groups. This illustrates the increase in self-other agreement which was shown in the previous analysis. Another interesting feature is that the anonymous results appear to be more hinged than the non-anonymous scores, both self and other. The non-anonymous scores increase more linearly, while the anonymous scores remain relatively constant over the first two evaluations, before increasing at the third. It is difficult to discern what may contribute to this effect.

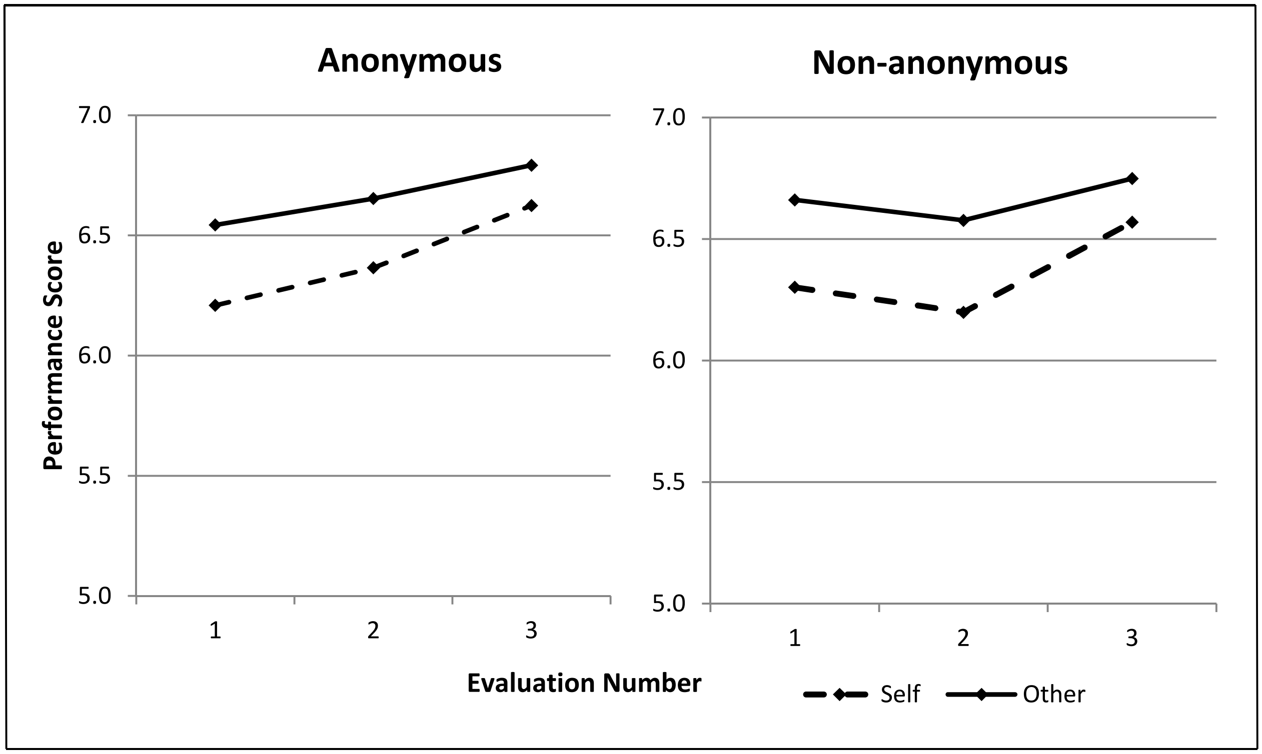


Figure 4: Self- and Other-scores for In-agreement

The trends for the in-agreement group were relatively similar to the results which included all participants. This can be expected, as in-agreement was defined as being one standard deviation above and below the mean; therefore, theoretically about 68% of the sample should be classified as in-agreement (in actuality it was 75%). As seen in Figure 4, both the anonymous and non-anonymous groups experienced a slight overall increase in both self- and other-ratings, although the increase for the non-anonymous group was even milder. Furthermore, although the final scores for both groups are essentially the same, for the non-anonymous students there is an initial drop followed by an increase (i.e., hinge effect), and this is true for both self- and other-scores. For the anonymous students, both the self- and other-scores increase in more of a straight-line fashion. Because the reactions to feedback are minimal for those who are in-agreement, regardless of whether they are anonymous or not, it is difficult to determine what causes this hinge effect in non-anonymous students.

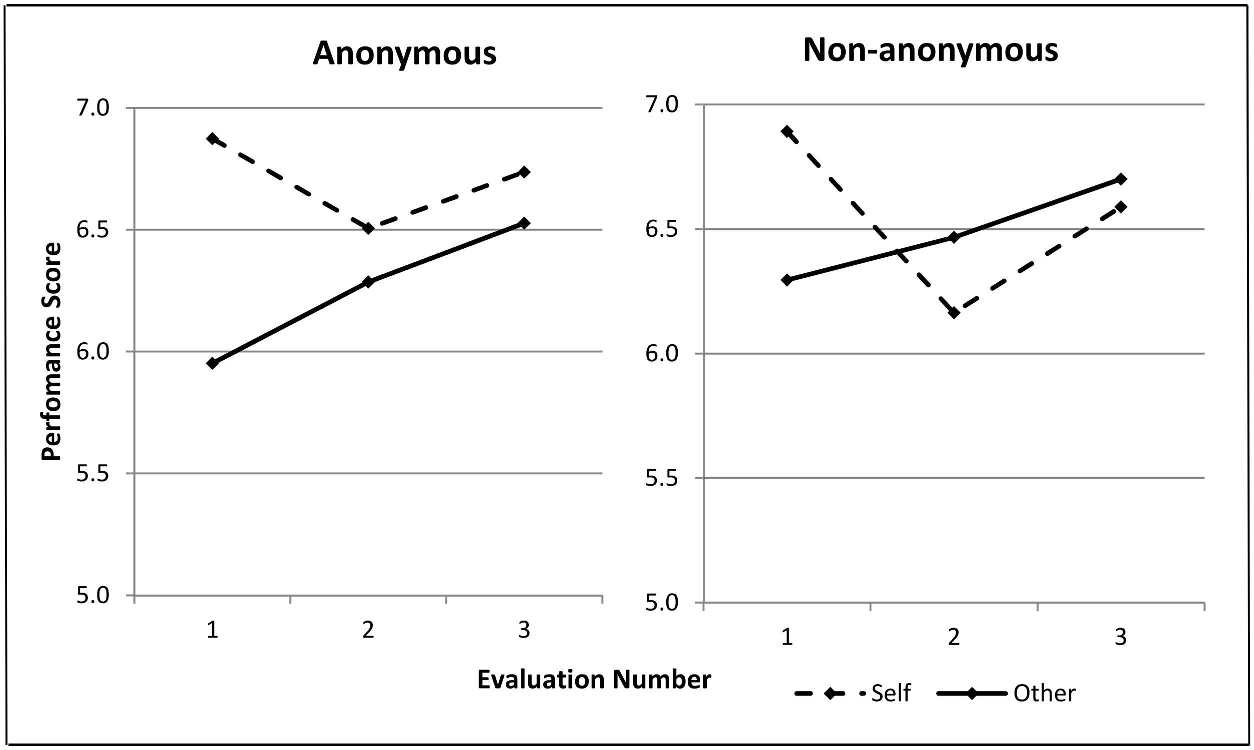


Figure 5: Self- and Other-scores for Overraters

As seen in the Figure 5 above, the other-scores for both anonymous and non-anonymous gradually increase linearly over time; however, the self-ratings experience a hinge effect. After the first rating, the self-scores drop off, and then follow the same basic trajectory as the other-scores to the third evaluation. Perhaps the most notable observation is that for the non-anonymous students the initial drop in self-ratings is greater (0.73 vs. 0.37) than the anonymous students, and they actually drop below the other-scores at both times 2 and 3.

This sudden drop after the first evaluation seems to confirm that the negative feedback comes as a surprise to overraters, and that they will self-correct their ratings. It seems that the feedback received is quite beneficial to their level of self-awareness, as they are essentially in-agreement from that time forward. Due to the self-scores for the non-anonymous students dropping below their other-ratings, it seems that this desire to self-correct is amplified by receiving feedback non-anonymously.

In theory it seems that this increase in self-correction could be due to an increase in perceived accuracy and a reduction in defensiveness, resulting in a stronger desire to self-correct; however, the statistical results in section 4.5.4 showed that there was no difference in the perceived accuracy, and also that the non-anonymous students were actually more defensive.

Perhaps one of the most meaningful inferences that can be made from Figure 5 is that it seems that leniency bias does not control for self-other agreement (it is also illustrated in Figure 4, although it is not as strongly expressed). The reason for this is that because non-anonymous raters are more susceptible to leniency bias, true overraters may actually be "artificially in-agreement", and there would be less room for improvement in self-other agreement. In other words, because the other-ratings are artificially high due to leniency, and self-scores are high due to egocentric bias, people who are true overraters may be led to believe that they are good performers when they actually are not, and therefore may not be motivated to make any changes in their self-scores. If leniency bias did in fact govern, then self-ratings should remain constant; however, as seen in Figure 4 and Figure 5, the self-ratings for both treatment groups actually dropped after the first evaluation.

Figure 6 shows that it was underraters who experienced the most dramatic changes in self-other agreement in response to feedback (although the plots for the two treatment groups are basically identical). The gap between the self- and other-scores for underraters is clearly much larger than the gap for the overraters (between 1.5 and 2 for underraters vs. 0.6 to 0.7 for overraters); in other words, even though both groups are "not self-aware", the underraters exhibited a greater lack of self-awareness. In addition, not only were their self-ratings the most discrepant, underraters also changed their self-ratings the most with successive evaluations. The self-ratings in both the anonymous and non-anonymous groups increased by approximately 1.5

from beginning to end, whereas in all other groups and categories, the greatest change was only about 0.5.

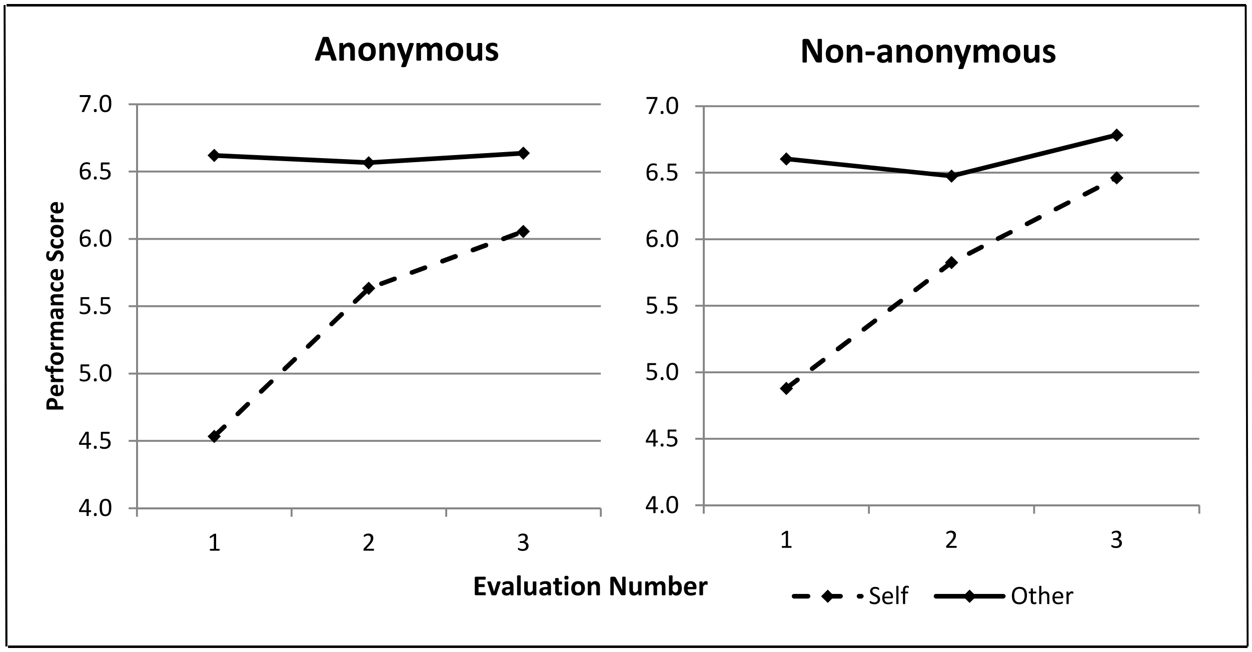


Figure 6: Self- and Other-scores for Underraters

These findings also seem to confirm that underraters are the least likely to improve their performance, as seen by the constancy of the other-ratings; however, their other-ratings at time-1 are already relatively high, so there may not be much room for improvement. Therefore, it seems that for underraters, the greatest contributor to low self-other agreement is a poor self-perception accompanied by feelings of low self-worth. Out of all of the self-other agreement groups, it seems that underraters benefitted the most from receiving feedback, at least in terms of increasing self-awareness.

5.2.1 – General Observations

As was shown in the previous graphs, both the anonymous and non-anonymous students showed overall increases in both self- and other-ratings over time. Even when analyzed individually, although there are unique trends which occur within each self-other agreement categories, all of the categories show an overall upward trend. It is assumed that this overall increase in performance is not necessarily due to receiving feedback, and that it is just a natural improvement that comes with time and experience on a project. One rationale for this is that, according to the theories which have been outlined, if overraters and underraters are both decreasing and increasing their respective self-ratings, and if those in-agreement do not change their self-ratings, then the self-ratings line should remain flat. Furthermore, if the other-ratings of overraters increase, and remain constant for underraters and those who are in-agreement, a slight overall increase in other-scores should occur due to the overraters.

5.3 – Hypothesis 4: Leniency and Honesty

> *Hypothesis 4*: In the first evaluation, quantitative feedback scores will be higher (i.e., more lenient) for the non-anonymous students than for the anonymous students; however, although the scores may be more lenient in the beginning, with subsequent evaluations there will be no difference between non-anonymous and anonymous scores. In addition, there will be no perceived difference in the overall level of honesty and candor between the anonymous and non-anonymous groups.

The hypothesis of this test was that, at the first evaluation, the other-scores of the non-anonymous group would be higher (i.e., more lenient) than those provided by the anonymous students, and then by time-3 there would be no difference. In

Table **3** from the previous analysis, the row labeled "all participants" showed that over the course of the feedback procedure there was no significant difference between the treatment groups (p-value 0.467); however, a more detailed analysis was required in order to determine whether there were differences in scores at any particular time interval. A t-test for difference of means was performed for each time interval. The scores provided at each interval are plotted in Figure 7, with the statistical analysis shown in Table 4.

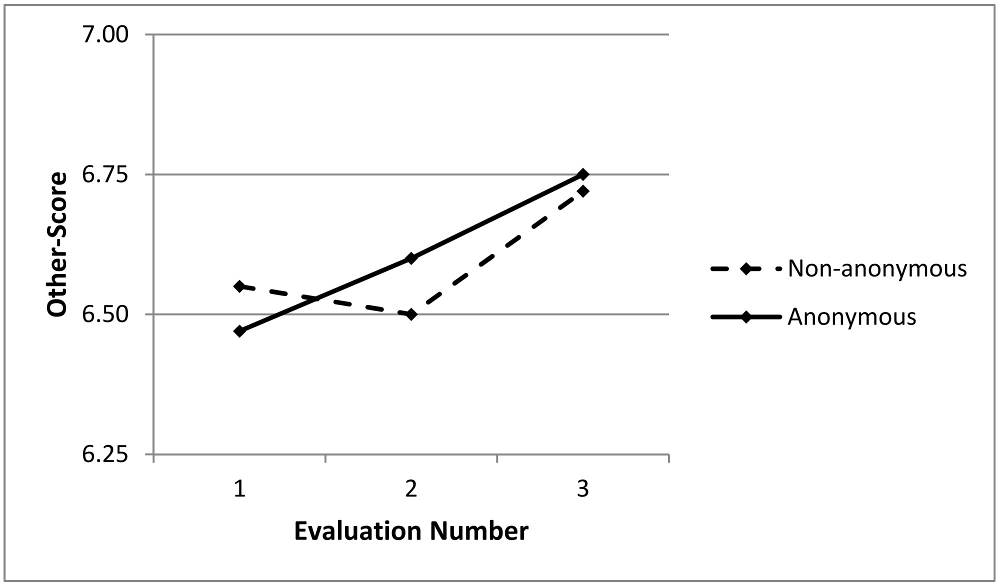


Figure 7: Plot of Other-scores at Evaluations 1, 2, and 3

Table 4: Statistical Analysis of Other-scores at Evaluations 1, 2, and 3

Evaluation #	$Mean_{Anon}$	$Mean_{Non}$	Difference	p-value
1	6.47	6.55	0.08	0.105
2	6.60	6.50	-0.10	0.047
3	6.75	6.72	-0.03	0.330

At time-1, the non-anonymous scores were higher than the anonymous, and the p-value of 0.105 provides suggestive but inconclusive evidence that this difference is due to the treatment. At times 2 and 3, the non-anonymous other-scores then dropped below the scores for the anonymous students. By looking at the beginning and end time intervals, the respective p-values of 0.105 and 0.330 seem to confirm the hypothesis that non-anonymous other-scores would start out higher and then by time-3 there would be no difference; however, the most interesting aspect of this analysis is that time-2 produced the most statistically significant difference, and that the non-anonymous scores were actually lower, not higher than the anonymous scores. This raises a question as to why the most significant difference came in the middle of the procedure, rather than at the beginning or end. Was this drop due to a decrease in performance between times 1 and 2, or was there something which caused raters to grade more harshly at this point in time?

Upon further reflection, it seems that that the drop in non-anonymous other-scores results not from decreased performance, but rather from non-anonymous raters becoming more comfortable providing more honest and accurate feedback. This is due to the fact that non-anonymous raters are more susceptible to leniency. Previous graphs showed that participants self-corrected their self-ratings after evaluation-1, but in this case it seems that it is the other-raters who realize the inaccuracy of their ratings and correct their follow-up assessments. Once again, it is important to note that both groups end up at the same spot in the end, but the treatment effect produces a different path to get there.

Another aspect of leniency is how honest and candid students were when providing feedback. The level of honesty and candor was measured by the follow-up survey which was administered to the students, although it should be noted that the survey questions never made a distinction between quantitative and qualitative feedback. The questions were designed as a gauge of the students' overall level of perceived honesty. There were two pairs of questions in this regard. The first pair asked how honest and candid students were when providing positive feedback, and how much more honest and candid they would have been if they were in the opposite treatment group. The second set asked the same two questions, only regarding negative feedback. Table 5 displays the results which were obtained.

Table 5: The Honesty and Candor of Feedback

Survey Question	$Mean_{Anon}$	$Mean_{Non}$	p-value
How honest and candid students were students when providing positive feedback.	4.68	4.54	NS
How much more open they would have been providing positive feedback if they were in the other treatment group.	3.20	3.28	NS
How honest and candid students were students when providing negative feedback.	4.10	3.67	<0.004
How much more open they would have been providing negative feedback if they were in the opposite treatment group.	2.54	3.55	<0.001

When it came to providing positive feedback, the treatment had no effect upon the honesty. Based on t-tests, there was no significant (NS) difference between the groups at the 0.05 level. However, for negative feedback it is quite clear that non-anonymity had an effect on students' ability or willingness to be candid. In regards to how honest they were, the mean for the anonymous group was 0.43 points higher than the non-anonymous group with a p-value <0.004, providing convincing evidence that the anonymous students were more open and honest. For the question regarding how much more honest they would have been if they were in the other group, the difference in the mean was 1.01 (out of a possible 5 points), with the non-anonymous students leaning toward being "somewhat more open." The p-value of <0.001 provides very convincing evidence that non-anonymity has a negative effect on honesty. Once again, these conclusions are regarding students' overall perceptions, and not in regards to one type of feedback or one specific point in time.

5.4 – Hypothesis 5: Defensiveness and Acceptance

Hypothesis 5: Non-anonymity will produce more thoughtful, sincere, and accurate feedback. This is both on the part of those who provide it, as well as in regards to the manner in which it is received. As a result, those receiving it will be more accepting of it.

The results of t-tests for the analysis of the thoughtfulness of the rater, as well the level of acceptance by the ratee, are shown in Table 6.

Table 6: Thoughtfulness and Acceptance of Feedback

Survey Question	$Mean_{Anon}$	$Mean_{Non}$	p-value
How much time and thought they invested when providing feedback.	3.80	3.77	NS
Whether the treatment made them more or less defensive towards negative feedback.	2.83	3.11	<0.03
How much they valued the feedback they received.	4.17	4.06	NS
The extent to which they regarded the feedback as sincere and thoughtful.	3.87	4.01	NS

According to this analysis, there was no treatment effect regarding how much time and thought raters put into the feedback they provided. In addition, this was also true for how much people valued the feedback which they received, as well as the extent to which they regarded it as being thoughtful and sincere. It is interesting that there was no observable difference for these three questions, while for the question regarding defensiveness there was a difference. The mean for the anonymous group was 0.28 lower than the mean for the non-anonymous students, with a p-value of <0.03. This provides moderate evidence that, contrary to the hypothesis, those who receive feedback non-anonymously feel more defensive than those who receive it anonymously.

5.5 – Hypotheses 6 and 7: Cohesiveness and Performance

Hypothesis 6: Teams whose members evaluate one another non-anonymously will be more comfortable expressing opinions and ideas, as well as dealing with conflicts, within their teams. These teams will also experience higher levels of cohesiveness and trust.

Hypothesis 7: The performance of non-anonymous teams will be rated higher than the performance of anonymous teams.

For the analysis of team cohesiveness and trust, as well as performance, there were no significant differences between treatment groups, although the results are shown in Table 7. Questions in this section were combined to form scales based on factor analysis, and the means were compared using t-tests. The Cronbach's alpha indicates how correlated the questions were when combined into a single scale.

Table 7: Cohesiveness and Trust, and Team Performance

Survey Question	Cronbach's Alpha	$Mean_{Anon}$	$Mean_{Non}$	p-value
Their team's level of cohesiveness and trust.	0.604	4.41	4.34	NS
The impact which the treatment had upon their team's level of cohesiveness and trust.		3.69	3.60	NS
How their team dealt with disagreements and conflicts.	0.632	4.26	4.04	NS
How comfortable their group members were with expressing feelings and opinions.		4.43	4.33	NS
The quality of work their team produced.	0.779	4.49	4.66	NS
Their team's level of commitment		4.46	4.47	NS

5.6 – Hypothesis 8

Hypothesis 8: Students in the non-anonymous group will be just as likely to prefer to provide non-anonymous feedback in the future as those in the anonymous group will be to want to provide anonymous feedback in the future.

One of the final questions in the survey asked the students which method of feedback, anonymous or non-anonymous, they would choose in the future. For this analysis of future choice preferences, a chi-square test was performed and odds ratios were calculated. The two-way table for the chi-square analysis is provided in Table 8 below.

Table 8: Two-way Table for Treatment Group vs. Future Choice

		Type of group they were in		
		Anon.	Non-Anon.	Total
Type of group they would choose in the future	Anon.	104 (75.4%)	44 (41.5%)	148 (60.7%)
	Non-Anon.	34 (24.6%)	62 (58.5%)	96 (39.3%)

This two-way table is statistically significant, with a chi-square p-value <0.001, indicating quite conclusively that there is a relationship between the group that the students were in and the method they would choose in the future. Of those in the anonymous group, 75% would choose to be in an anonymous (same) group again in the future, and 25% would choose to be in a non-anonymous (different) group. For non-anonymous, 42% would choose to switch to anonymous (different), and 58% would stay non-anonymous (same). Therefore, within each group, a majority of participants would prefer to stay with the same method, although those in the anonymous group seem to show an even stronger preference.

In addition, the odds of anonymous participants choosing non-anonymous in the future are 0.32 (34/104 = 0.32) and for the non-anonymous the odds are 1.41 (62/44=1.41). These odds are calculated by dividing the number of students in each group who would prefer non-anonymous feedback by the number who would prefer anonymous feedback. The odds ratio of 0.23 (0.32/1.41=0.23) indicates that those in the anonymous group are 77% less likely than those in the non-anonymous group to choose to provide feedback non-anonymously in the future. In other words, the non-anonymous group is 4.41 times more likely to choose non-anonymous feedback in the future than is the anonymous group. In contrast, the anonymous group is 4.31 times more likely than the non-anonymous group to choose anonymous feedback in the future ((104/34)/(44/62) =4.32).

5.7 – Summary of Results

A table summarizing the statistical results for the analysis of self-other agreement is found in Table 9 below.

Table 9: Summary of Findings and Conclusions for Self-other Agreement Data

Hypothesis 1:	Non-anonymous feedback will result in a greater increase in self-other agreement than the anonymous students.
Hypothesis 2:	The self-ratings of overraters and underraters will change more for the non-anonymous group than for the anonymous group. For those "in-agreement", there will be no difference.
Hypothesis 3:	The other-ratings of overraters will increase more for the non-anonymous group than for the anonymous group. For underraters and those in-agreement there will be no difference.
Conclusions:	The procedure which students followed increased their level of self-other agreement (p=0.000), although there was no significant difference between the anonymous and non-anonymous groups. There was also no significant difference in the change in self- and other-scores.

In addition to the statistical results, listed below is a summary of the observations from the actual results at each time period.

- The students on average underrated themselves by approximately 0.5.

- Both groups experience an increase in self-other agreement, and both groups begin and end at approximately the same level of self-other agreement; however, for the non-anonymous students their difference scores were essentially the same at times 1 and 2, indicating a delayed reaction followed by a period of more rapid progress.

- When observing all participants, the self- and other-scores within each of the treatment groups follow similar trends. For the anonymous group, the trend for both the self- and other-scores is more hinged. Both self- and other-scores for the non-anonymous section increase more linearly. The anonymous scores remain relatively constant over the first two evaluations, before increasing at the third, although it is difficult to detect what contributes to this effect.

- For those who are in-agreement, both the anonymous and non-anonymous groups experienced only a mild increase in both self- and other-ratings, relative to overraters and underraters. In addition, the self- and other-scores for the anonymous students increased more linearly, while the non-anonymous students experienced an initial drop followed by an increase. Because the reactions to feedback are minimal for those who are in-agreement, regardless of whether they are anonymous or not, no predictions were made as to the cause of this difference.

- The self-ratings for those who are overraters drop off after the first evaluation, and then follow the same basic trajectory as the other-scores to the third evaluation. This seems to confirm that the negative feedback comes as a surprise to overraters, and that they will self-correct their ratings. Although not statistically significant, it appears that this self-correction is amplified by non-anonymity.

- It seems that leniency bias does not control for self-other agreement. If leniency bias did in fact govern, then self-ratings should remain constant; however, the self-ratings for both treatment groups actually dropped after the first evaluation.

- The other-ratings of the non-anonymous students dropped after the first evaluation. It seems that this drop results not from decreased performance, but because non-anonymous raters become more comfortable providing honest feedback. This is because non-anonymous raters are more susceptible to leniency at evaluation-1, but then realize the inaccuracy of their ratings and correct their follow-up ratings.

- It seems that for underraters, a poor self-perception accompanied by feelings of low self-worth is the greatest contributor to low self-ratings. It seems that underraters changed their ratings and benefitted the most from receiving feedback, at least in terms of self-awareness. Furthermore, underraters were the least likely to improve their performance (as gauged by their other-ratings), although this was probably due to the fact that their ratings were high to begin with.

A summary of the results for the remaining statistical analysis is shown in Table 10

Table 10: Summary of Statistical Analysis

Hypothesis 4:	In the first evaluation, other-scores will be higher for the non-anonymous students, but there will be no difference at evaluation #3. There will also be no difference, as perceived by the students, in the level of honesty and candor between the groups.
Conclusions:	At time-1 the non-anonymous other-scores were somewhat more lenient than the anonymous other-scores ($p=0.105$), but by time-3 there was no significant difference ($p=0.330$). At time 2 there was a significant difference ($p=0.047$) between the groups, and the non-anonymous scores were lower. Students who provided feedback non-anonymously were less honest and candid ($p<0.004$), and they perceived the treatment effect to have had a greater influence upon their ability/willingness to be honest than the anonymous students ($p<0.001$).
Hypothesis 5:	Non-anonymity will produce more thoughtful, sincere, and accurate feedback, and those receiving it will be less defensive.
Conclusions:	There was no treatment effect regarding how much time and thought that raters put into feedback, how much people receiving feedback valued it, and also the extent to which they regarded it as being thoughtful and sincere; however, those who receive feedback non-anonymously feel more defensive ($p<0.03$).
Hypothesis 6: *Hypothesis 7:*	The non-anonymous students will be more comfortable expressing opinions, as well as dealing with conflicts. These teams will also experience higher levels of cohesiveness. The performance of non-anonymous teams will be rated higher than that of the anonymous teams.
Conclusions:	There was no treatment effect upon team cohesiveness and performance.
Hypothesis 8:	Students in the non-anonymous group will be just as likely to prefer non-anonymous feedback in the future as those in the anonymous group will be to prefer anonymous in the future.
Conclusions:	There is a relationship between the group that the students were in and the method which they would choose in the future. Non-anonymous are 4.41 times more likely than anonymous to choose non-anonymous in future. Anonymous are 4.31 times more likely than non-anonymous to choose anonymous in the future. Thus the odds are roughly the same.

6 – Observations and Lesson Learned from Free Responses

The open-ended questions from the follow-up survey also provided additional insight into why there were few significant differences between the two groups and some of the practical issues which affected the accuracy of ratings, as well as how the procedure could be improved upon in the future.

6.1 – The Difficulty of Maintaining Anonymity

It seems that one of the reasons that the treatment effect was minimal is that with small groups it is difficult to maintain anonymity. Many of the anonymous participants stated that they were able to figure out who it was that provided them with feedback, essentially removing the treatment. This was especially true for the capstone students, as several teams only had three members. One student in the anonymous group reported that (unintentionally) knowing who had provided the feedback allowed their group to talk more directly and settle their differences, which in turn led to more trust. They mentioned that they wondered if this openness would have occurred if non-anonymity was a requirement from the beginning.

6.2 – The Pros and Cons of Anonymity

In addition to the evidence from the statistical analysis, and the difficulties with maintaining confidentiality, the survey comments also support the notion that anonymity and non-anonymity were not prime determinants of the effectiveness of the feedback procedure. One indication of this was that comments from both groups were generally balanced as to identifying the pros and cons of anonymity versus non-anonymity. It also seemed that the responses were influenced by which group students were in. The following three sections will provide a sample of the comments which were received. The A or NA at the end of each quote signifies whether the respondent was part of the anonymous or non-anonymous group.

6.2.1 – The Case for Anonymity

> The feedback I received was both encouraging and instructive. I found that the anonymity helped me not to take anything personally or treat anyone in the group differently (A).
>
> I believe that responding anonymously is much better than non-anonymous. When you know that the other person will know who rated them, you feel hindered on what you can say. It is much easier to speak your mind when the other person has no idea who it is (NA).
>
> I thought it was helpful that they were anonymous because when we received feedback we were not focused on who it was that said it but rather on how we could improve with regards to the comment (A).
>
> I felt restrained on grading [my teammates] down in fear that they would take it out on me and it would affect my grade. … Anonymous feedback would help in the fact that everyone could be more honest and not have to fear the wrath of teammates (NA).

6.2.2 – The Case for Non-anonymity

> I have always felt that it is an act of cowardice to hide behind anonymity when providing feedback. As a result I did not take anything (positive or negative) I received in the anonymous feedbacks but rather relied on the comments given in person from my teammates to influence my behavior (A).
>
> The non-anonymous feedback was beneficial because it held me accountable for the things I wrote. That accountability came with the responsibility to really think through my comments, and be sincere about them. I always felt that the evaluations were a chore to be done, but after completing them I felt as if I needed to change my attitude because it was very rewarding (NA).

> To be completely honest, I had a hard time receiving feedback, both positive and negative with it being anonymous because I felt there was no context along with the feedback. Also I felt that it hindered building trust with others. Sometimes it's better just to be upfront and honest with others. It builds trust (A).

> I think that we need to get used to giving non-anonymous feedback, because that's how it is in most real-life situations (NA).

6.2.3 – Mixed Effects

> As we became more comfortable with each other in our group [I] feel it would not have mattered if the evaluations were anonymous or not because we were all open in our discussions and received feedback well (A).

> This is an effective way to evaluate our teammates. At first, it's easy to give feedback because it's anonymous, but then it was easier to give feedback in person because I felt comfortable with them (A).

> [The] honest truth is that providing negative feedback is hard to do and will never be fun or completely open. This [non-anonymous] method was ok, but it was not significantly better than others either (NA).

> I do not see disclosing who said what to hindering the openness and honesty of my own personal feedback. However, I do acknowledge that it would be for some people. It's hard to say which way is better (A).

6.2.4 – Face-to-face and Less Structure

Another interesting observation was that there were some students who would prefer to just give feedback face-to-face rather than in writing, as well as follow a less formal procedure. Here are some of the comments in this regard:

> I would rather [the evaluations] be done in person in a group meeting, [as] writing things can often lead to misunderstandings (A).

> I prefer to address problems in person. [Taking] time to sit and talk about strengths and weaknesses [is] good, but for people that have a hard time expressing emotions openly, I can see the advantage of online [evaluations] (NA).

6.3 – The Other Aspects of Feedback

As mentioned previously, it seems that anonymity and non-anonymity are not prime determinants of the effectiveness of feedback. While the comments regarding the pros and cons of anonymity versus non-anonymity were for the most part balanced, the comments in other areas more clearly favored either a positive or negative position. The following sections will outline which parts of the feedback procedure were viewed as being effective, and which parts needed improvement.

6.3.1 – Multiple Evaluations, Setting Goals, and Group Discussions

Many students suggested that performing multiple evaluations, having to set goals, and then disclosing and discussing their feedback with their group contributed greatly to the effectiveness of the procedure.

> I think having multiple opportunities to provide evaluation and feedback made it possible to keep track of progress that was made throughout the duration of the course. It also helped to keep tabs on the things that seemed to plague us as individuals and as a group (NA).

> I actually prefer 3 team member evaluations because it reminds people that they need to stay active throughout the project (NA).

> [If there was only] one evaluation at the end of the project [it] would have had no effect on the outcome of the project because it would be too late to make adjustments (A).

> Setting specific goals based on feedback and sharing them with the team was particularly helpful to my progress (NA).

It should be noted that there were also some exceptions. One student suggested that only one evaluation in the beginning was sufficient, and another thought that only one was needed at the end. Here are their responses:

> For my team, the subsequent evaluations seemed pointless. The first one was enough to get us improving to the point that we had less feedback to give (A).

> I feel the evaluations were not the most productive use of our group meetings, because really we had already overcome most of our conflicts and were already very productive together. I think just a final evaluation would have been necessary (A).

6.3.2 – Timing and Frequency of Feedback

A common response as to what could be improved was that students felt that the first evaluation was conducted too early (about two weeks) into the project. They did not feel like they knew their teammates well enough, or that they had had a sufficient opportunity to observe them, in order to provide accurate ratings. In a procedure, if the sole goal of the first evaluation is to produce accurate results, this may indeed be problematic. On the other hand, despite any inaccuracies, one of the benefits to an early first evaluation is that it allows students to gain experience in providing feedback and expressing their opinions. This makes them more prepared to provide higher quality feedback on the second evaluation, which many students stated was probably the most influential for accomplishing self-improvement. In support of this, one of the students stated:

> Seeing the negative feedback from people who I didn't really know was really hard. However, I feel that if we hadn't had that negative feedback so early in the semester that no one in the group would have changed or grown (A).

The most common (and most critical) response which students provided was that although they saw the value of providing feedback multiple times throughout the project, they felt that 3 evaluations was too many, given the time frame of the project. In most instances the evaluations were conducted about 3-4 weeks apart. The students stated that this was too short of a period for team members to bring about any observable changes in behavior. Many felt that their sincerity waned as they struggled to generate meaningful feedback. Although there was one student who commented that: “For each evaluation, I took each one with more sincerity. The first one I did without thought, but on the last one I actually cared” (A).

7 – Conclusion

7.1 – Recommendations

Upon considering the material covered in the literature review, as well as the more practical implications which were discovered from the follow-up survey, the following recommendations are being made in order to improve the feedback procedure which was utilized in this study. In addition, some of the procedures followed were necessary in order to obtain the data for analysis, and some of these should be modified in order to make the procedure more sustainable. The revised instructions for the procedure, which are based upon these recommendations, are found in Appendix C.

7.1.1 – Timing of Feedback

Despite any inaccuracies, one of the benefits to an early first evaluation is that it allows teammates to gain experience communicating and expressing their opinions to one another, which ideally cultivates an atmosphere of openness and trust. This also makes them more prepared to provide higher quality feedback on subsequent evaluations; however, as previously noted, many students regarded the first evaluation as less effective because they felt that it was too early in the project to be able to provide accurate and useful results. One of the key components of a successful feedback procedure is maintaining the credibility of the process. If participants view the procedure with skepticism and contempt, then the process is essentially rendered useless.

In order to address this issue, it is recommended that, rather than performing a team member evaluation at time-1, students should perform a 360-feedback analysis shortly before the project begins. In a 360-analysis students rate themselves on different leadership and interpersonal competencies, and their other-ratings come from stakeholders in other areas of their lives. The team would still hold a meeting early in the project in which the team members openly declare their goals for the project to the team; however, the goals would be based upon the results of the 360-feedback rather than feedback from their teammates. The current procedure would then resume for evaluations 2 and 3. The primary benefit to this updated version of evaluation-1 is that it will still accomplish the purposes of increasing self-awareness, as well as establishing a pattern of communication and trust, but without raters having to perform an extra evaluation. This is especially true for the students in the leadership class, as they already have to perform a 360-feedback evaluation as part of the class. It will resolve the issue of having inaccurate early evaluations, as well as avoid rater burnout as students will only have to perform two evaluations instead of three. Doing this will maintain the credibility of the procedure and help students to obtain accurate results in the long run.

7.1.2 – Eliminate Self-evaluations

Self-ratings were performed throughout the feedback procedure in order to help students gauge their self-awareness, as well as so that self-other agreement could be observed and tracked for the analysis which was performed. Another way to reduce the burden on raters, and maintain credibility, is to eliminate the self-ratings at times 2 and 3. If 360-feedback is used in place of evaluation-1, this would already include a formal self-evaluation and would achieve the purposes of heightening self-awareness. On evaluations 2 and 3, even though students would not formally rate themselves, when people receive ratings and feedback from others there is an instinctive "self-rating" which occurs naturally within the ratee. It seems that with subsequent evaluations, formal self-ratings become redundant and are viewed simply as a task to be performed.

7.1.3 – Self-administration

In this procedure the feedback was collected and distributed by the persons administering the team evaluation surveys. Once again, this was necessary in order to compile the data for analysis. In the future, however, it would be beneficial to have the students administer their own feedback, although they would all still be required to follow a uniform procedure. There are multiple reasons why this is beneficial. First, it ensures confidentiality. If a student thinks that those administering the feedback (i.e., TA or Professor) are going to view the results, it may skew their responses. In the follow-up survey one of the students actually wrote that "the biggest influence on the evaluations was knowing that the teacher and TA would be able to see the results." Self-administration is also beneficial because it seems that it would create a greater sense of ownership for the feedback; that is, students would have more responsibility and control, and would thus take the process more seriously. Third, self-administration simplifies the process and reduces the potential for error. Each individual "administrator" would only be responsible for managing 3 or 4 evaluations, whereas when one person administers the feedback for all participants he or she is potentially responsible for hundreds of responses.

7.1.4 – Open-ended Feedback

For the open-ended feedback, the two questions regarding "strengths" and "weaknesses" should be combined into one question in which students are free to address either one or the other, or both. With the way that these questions were structured in this procedure, some students felt obligated to find and report weaknesses in their teammate, even if they felt that none existed, thus stifling openness and accuracy. In addition, at the recommendation of one of the students in the follow-up survey, rather than "weaknesses", a term such as "areas of most needed improvement" should be used. This is in order to change the connotation, and prevent too much emphasis from being placed on conflict and negative feedback. This will likely make raters more willing to address areas of concerns, as they will not feel as punitive in providing negative feedback.

7.1.5 – Improved Training

Another suggestion from the survey which should be implemented is to provide students with clearer instructions and more training on how to effectively conduct their team meetings in which they discuss their goals. That is, rather than just telling them *what* to do, they should also be instructed on *how* to do it. Perhaps a role play would be most helpful.

7.1.6 – Scoring

One final suggestion to be implemented is to ensure that the rating scale is simple. One student commented, "The numbering system was strange. What does a 6.8 out of 7 mean? Well it probably means the same thing as a 4 in a 1 to 5 scale. … Don't make it so complicated." In this procedure the students were rated on a scale of 1 to 7, although the scale increased at increments of 0.1, essentially creating a 70 point scale. A full integer or half-point scale would be more appropriate.

7.2 – Summary of Results

Despite any shortcomings in the process, the overall impression from the follow-up survey was that this feedback procedure was effective at achieving its primary objective which, as stated in the introduction, was to increase self-awareness in students and "provide them with experiences which will teach them how to communicate more effectively and prepare them for working on teams in their future careers."

From a quantitative perspective, this study showed that feedback did in fact increase self-other agreement, although non-anonymity did not produce a significant overall difference. This was also true for changes in both self- and other-ratings (which are the two components of self-other agreement). Non-anonymity likewise did not have a significant effect on the perceived level of honesty, thoughtfulness, and sincerity of feedback, or upon a team's level of cohesiveness and performance.

It seems that leniency bias does not control for self-other agreement. If leniency bias did in fact govern, then the self-ratings should have remained constant due to overraters being "artificially in-agreement"; however, the self-ratings for both treatment groups actually dropped after the first evaluation.

As far as leniency and honesty, as was expected, non-anonymous students provided more lenient ratings in the beginning, but by time-3 they became more comfortable providing honest feedback, and there was no difference between the groups. At evaluation-2 it seemed that they realized the leniency of their ratings at evaluation-1, and then corrected their follow-up ratings. According to students' perceptions of the overall process, those providing feedback non-anonymously were significantly less open and honest. It was also interesting to observe that non-anonymity actually increased defensiveness, rather than decreasing it.

Finally, future preferences for providing feedback are related to the way in which students performed feedback in the past, and students who performed feedback non-anonymously are much more likely to prefer performing feedback non-anonymously in the future. This seems to show that past experience is a condition for openness for non-anonymous evaluations.

In the end, there was no strong evidence for or against non-anonymity, and thus it appears that there was no major treatment effect. The primary conclusion from this research is that it appears that, under the conditions which were present, it may be difficult to obtain statistically significant differences between anonymous and non-anonymous feedback. There are two justifications as to why this may be the case, which are based upon insights gained from the follow-up survey. First, if non-anonymous feedback does indeed produce positive outcomes, it may take a longer period of time for these differences to be noticed. This process took place over only about a three-month period, and feedback was received only 3-4 weeks apart. Secondly, when teams are small (i.e., only 3-5 members) it is difficult to maintain anonymity. If anonymity is to be assured, perhaps this is only possible in larger groups.

7.3 – Closure

Perhaps the most delicate issue with peer feedback is establishing an appropriate level of accountability. The dilemma is that, although increasing rater accountability increases the likelihood that raters will take the task more seriously and provide more thoughtful and justifiable ratings, it also increases the probability of raters being more lenient (London, Smith, and Adsit, 1997; Cleveland and Murphy, 1992). The resulting challenge is to create conditions under which people will give impartial, thoughtful, and candid feedback, and those who receive it are accepting of it and implement it in their lives.

One proposed solution to this problem is to utilize either anonymous or non-anonymous feedback at different stages of the process. In the early stages, confidentiality and anonymity may be essential for instilling confidence in the feedback process; however, once people have become accustomed to the procedure, a feedback system which includes the open discussion of ratings could be adopted (Peiperl, 1999).

Alternatively, the preferred procedure is for students working in small teams to provide non-anonymous feedback throughout the entire process. This is because, as just noted, even if anonymity is a required condition, it is difficult to maintain. It seems that pretending that anonymity exists when in fact it does not may actually hinder transparency and trust. Furthermore, even if students are unsure of whom it is that provided them with feedback, there still exists the natural tendency to make assumptions, which can increase tension and mistrust within a team. Finally, it seems that giving feedback non-anonymously will more effectively prepare students for working on teams in their careers, as this is more reflective of the way that feedback is provided in the workplace. In practice this second proposal may result in some initial resistance from participants; however, requiring non-anonymity from the beginning will accelerate their transition to providing open and honest feedback. Either way, the highest aim of the feedback process should be the cultivation of an atmosphere of transparency and trust, in which both the giver and receiver are fully accountable, and opinions and feelings are shared openly and freely. When this occurs, formal feedback and questionnaires eventually disappear and are replaced with ongoing feedback on an informal, day-to-day basis (Bracken and Timmreck, 2001; Antonioni, 1996).

REFERENCES

Antonioni, D. (1994). "The effect of feedback accountability on upward appraisal ratings." *Personnel Psychology*, 47(2).

Antonioni, D. (1996). "Designing an effective 360-degree appraisal feedback process." *Organizational Dynamics*, 25(2), 24-38.

Antonioni, D., and Park, H. (2001). "The relationship between rater affect and three sources of 360-degree feedback ratings." *Journal of Management*, 27, 479-495.

Antonioni, D. and Woehr, D. J. (2001). "Improving the quality of multisource rater performance." *The handbook of multisource feedback: The comprehensive resource for designing and implementing MSF processes*, D. W. Bracken, C. W. Timmreck, A. H. Church, eds., Jossey-Bass, San Francisco, CA, 114-129.

Ashford S. (1989). "Self-assessments in organizations: A literature review and integrative model." *Research in Organizational Behavior*, 11, 33-174.

Ashford, S. J., and Tsui, A. S. (1991). "Self-regulation for managerial effectiveness: The role of active feedback-seeking." *Academy of Management Journal*, 34, 251-280.

Atwater, L. and Yammarino, F. (1992). "Does self-other agreement on leadership perceptions moderate the validity of leadership and performance predictions?" *Personnel Psychology*, 45.

Bandura, A. (1982). "Self-efficacy mechanism in human agency." *American Psychologist*, 37(2), 122-147.

Barclay, J. H., and Harland, L. K. (1995). "Peer performance appraisals: The impact of rater competence, rater location, and rating correctability on fairness perceptions." *Group & Organization Management*, 20(1).

Baumeister, R. F., and Cairns, K. J. (1992). "Repression and self-presentation: When audiences interfere with self-deceptive strategies." *Journal of Personality and Social Psychology*, 62(5), 851-862.

Bernardin, H. J., Cooke, D. K., and Villanova, P. (2000). "Conscientiousness and agreeableness as predictors of rating leniency." *Journal of Applied Psychology*, 85(2), 232-234.

Bollich, K. L., Johannet, P. M., and Vazire, S. (2011). "In search of our true selves: Feedback as a path to self-knowledge." *Frontiers in Psychology*, 2, 312, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3208397/pdf/fpsyg-02-00312.pdf>.

Bracken, D. W., and Rose, D. S. (2011). "When does 360-degree feedback create behavior change? And how would we know it when it does?" *Journal of Business Psychology*, 26, 183-192.

Bracken, D. W., and Timmreck, C. W. (2001). "Success and sustainability." *The handbook of multisource feedback: The comprehensive resource for designing and implementing MSF processes*, D. W. Bracken, C. W. Timmreck, A. H. Church, eds., Jossey-Bass, San Francisco, CA, 478-494.

Bracken, D. W., Timmreck, C. W., and Church, A. H. (2001). "Preface." *The handbook of multisource feedback: The comprehensive resource for designing and implementing MSF processes*, D. W. Bracken, C. W. Timmreck, A. H. Church, eds., Jossey-Bass, San Francisco, CA.

Bretz, R. D., Milkovich, G. T., and Read, W. (1992). "The current state of performance appraisal research and practice: Concerns, directions, and implications." *Journal of Management*, 18, 321-352.

Caldwell, C. (2009). "Identity, self-awareness, and self-deception: Ethical implications for leaders and organizations." *Journal of Business Ethics*, 90, 393-406.

Cederblom, D., and Lounsbury, J. W. (1980). "An investigation of user acceptance of peer evaluations." *Personnel Psychology*, 33, 567-579.

Cleveland, J. N., and Murphy, K. R. (1992). "Analyzing performance appraisal as goal-directed behavior." *Research in Personnel and Human Resources Management* (Vol. 10), G. Ferris and K. Rowland, eds., JAI Press, Greenwich, CT.

Conger, J. A., and Toegel, G. (2003). "Action learning and multirater feedback: Pathways to leadership development?" *The Future of Leadership Development*, S. E. Murphy and R. E. Riggio, eds., Lawrence Erlbaum Associates, Mahwah, NJ, 107-128.

Cross, P. (1977). "Not can but *will* college teaching be improved?" *New Directions for Higher Education*, 17, 1-15.

Delmhorst, F. P. (2006). "Self-awareness and leadership development: Examining the impact of self-subordinate agreement on perceptions of leadership." Ph.D. dissertation, Columbia University, New York, NY.

DeNisi, A., and Kluger, A. N. (2000). "Feedback effectiveness: Can 360-degree appraisals be improved?" *Academy of Management Executive*, 14, 129-139.

Dunning, D. (2005). *self-insight: roadblocks and detours on the path to knowing thyself*, Psychology Press, New York, NY.

Dunnette, M. D. (1963). "A note on the criterion." *Journal of Applied Psychology*, 7, 251-254.

Farh, J. L., Cannella, A. A., and Bedeian, A. G. (1991). "Peer ratings: The impact of purpose on rating quality and user acceptance." *Group and Organizational Studies*, 16, 367-386.

Feather, N. T. (1961). "The relationship of persistence at a task to expectation of success and achievement related motives." *Journal of Abnormal and Social Psychology*, 63, 552-561.

Fedor, D. B., and Bettenhausen, K. L. (1989). "The impact of purpose, participant preconceptions and rating level on the acceptance of peer evaluations." *Group and Organizational Studies*, 14, 182-197.

Fleenor, J. W., Smither, J. W., Atwater, L. E., Braddy, P. W., and Sturm, R. E. (2010). "Self-other rating agreement in leadership: A review." *The Leadership Quarterly*, 21, 1005–1034.

Ford, J. K., and Weldon, E. (1981). "Forewarning and accountability: Effects on memory-based interpersonal judgments." *Personality and Social Psychology Bulletin*, 7, 264-268.

Harris, M., Schaubroeck, J. (1988). "A meta-analysis of self-supervisor, self-peer, and peer-supervisor ratings." *Personnel Psychology*, 41, 43-61.

Hedge, J. W., Borman, W. C., Birkeland, S. A. (2001). "History and development of multisource feedback as a methodology." *The handbook of multisource feedback: The comprehensive resource for designing and implementing MSF processes*, D. W. Bracken, C. W. Timmreck, A. H. Church, eds., Jossey-Bass, San Francisco, CA, 15-32.

Hensel, R., Meijers, F., van der Leeden, R., and Kessels, J. (2010). "360 degree feedback: how many raters are needed for reliable ratings on the capacity to develop competences, with personal qualities as developmental goals?" *The International Journal of Human Resource Management*, 21(15), 2813–2830.

Ilgen, D. R., Fisher, C. D., and Taylor. M. S. (1979). "Consequences of individual feedback on behavior in organizations." *Journal of Applied Psychology*, 64, 349-371.

Johnson, J. W., and Ferstl, K. L. (1999). "The effects of interrater and self–other agreement on performance improvement following upward feedback." *Personnel Psychology*, 52, 272-303.

Jordan, P., and Ashkanasy, N. M. (2006). “Emotional intelligence, emotional self-awareness, and team effectiveness.” *Linking Emotional Intelligence and Performance at Work*, V. U. Druskat, F. Sala, and G. Mount, eds., Lawrence Erlbaum Associates, Mahwah, NJ.

Kluger, A. N., and DeNisi, A. (1996). “The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory.” *Psychological Bulletin*, 119, 254-284.

Korsgaard, M. A., Diddams, M. (1996). “The effect of process feedback and task complexity on personal goals, information searching, and performance improvement.” *Journal of Applied Social Psychology*, 26(21).

Locke, E. A., Shaw, K.M., Saari, L. M., and Latham, G.P. (1981). “Goal setting and task performance.” *Psychological Bulletin*, 90, 125-152.

London, M., Smith, J. W., and Adsit, D. J. (1997). “Accountability: The Achilles’ heel of multisource feedback.” *Group & Organization Management*, 22, 162-184.

London, M., Wohlers, A. J. (1991). “Agreement between subordinates and self-ratings in upward feedback.” *Personnel Psychology*, 44, 375-390.

Longenecker, C. Q., Sims, H. P., Jr., and Gioia, D. A. (1987). “Behind the mask: The politics of employee appraisal.” *Academy of Management Executive*, 1, 183-193.

Love, K. G. (1981). “Comparison of peer assessment methods: Reliability, validity, friendship bias, and user reaction.” *Journal of Applied Psychology*, 66, 451-457.

Luft, L. (1969). *Of Human Interaction*, National Press, Palo Alto, CA.

Lynn, G. S., and Reilly, R. R. (2000). “Measuring team performance.” *Research Technology Management*, 43(2), 48.

Mabe, P. A., III, and West, S. G. (1982). “Validity of self-evaluation of ability: A review and meta-analysis.” *Journal of Applied Psychology*, 67, 280-286.

Maylett, T. (2009). “360-degree feedback revisited: The transition from development to appraisal.” *Compensation & Benefits Review*, 41, 52-59.

McEvoy, G. M., and Butler, P. F. (1987). “User acceptance of peer appraisals in an industrial setting.” *Personnel Psychology*, 40, 785-797.

Mero, N. P., Motowidlo, S. J. (1995). “Effects of rater accountability on the accuracy and the favorability of performance ratings.” *Journal of Applied Psychology*, 80(4), 517-524.

Mitchell, T. W., and Klimoski, R. (1984). “Accountability bias in performance appraisal.” *Working Paper Series in Industrial/Organizational Psychology*, Ohio State University, Columbus, OH.

Murphy, K. R. (2008). “Explaining the weak relationship between job performance and ratings of job performance.” *Industrial and Organizational Psychology: Perspectives on Science and Practice*, 1, 148−160.

Murphy, K. R., and Cleveland, J. N. (1995). *Understanding performance appraisal: Social, organizational, and goal-based perspectives*, Sage, Thousand Oaks, CA.

Murphy, K. R., Cleveland, J. N., and Mohler, C. J. (2001). “Reliability, validity, and meaningfulness of multisource ratings.” *The handbook of multisource feedback: The comprehensive resource for designing and implementing MSF processes*, D. W. Bracken, C. W. Timmreck, A. H. Church, eds., Jossey-Bass, San Francisco, CA, 130-148.

Ng, K-Y., Koh, C., Ang, S., Kennedy, J. C., and Chan, K-Y. (2011). “Rating leniency and halo in multisource feedback ratings: Testing cultural assumptions of power distance and individualism-collectivism.” *Journal of Applied Psychology*, 96(5), 1033–1044.

Peiperl, M. A. (1999). “Conditions for the success of peer evaluation.” *International Journal of Human Resource Management*, 10, 429-458.

Peterson, D. B., Hicks, M. D., and Stoner, J. D. (2001). “Tools and resources for helping people move forward following multisource feedback.” *The handbook of multisource feedback: The comprehensive resource for designing and implementing MSF processes*, D. W. Bracken, C. W. Timmreck, A. H. Church, eds., Jossey-Bass, San Francisco, CA, 221-238.

Renn, R. W., Fedor, D. B. (2001). “Development and field test of a feedback seeking, self-efficacy, and goal setting model of work performance.” *Journal of Management*, 27(5).

Scientific Software International. “HLM - Hierarchical linear and nonlinear modeling (HLM).” <http://www.ssicentral.com/hlm/> (May 14, 2013).

Shipper, F. (2010). “A long-term study of the impact of a 360 feedback process on self-others’ agreement and performance.” *Proceedings, Academy of Management Annual Meeting*.

Smither, J. W., London, M., Vasilopoulos, N., Reilly, R., Millsap, R., and Salvemini, N. (1995). “An examination of the effects of an upward feedback program over time.” *Personnel Psychology*, 48, 1−33.

Swann, W. B., Jr., Rentfrow, P. J., and Guinn, J. (2002). “Self-verification: The search for coherence.” *Handbook of self and identity*, M. Leary and J. Tagney, eds., Guilford, New York, NY.

Taggar, S. and Brown, T. C. (2006). "Interpersonal affect and peer rating bias in teams." *Small Group Research*, 37(1), 86-111.

Taylor, S. N., and Bright, D. S. (2010). "Exploring conditions for openness in multisource feedback assessment." *Proceedings*, *Academy of Management Annual Meeting*.

Tesser, A., and Rosen, S. (1975). "The reluctance to transmit bad news." *Advances in experimental social psychology (Vol. 8)*, L. Berkowitz, ed., Academic Press, New York, NY, 193-232.

Tetlock, P. E. (1983). "Accountability and the perseverance of first impressions." *Social Psychology Quarterly*, 46, 74-83.

Tetlock, P. E. (1985). "Accountability: The neglected social context of judgment and choice." *Research in Organizational Behavior*, 7, 297-332.

Tornow, W. W., and Paradise, C. (2001). "Linking multisource feedback content with organizational needs." *The handbook of multisource feedback: The comprehensive resource for designing and implementing MSF processes*, D. W. Bracken, C. W. Timmreck, A. H. Church, eds., Jossey-Bass, San Francisco, CA, 48-62.

University at Buffalo School of Management. "Student peer evaluation." *MGS351 Course Website: Introduction to Management Information Systems*. <mgt.buffalo.edu/departments/mss/djmurray/mgs351/PeerEval.doc> (Nov. 5, 2012).

Van Velsor, E. and Leslie, J. B. (2001). "Selecting a multisource feedback instrument." *The handbook of multisource feedback: The comprehensive resource for designing and implementing MSF processes*, D. W. Bracken, C. W. Timmreck, A. H. Church, eds., Jossey-Bass, San Francisco, CA, 63-78

Waldman, D. A., and Atwater, L. E. (2001). "Confronting barriers to successful implementation of MSF." *The handbook of multisource feedback: The comprehensive resource for designing and implementing MSF processes*, D. W. Bracken, C. W. Timmreck, A. H. Church, eds., Jossey-Bass, San Francisco, CA, 463-477

Westerman, J. W., and Rosse, J. G. (1997). "Reducing the threat of rater non-participation in 360-degree feedback systems: An exploratory examination of antecedents to participation in upward ratings." *Group and Organization Management*, 22, 288-309.

Whetten, D. A., and Cameron, K. S. (2007). *Developing Management Skills*, 7th Ed., Pearson Education, Upper Saddle River, NJ.

Yammarino, F. J., and Atwater, L. E. (2001). "Understanding agreement in multisource feedback." *The handbook of multisource feedback: The comprehensive resource for designing and implementing MSF processes*, D. W. Bracken, C. W. Timmreck, A. H. Church, eds., Jossey-Bass, San Francisco, CA, 204-220.

APPENDIX A. TRAINING MATERIALS PRESENTED TO STUDENTS

A.1 – Reading on Supportive Communication

SKILL LEARNING

Key Dimensions of Self-Awareness

For more than 300 years, knowledge of the self has been considered to be at the very core of human behavior. The ancient dictum "Know thyself" has been variously attributed to Plato, Pythagoras, Thales, and Socrates. Plutarch noted that this inscription was carved on the Delphic Oracle, that mystical sanctuary where kings and generals sought advice on matters of greatest importance to them. As early as 42 B.C., Publilius Syrus proposed: "It matters not what you are thought to be, but what you are." Alfred Lord Tennyson said: "Self-reverence, self-knowledge, self-control, these three alone lead to sovereign power." Probably the most oft-quoted passage on the self is Polonius' advice in Hamlet: "To thine own self be true, and it must follow as the night the day, thou canst not then be false to any man."

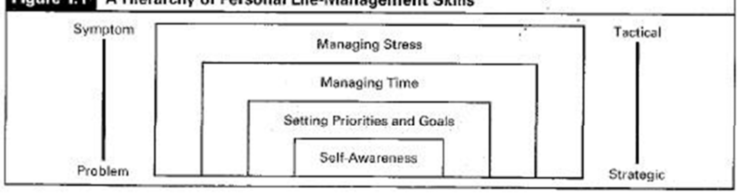
Messinger reminded us: "He that would govern others must first master himself." **Self-awareness** lies at the heart of the ability to master oneself, but it is not sufficient. While self-management depends first and foremost on self-awareness, as illustrated in Figure 1.1, other self-management skills are closely linked to and build upon self-awareness. Developing self-control, for example, and clarifying priorities and goals, help individuals create direction in their own lives. Effectively managing time and stress make it possible for individuals to adapt to and organize their surroundings.

This chapter centers on the core aspects of self-management and serves as the foundation for the following chapter on stress and time management.

Moreover, as Figure 1.1 illustrates, when problems arise in personal management, the easily recognized symptoms are often time pressures or experienced stress. However, those symptoms are often linked to more fundamental problems with self-awareness and out-of-balance priorities so we begin with a focus on enhancing knowledge of oneself.

Despite the research cited above, students of human behavior have long known that knowledge of oneself—self-awareness, self-insight, self-understanding—is essential to one's productive personal and interpersonal functioning, and in understanding and empathizing with other people. A host of techniques and methods for achieving self-knowledge have long been available—including group methods, meditation techniques, altered consciousness procedures, aromatherapy, assorted massages, physical exercise regimens, and biofeedback. A 1993 *New England Journal of Medicine* article estimated that Americans alone spent approximately $12 billion on such therapies in 1990, and *Forbes* magazine estimated the figure at more than $15 billion in 1995. In this chapter we do not summarize those various approaches to enhanced self-awareness, nor do we espouse any one procedure in particular. Instead, our objective is to help you understand the importance of self-awareness if you are to be a successful manager—or a successful individual—and to provide you with some powerful self-assessment instruments that are related to managerial success. Our emphasis is on scientifically validated information linking self-awareness to the behavior of managers, and we try to avoid generalizations that have not been tested in research.

Figure 1.1 A Hierarchy of Personal Life-Management Skills



The Enigma of Self-Awareness

Erich Fromm (1939) was one of the first behavioral scientists to observe the close connection between one's self-concept and one's feelings about others: "Hatred against oneself is inseparable from hatred against others." Carl Rogers (1961) later proposed that self-awareness and self-acceptance are prerequisites for psychological health, personal growth, and the ability to know and accept others. In fact, Rogers suggested that the basic human need is for self-regard, which he found to be more powerful in his clinical cases than physiological needs. Brouwer (1964, p. 156) asserted:

> *The function of self-examination is to lay the groundwork for insight, without which no growth can occur. Insight is the "Oh, I see now" feeling which must consciously or unconsciously precede change in behavior. Insights—real, genuine glimpses of ourselves as we really are—are reached only with difficulty and sometimes with real psychic pain. But they are the building blocks of growth. Thus, self-examination is a preparation for insight, a groundbreaking for the seeds of self-understanding which gradually bloom into changed behavior.*

There is little question that the knowledge we possess about ourselves, which makes up our self-concept, is central to improving our management skills. We cannot improve ourselves or develop new capabilities unless and until we know what level of capability we currently possess. Considerable empirical evidence exists that individuals who are more self-aware are more healthy, perform better in managerial and leadership roles, and are more productive at work (Boyatzis, 1982; Cervone, 1997; Spencer & Spencer, 1993).

On the other hand, self-knowledge may inhibit personal improvement rather than facilitate it. The reason is that individuals frequently evade personal growth and new self-knowledge. They resist acquiring additional information in order to protect their self-esteem or self-respect. If they acquire new knowledge about themselves, there is always the possibility that it will be negative or that it will lead to feelings of inferiority, weakness, evilness, or shame. So they avoid new self-knowledge. As Maslow (1962, p. 57) notes:

> *We tend to be afraid of any knowledge that would cause us to despise ourselves or to make us feel inferior, weak, worthless, evil, shameful. We protect ourselves and our ideal image of ourselves by repression and similar defenses, which are essentially techniques by which we avoid becoming conscious of unpleasantness or dangerous truths.*

We avoid personal growth, then, because we fear finding out that we are not all that we would like to be. If there is a better way to be, our current state must therefore be inadequate or inferior. The realization that one is not totally adequate or knowledgeable is difficult for many people to accept. This resistance is the "denying of our best side, of our talents, of our finest impulses, of our highest potentialities, of our creativeness. In brief, this is the struggle against our own greatness" (Maslow, 1962, p. 58). Freud (1956) asserted that to be completely honest with oneself is the best effort an individual can make, because complete honesty requires a continual search for more information about the self and a desire for self-improvement. The results of that search are usually uncomfortable.

Seeking knowledge of the self, therefore, seems to be an enigma. It is a prerequisite for and motivator of growth and improvement, but it may also inhibit growth and improvement. It may lead to stagnation because of fear of knowing more. How, then, can improvement be accomplished? How can management skills be developed if the self-knowledge necessary for the development of those skills is resisted?

LEARNING

THE SENSITIVE LINE

One answer relies on the concept of the **sensitive line**. This concept refers to the point at which individuals become defensive or protective when encountering information about themselves that is inconsistent with their self-concept or when encountering pressure to alter their behavior. Most people regularly experience information about themselves that doesn't quite fit or that is marginally inconsistent. For example, a friend might say, "You look tired today. Are you feeling okay?" If you are feeling fine, the information is inconsistent with your self-awareness. But because the discrepancy is relatively minor, it would not be likely to offend you or evoke a strong defensive reaction. That is, it would probably not require that you reexamine and change your self-concept.

On the other hand, the more discrepant the information or the more serious its implications for your self-concept, the closer it would approach your sensitive line, and you would feel a need to defend yourself against it. For example, having a coworker judge you incompetent as a manager may cross your sensitive line if you think you have done a good job as a manager. This would be especially true if the coworker was an influential person. Your response would probably be to defend yourself against the information to protect the image you hold of yourself.

This response is known as the **threat-rigidity response** (Staw, Sandelands, & Dutton, 1981; Weick, 1993). When individuals are threatened, when they encounter uncomfortable information, or when uncertainty is created, they tend to become rigid. They hunker down, protect themselves, and become risk averse. Consider what happens when you are startled or suddenly shocked by something unexpected. Physically, your body tends to become rigid in order to protect itself. It tightens up to safeguard stability. Similarly, individuals also become rigid—psychologically and emotionally—when they encounter information that is a threat to their self-concept. They tend to redouble their efforts to protect what is comfortable and familiar (Cameron, 1994; Cameron, Kim, & Whetten, 1987; Weick & Sutcliffe, 2000). They rely on first-learned or most reinforced behavior patterns and emotions. When discrepancies in the self-image are encountered, in other words, the validity of the information or its source is denied, or other kinds of defense mechanisms are used to ensure that the self-concept remains stable. Crossing the sensitive line creates rigidity and self-preservation.

In light of this defensiveness, then, how can increased self-knowledge and personal change ever occur? There are at least two answers. One is that information that is verifiable, predictable, and controllable is less likely to cross the sensitive line than information without those characteristics. That is, if an individual can test the validity of the discrepant information (for example, if some objective standard exists for evaluating the accuracy of the information), if the information is not unexpected or "out-of-the-blue" (for example, if it is received at regular intervals), and if there is some control over what, when, and how much information is received (for example, if it is requested), the feedback is more likely to be heard and accepted. The information you receive about yourself in this chapter possesses those three characteristics. You have already completed several self-assessment instruments that have been used extensively in research. Their reliability and validity have been established. Moreover, they have been found to be associated with managerial success. Therefore, as you analyze your scores and seek honestly to understand more about your underlying attributes, you can gain important insight that will prove to be very useful.

A second answer to the problem of overcoming resistance to self-examination lies in the role other people can play in helping insight to occur. It is almost impossible to increase skill in self-awareness unless we interact with and disclose ourselves to others. Unless one is willing to open up to others, to discuss aspects of the self that seem ambiguous or unknown, little growth can ever occur. **Self-disclosure**, therefore, is a key to improvement in self-awareness. Harris (1981) points out:

> *In order to know oneself, no amount of introspection or self-examination will suffice. You can analyze yourself for weeks, or meditate for months, and you will not get an inch further—any more than you can smell your own breath or laugh when you tickle yourself.*
>
> *You must first be open to the other person before you catch a glimmering of yourself. Our self-reflection in a mirror does not tell us what we are like; only our reflection in other people. We are essentially social creatures, and our personality resides in association, not in isolation.*

As you engage in the practice exercises in this chapter, therefore, you are encouraged to discuss your insights with someone else. A lack of self-disclosure not only inhibits self-awareness but also may affect adversely other aspects of managerial skill development. For example, several studies have shown that low self-disclosers are less healthy and more self-alienated than high self-disclosers. College students give the highest ratings for interpersonal competence to high self-disclosers. Individuals who are high self-disclosers are liked best, and excessive or insufficient self-disclosure results in less liking and acceptance by others (see, for example, Covey, 1989; Goleman, 1998b; Kelley, 1999).

Some of the exercises in this chapter will require you to discuss your experiences with others. This is because involving others in the process of self-understanding will be a critical aspect of your personal growth. These interactions, of course, should be sincere, honest, and motivated by self-understanding and self-improvement. Never should the information you share or receive be used to judge or wound another person. Maintaining a trusting relationship with someone with whom you can share is a critical prerequisite to self-understanding.

The enigma of self-awareness can be managed, then, by exercising some control over when and what kind of information you receive about yourself, and by involving others in your pursuit of self-understanding. The support and feedback individuals receive from others during the process of self-disclosure, besides helping to increase feedback and self-awareness, helps information contribute to greater self-awareness without crossing the sensitive line.

Understanding and Appreciating Individual Differences

Another important reason for focusing on self-awareness is to help you develop the ability to diagnose important differences among others with whom you interact. There is considerable evidence that an individual's effectiveness as a manager is closely related to his or her ability to recognize, appreciate, and ultimately utilize key, fundamental differences among others. This topic is commonly discussed in the management literature under the subject of "managing diversity." The diversity literature has progressed through a series of stages, beginning with a plethora of statistics demonstrating the extent to which, and the specific ways in which, the workforce is becoming more diverse. This was followed by evidence-based arguments touting the merits of a diverse group of workers contributing to the performance of a work group (Cox, 1994). The primary sources of diversity discussed in this literature are gender, age, culture, and ethnicity.

In this chapter, and throughout the book, we use broader, more inclusive, and less ambiguous terminology that is more conducive to skill development. Whereas it is difficult, for example, to understand all the ramifications of "managing diversity," it is not difficult to be sensitive to certain important differences that affect the way you manage others. In other words, this chapter has two objectives: (1) to help you better understand your own uniqueness as an individual—to become better equipped to manage yourself—and (2) to help you diagnose, value, and utilize the differences you find in other people.

Self-knowledge will help you understand your own taken-for-granted assumptions, trigger points, sensitive line, comfort zone, strengths and weaknesses, and so forth. This knowledge is useful for all of us, not because we can or should change fundamental dimensions of ourselves, but because it helps make our interactions with others more effective and insightful. It also helps us gain a more complete understanding of our potential for contributing value in our future career roles and our special strengths relative to others. It is not unusual for many of us to feel intimidated at times, for example, by heroic or luminary figures whose success is attributed to charisma, intelligence, or style. We feel we are somehow diminished and less able because of what we see in others. Self-knowledge allows us to recognize our own special gifts and strengths and to capitalize on our talents.

Diagnosing fundamental differences in others is, similarly, an important part of being an effective manager. Being aware of, and empathetic toward, the different perspectives, needs, and inclinations of other people is a key part of emotional intelligence and interpersonal maturity. Most people, however, have a tendency to interact with individuals who are like themselves, to choose similar people to work with them, and to exclude others who seem to be different (Berscheid & Walster, 1978). The history of human warfare and conflict testifies to the fact that differences are usually interpreted as frightening or threatening. However, although fostering similarity seemingly makes it easier to interact with other people, especially in a work setting, it also reduces creativity, complex problem solving, and the likelihood that working colleagues will challenge the perspective of the authority figure. Research on organizational failure has repeatedly demonstrated that a lack of diversity in the composition of key decision-making bodies makes it difficult for them to recognize changes in their environment and to respond in appropriately new and novel ways (Cameron, Kim, & Whetten, 1987).

One key to helping individuals feel comfortable discussing ways in which they are different is by sharing a commitment to focusing on *differences* not *distinctions*. We observe differences; we create distinctions. Differences help us understand potential sources of misunderstanding between people and give us clues for how we can work together more effectively. Distinctions create social barriers between people for the express purpose of creating (or reinforcing) advantages and disadvantages. When someone discounts the opinion of a coworker, for example, on the grounds that the person is "a member of the old boys' club," "from marketing," "a woman," or "doesn't have a college degree," he or she is creating a distinction that is not only potentially hurtful on a personal basis but ineffective for the organization.

The creation of such distinctions destroys trust among people, even if the distinctions refer to individuals who are not present. If you were to apply distinctions that belittled someone in another group, for example, that action plants a seed of mistrust in the minds of

LEARNING

people who are present regarding what distinctions you may be privately using to discount them. The *point* is, recognizing differences is not the same as evaluating distinctions. One is helpful; the other is hurtful. Moreover, when others feel that self-disclosing information could be used against them—that is, they could be placed on the disadvantaged side of a distinction—they will be reluctant to participate in any self-discovery process, especially one that requires them to share information about their personal characteristics.

To repeat, self-awareness and understanding differences cannot occur without self-disclosure, sharing, and trusting conversations. Self-knowledge requires an understanding and valuing of differences, not the creation of distinctions. We encourage you, therefore, to use the information you discover about yourself and others to build, grow, and value both of you in your interactions.

LEARNING

What Is Supportive Communication?

In this chapter, we focus on a kind of interpersonal communication that helps you communicate accurately and honestly, especially in difficult circumstances, without jeopardizing interpersonal relationships. It is not hard to communicate supportively—to express confidence, trust, and openness—when things are going well and when people are doing what you like. But when you have to correct someone else's behavior, when you have to deliver negative feedback, or when you have to point out shortcomings of another person, communicating in a way that builds and strengthens the relationship is more difficult. This type of communication is called **supportive communication.** Supportive communication seeks to preserve or enhance a positive relationship between you and another person while still addressing a problem, giving negative feedback, or tackling a difficult issue. It allows you to communicate information to others that is not complimentary, or to resolve an uncomfortable issue with another person but, in the process, strengthen your relationship.

Supportive communication has eight attributes, which are summarized in Table 4.2. Later in the chapter we expand on each attribute. When supportive communication is used, not only is a message delivered accurately, but the relationship between the two communicating parties is supported, even enhanced, by the interchange. Positive interpersonal relationships result. People feel energized and uplifted, even when the information being communicated is negative.

The goal of supportive communication is not merely to be liked by other people or to be judged to be a nice person. Nor is it used merely to produce social

Figure 4.1 Relationships Between Unskillful Communication and Interpersonal Relationships

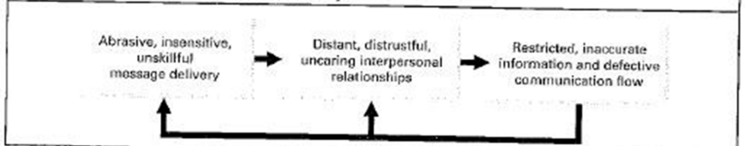


Table 4.2 The Eight Attributes of Supportive Communication

• Congruent, Not Incongruent		
A focus on honest messages where verbal statements match thoughts and feelings.		
Example: "Your behavior really upset me."	***Not***	*"Do I seem upset? No, everything's fine."*
• Descriptive, Not Evaluative		
A focus on describing an objective occurrence, describing your reaction to it, and offering a suggested alternative.		
Example: "Here is what happened; here is my reaction; here is a suggestion that would be more acceptable."	***Not***	*"You are wrong for doing what you did."*
• Problem-Oriented, Not Person-Oriented		
A focus on problems and issues that can be changed rather than people and their characteristics.		
Example: "How can we solve this problem?"	***Not***	*"Because of you a problem exists."*
• Validating, Not Invalidating		
A focus on statements that communicate respect, flexibility, collaboration, and areas of agreement.		
Example: "I have some ideas, but do you have any suggestions?"	***Not***	*"You wouldn't understand, so we'll do it my way."*
• Specific, Not Global		
A focus on specific events or behaviors and avoid general, extreme, or either-or statements.		
Example: "You interrupted me three times during the meeting."	***Not***	*"You're always trying to get attention."*
• Conjunctive, Not Disjunctive		
A focus on statements that flow from what has been said previously and facilitate interaction.		
Example: "Relating to what you just said, I'd like to raise another point."	***Not***	*"I want to say something (regardless of what you just said)."*
• Owned, Not Disowned		
A focus on taking responsibility for your own statements by using personal ("I") words.		
Example: "I have decided to turn down your request because . . ."	***Not***	*"You have a pretty good idea, but it wouldn't get approved."*
• Supportive Listening, Not One-Way Listening		
A focus on using a variety of appropriate responses, with a bias toward reflective responses.		
Example: "What do you think are the obstacles standing in the way of improvement?	***Not***	*"As I said before, you make too many mistakes. You're just not performing."*

LEARNING

acceptance. As pointed out above, positive interpersonal relationships have practical, instrumental value in organizations. Researchers have found, for example, that organizations fostering supportive interpersonal relationships enjoy higher productivity, faster problem solving, higher-quality outputs, and fewer conflicts and subversive activities than do groups and organizations in which relationships are less positive. Moreover, delivering outstanding customer service is almost impossible without supportive communication. Customer complaints and misunderstandings frequently require supportive communication skills to resolve. Not only must managers be competent in using this kind of communication, therefore, but they must help their subordinates develop this competency as well.

One important lesson that American managers have been taught by foreign competitors is that good relationships among employees, and between managers and employees, produce bottom-line advantages (Ouchi, 1981; Peters, 1988; Pfeffer, 1998). Hanson (1986) found, for example, that the presence of good interpersonal relationships between managers and subordinates was three times more powerful in predicting profitability in 40 major corporations over a five-year period than the four next most powerful variables—market share, capital intensity, firm size, and sales growth rate—combined. Supportive communication, therefore, isn't just a "nice-person technique," but a proven competitive advantage for both managers and organizations.

Sensitivity to individual differences and styles is an important prerequisite to effective communication.

Summary

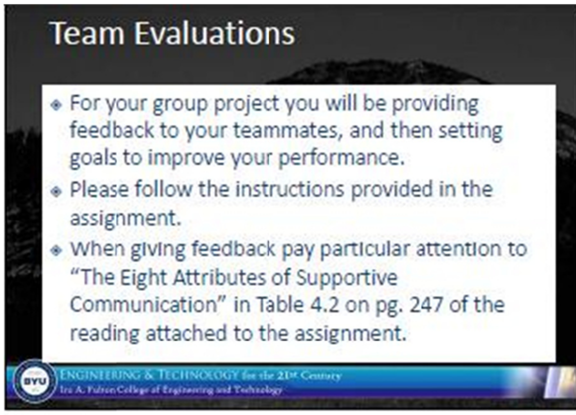
The most important barriers to effective communication in organizations are interpersonal. Much technological progress has been made in the last two decades in improving the accuracy of message delivery in organizations, but communication problems still persist among people, regardless of their relationships or roles. A major reason for these problems is that a great deal of communication does not support a positive interpersonal relationship. Instead, it frequently engenders distrust, hostility, defensiveness, and feelings of incompetence and low self-esteem. Ask any manager about the major problems being faced in their organizations, and communication problems will most assuredly appear near the top of the list.

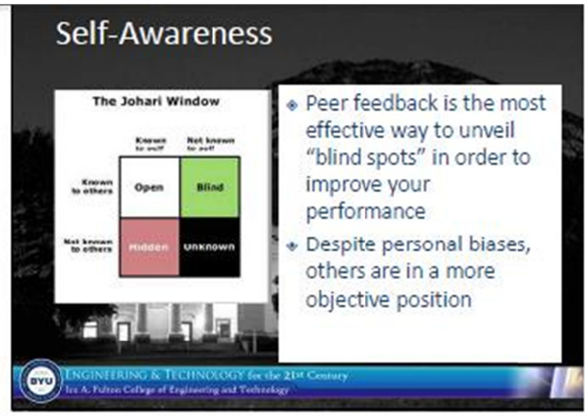
Dysfunctional communication is seldom associated with situations in which compliments are given, congratulations are made, a bonus is awarded, or other positive interactions occur. Most people have little trouble communicating effectively in positive or complimentary situations. The most difficult, and potentially harmful, communication patterns are most likely to emerge when you are giving feedback on poor performance, saying "no" to a proposal or request, resolving a difference of opinion between two subordinates, correcting problem behaviors, receiving criticism from others, providing feedback that could hurt another person's feelings, or encountering other negative interactions. Handling these situations in a way that fosters interpersonal growth and engenders stronger positive relationships is one mark of an effective manager. Rather than harming a relationship, using supportive communication builds and strengthens the relationship even when delivering negative news.

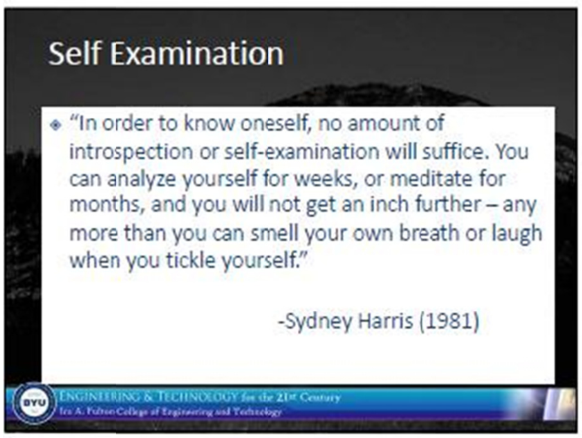
In this chapter, we pointed out that effective managers adhere to the principles of supportive communication. Thus, they ensure greater clarity and understanding of messages while making other persons feel accepted, valued, and supported. Of course, it is possible to become overly concerned with technique in trying to incorporate these principles and thereby to defeat the goal of being supportive. One can become artificial, inauthentic, or incongruent by focusing on technique alone, rather than on honest, caring communication. But if the principles are practiced and consciously implemented in everyday interactions, they can be important tools for improving your communication competence.

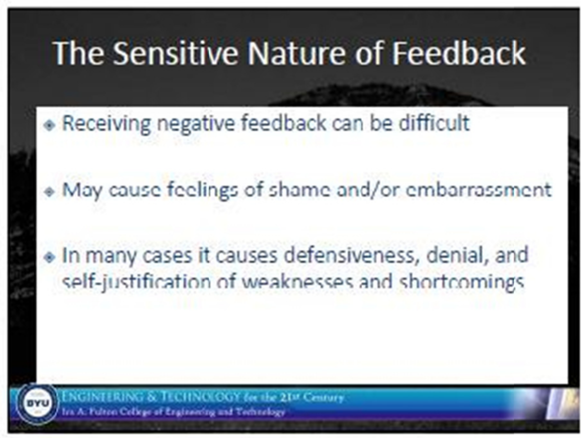
LEARNING

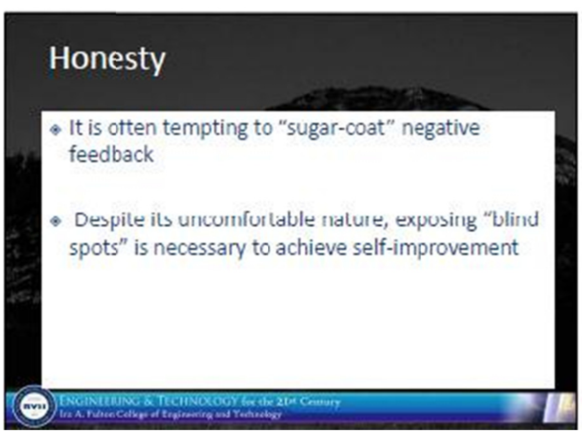
A.2 – PowerPoint Presentation











APPENDIX B. SURVEYS

The following are the surveys which were used by the students to perform peer evaluations, as well as for collecting data for this research. The survey in B.1 is the feedback tool itself, and it also provided the data for the analysis of self-other agreement. The survey in B.2 is the follow-up survey which provided the data for measuring the effects of the treatment (i.e., honesty, defensiveness, cohesiveness, and performance).

B.1 – Team-Member Evaluation

Based on the rating scale provided below, select the response that best indicates your perception of each team member's contribution to your team. You will complete one evaluation for yourself as well as one evaluation for each of your fellow team members. Strive to be consistent in your evaluations; that is, if one team member performed better or worse than another in a particular area this should be reflected in the scores which you assign to them. Just so that you are aware, this feedback is non-anonymous and your teammates will be aware of who it is that evaluated them.

At the end of this survey you will have the opportunity to justify and provide an explanation for the scores which you have assigned to yourself and your teammates. In performing this assessment, please be as honest and accurate as you can. Please keep in mind that feedback which is overly harsh, or which is merely "venting" is not helpful. Likewise, feedback which is "sugar-coated" in order to avoid offense is also not helpful. Please be thoughtful, and provide feedback which will helpful and useful to the person you are rating.

Q1. Your team number:

Q2. Your name:

Q3. Name of person you are evaluating (If you are evaluating yourself, select your own name):

Q4. ATTENDANCE

Rate this team member on their attendance at group meetings. Did they regularly attend group meetings? Were they late or absent for meetings, which required the group to work around them or else reschedule the meeting?

1-2 = Regularly absent/and or late and the group had to work around this member
3-5 = Occasionally absent and/or late but was not a major inconvenience to the group
6-7 = Excellent attendance and the group could count on this member

Q5. CONTRIBUTION

Rate this team member according to their individual involvement and contribution to the team's efforts. Did they do their fair share of the work? Did they actively participate in group meetings and contribute ideas? Did they come to group meetings prepared?

1-2 = Poor contribution which negatively impacted the group's performance
3-5 = Contribution had little impact (positive or negative) on the group's performance
6-7 = Full contribution which added significantly to group performance.

Q6. INTERPERSONAL SKILLS

Rate this team member on their interpersonal skills and their effectiveness as a team player. Were they courteous and cooperative? Did they value different perspectives and seek input from other team members? Did they resolve disagreements in a mature and straightforward manner?

1-2 = Very ineffective and uncooperative
3-5 = Moderately effective and cooperative
6-7 = Very effective and very cooperative

Q7. QUALITY OF WORK

Rate this team member on the quality of their work. Were they competent in completing the tasks which they were assigned? Did their work meet project requirements and the expectations of the rest of the group?

1-2 = Incompetent and work fails to meet expectations
3-5 = Work meets the minimum requirements
6-7 = Very competent and work meets or exceeds expectations

Q8. TIMELINESS

Rate this team member on the timeliness of their work. Did they meet deadlines set by the group? Did they cause delays in the work of other group members? Did other group members have to pick up this person's work in order for the team to meet deadlines?

1-2 = Consistently behind schedule
3-5 = Sometimes behind schedule and sometimes on schedule
6-7 = Consistently on time or ahead of schedule

Q9. RESPONSIBILITY AND ACCOUNTABILITY

Rate this team member on their level of responsibility and willingness to be accountable for their work. Did they carry out their assigned tasks? Did they make excuses or blame others when they failed to complete a task or meet a deadline?

1-2 = Very irresponsible and often made excuses
3-5 = Somewhat responsible
6-7 = Very responsible and took ownership for work

Q10. TASK SUPPORT

Rate this team member on their level of task support. Did they freely share information and provide assistance to others? Did they volunteer to do tasks which may have been outside of their area of interest, yet were necessary to complete the project?

1-2 = Not helpful
3-5 = Moderately helpful
6-7 = Very helpful

Q11. OVERALL PERFORMANCE

Rate this team member on their overall performance and contribution to the team's success.

1-2 = Poor performance
3-5 = Moderate performance
6-7 = Extraordinary performance

Q12. Identify this team member's greatest weakness and what he/she should do to improve upon it. Also justify any negative ratings from the previous questions. Please be specific and, if possible, provide examples; however, you do not need to address every minor issue or offense. Remember that feedback which is overly harsh, or else "sugar-coated" to avoid offense, are both not helpful. Please be thoughtful and honest, and provide feedback which will help this person to improve their performance on the team.

Q13. Identify this team member's greatest strength and/or contribution to the team. Also justify any positive ratings from the previous questions. Please be specific and, if possible, provide examples. Keep in mind that being overly nice, or failing to recognize legitimate strengths, are both not helpful. Please be thoughtful, and provide comments which will help this person to accurately identify their strengths and recognize their contributions to the team.

B.2 – Follow-up Survey

The following survey is to evaluate your experience in working on the LAP/Capstone project and providing feedback to your teammates. Because your experiences and opinions likely varied over the course of the project, in providing your answers please consider your overall experience. Please be aware that your grade for this portion of the assignment is not based upon your individual responses to the questions. Just to be clear, there are no “good” or “right” answers, and your grade depends solely upon whether or not you complete the survey. Therefore, please be as open and honest as possible in your responses.

Q1 Your team number:

Q2 Your name:

<u>Section 1 – Team Performance</u>

Q3 How would you rate the quality of the work your team produced?

- ☐ Very poor (1)
- ☐ Somewhat poor (2)
- ☐ Neutral (3)
- ☐ Somewhat good (4)
- ☐ Very good (5)

Q4 How would you categorize your team’s level of participation and contribution?

- ☐ 1 or 2 team members did a majority of the work. (1)
- ☐ There were times when everyone contributed, but for the most part 1 or 2 team members did a majority of the work. (2)
- ☐ It fluctuated throughout the project, and/or it is hard to determine participation and contribution. (3)
- ☐ There were times when 1 or 2 group members did most of the work, but for the most part there was equal participation and contribution from all team members. (4)
- ☐ There was equal participation and contribution from all team members. (5)

Q5 How well did your team accept, commit to, and follow through with its goals and objectives?

- ☐ Very poorly (1)
- ☐ Somewhat poorly (2)
- ☐ Neutral (3)
- ☐ Somewhat well (4)
- ☐ Very well (5)

Q6 How effective and productive were your team meetings?

- ☐ Very ineffective and unproductive (1)
- ☐ Somewhat ineffective and unproductive (2)
- ☐ Neutral (3)
- ☐ Somewhat effective and productive (4)
- ☐ Very effective and productive (5)

Section 2 – Team Cohesiveness, Trust, and Unity

Q7 What was your team's level of cohesiveness, trust, and unity?

- Very low (1)
- Somewhat low (2)
- Neutral (3)
- Somewhat high (4)
- Very high (5)

Q8 In contrast to if you would have performed the feedback anonymously/non-anonymously, what impact did conducting the feedback non-anonymously/anonymously have upon the level of cohesiveness, trust, and unity which your team experienced?

- Significant negative impact (1)
- Mild negative impact (2)
- No impact (3)
- Mild positive impact (4)
- Significant positive impact (5)

Q9 How were disagreements and conflicts handled within the group?

- They were almost always ignored (1)
- They were sometimes ignored (2)
- Neutral (3)
- They were sometimes dealt with (4)
- They were always dealt with (5)

Q10 In team meetings, how comfortable were your group members with expressing feelings, opinions, and ideas? These expressions may or may not have been directly related to task issues.

- Very uncomfortable (1)
- Somewhat uncomfortable (2)
- Neutral (3)
- Somewhat comfortable (4)
- Very comfortable (5)

Q11 How were decisions made within the group? More specifically, how involved was each of the team members in the decision making process?

- Decisions were made autocratically (1)
- There was a minor amount of input from each of the team members, but in general decisions were made by one or two people. (2)
- Our group had a hard time making decisions (3)
- There was a lot of input from each of the team members, but in general decisions were made by one or two people. (4)
- Decisions were made by consensus (5)

Section 3 – Providing Feedback

Q12 How honest and candid were you when you provided negative feedback to your teammates?

- ☐ Very reserved and indirect (1)
- ☐ Somewhat reserved and indirect (2)
- ☐ Neutral (3)
- ☐ Somewhat open and direct (4)
- ☐ Very open and direct (5)

Q13 If you would have performed the evaluations anonymously/non-anonymously, what effect would it have had on how honest and candid you were in providing negative feedback?

- ☐ Much less open (1)
- ☐ Somewhat less open (2)
- ☐ Neutral (3)
- ☐ Somewhat more open (4)
- ☐ Much more open (5)

Q14 How honest and candid were you when you provided positive feedback to your teammates?

- ☐ Very reserved and indirect (1)
- ☐ Somewhat reserved and indirect (2)
- ☐ Neutral (3)
- ☐ Somewhat open and direct (4)
- ☐ Very open and direct (5)

Q15 If you would have performed the evaluations anonymously/non-anonymously, what effect would it have had on how honest and candid you were in providing positive feedback?

- ☐ Much less open (1)
- ☐ Somewhat less open (2)
- ☐ Neutral (3)
- ☐ Somewhat more open (4)
- ☐ Much more open (5)

Q16 To what extent did non-anonymity/anonymity deter you from “venting” or engaging in personal attacks when you provided negative feedback?

- ☐ I was very unrestrained in expressing my frustrations (1)
- ☐ I was somewhat unrestrained in expressing my frustrations (2)
- ☐ It had no effect. I would have answered the same way regardless of whether it was anonymous or non-anonymous. (3)
- ☐ I was somewhat restrained in expressing my frustrations (4)
- ☐ I was very restrained, or else kept my feelings to myself altogether (5)

Q17 How much time, energy, and thought did you invest in constructing your feedback responses for your teammates?

- ☐ I was very thoughtless (1)
- ☐ I was somewhat thoughtless (2)
- ☐ My level of thoughtfulness was neutral (3)
- ☐ I was somewhat thoughtful (4)
- ☐ I was very thoughtful (5)

<u>Section 4 – Receiving Feedback</u>

Q18 When receiving negative feedback, did being aware/not being aware of who it was that was evaluating you make you feel more or less defensive (i.e., your level of denial or self-justification of your weaknesses)? This is in contrast to receiving feedback anonymously/non-anonymously.

- ☐ Much less defensive (1)
- ☐ Somewhat less defensive (2)
- ☐ It had no effect on my level of defensiveness (3)
- ☐ Somewhat more defensive (4)
- ☐ Much more defensive (5)

Q19 In contrast to receiving feedback anonymously/non-anonymously, what effect did being aware/not being aware of who it was that was evaluating you have on your ability to identify your personal weaknesses and improve your performance?

- ☐ It had a very negative effect (1)
- ☐ It had a somewhat negative effect (2)
- ☐ It had no effect (3)
- ☐ It had a somewhat positive effect (4)
- ☐ It had a very positive effect (5)

Q20 How much did you value the feedback you received? In other words, to what extent did you regard it as worthy of your consideration?

- ☐ I didn’t value the feedback at all (1)
- ☐ I didn’t value the feedback much (2)
- ☐ It had no effect on the level of value which I placed on the feedback (3)
- ☐ I valued the feedback somewhat (4)
- ☐ I valued the feedback very much (5)

Q21 From your perspective, to what extent did you consider the persons rating you, and the comments you received, as being thoughtful and sincere?

- ☐ Very thoughtless and insincere (1)
- ☐ Somewhat thoughtless and insincere (2)
- ☐ Neutral (3)
- ☐ Somewhat thoughtful and sincere (4)
- ☐ Very thoughtful and sincere (5)

Section 5 – Accountability

Q22 To what extent did having to set goals (based upon the feedback you received), motivate and aid you in improving your performance throughout the project?

- ☐ Very unhelpful and unmotivating (1)
- ☐ Somewhat unhelpful and unmotivating (2)
- ☐ The effect was neither positive or negative (3)
- ☐ Somewhat helpful and motivating (4)
- ☐ Very helpful and motivating (5)

Q23 How much did the requirement to disclose your personal goals to your teammates motivate and aid you in improving your performance throughout the project?

- ☐ Very unhelpful and unmotivating (1)
- ☐ Somewhat unhelpful and unmotivating (2)
- ☐ The effect was neither positive or negative (3)
- ☐ Somewhat helpful and motivating (4)
- ☐ Very helpful and motivating (5)

Q24 How much did the requirement to follow up with your teammates on your goals motivate and aid you in improving your performance throughout the project?

- ☐ Very unhelpful and unmotivating (1)
- ☐ Somewhat unhelpful and unmotivating (2)
- ☐ The effect was neither positive or negative (3)
- ☐ Somewhat helpful and motivating (4)
- ☐ Very helpful and motivating (5)

Q25 How much influence did performing 3 evaluations have upon your willingness to be open and honest when providing feedback to your teammates? This is in contrast to if you only performed one evaluation at the very end of the project.

- ☐ If there was only one session I would be much more reluctant to be open and honest (1)
- ☐ If there was only one session I would be somewhat more reluctant to be open and honest (2)
- ☐ If there was only one session it would have no effect upon my willingness to be open and honest (3)
- ☐ If there was only one session I would be somewhat more willing to be open and honest (4)
- ☐ If there was only one session I would be much more willing to be open and honest (5)

Q26 How much influence did performing 3 evaluations throughout the project have upon your team's level of cohesiveness, trust, and unity? This is in contrast to if you only performed one evaluation at the very end of the project.

- ☐ It had a significant negative impact (1)
- ☐ It had a mild negative impact (2)
- ☐ It had no impact (3)
- ☐ It had a mild positive impact (4)

- It had a significant positive impact (5)

Q27 On future projects, given the choice between providing feedback anonymously or non-anonymously, which method would you choose?

- Anonymous (1)
- Non-anonymous (2)

Q28 In the space below, please comment on your experience with performing team member evaluations for the LAP/Capstone project. Feel free to relate any personal thoughts and experiences, positive and/or negative, which illustrate your point. You may be as brief or as long as you wish.

APPENDIX C. FUTURE IMPLEMENTATION

The following materials are the revised assignments/instructions for the team-member evaluations. These are based upon the recommendations which were made in the conclusion.

C.1 – Team Evaluation Procedure for EngT 231

C.1.1 – 360-degree Survey Account Setup and Stakeholder Assignment

Part A: Set up a Qualtrics account by following the two steps below.

1. Create an e-mail alias that ends with either @byu.edu or @byu.net. Do this on myBYU under Communication -> E-mail Alias Manager. You can still have this e-mail forward to your regular e-mail, but you must have an e-mail ending with @byu.edu or @byu.net to create a Qualtrics account.
2. Create a Qualtrics account by going to byu.qualtrics.com and clicking on "Please click here to create an account." Once you create your account you will receive an e-mail from Qualtrics in order to confirm your account. The survey cannot be shared with you unless you have confirmed your account. If you experience problems with this, please contact one of the TAs.

Part B: Identify and contact at least 6 stakeholders from your life, and invite them to participate in your 360-degree assessment. In identifying them, consult the list below, and try your best to find stakeholders from the widest variety of backgrounds possible. If you desire, you may invite more than 6 stakeholders (this is actually beneficial and will likely help you to gain more personal insight). If for some reason you are having difficulty identifying 6 stakeholders, please contact your professor or the TA for guidance.

- Personal (spouse, parent, grandparent, other relative)
- Employment (supervisor, coworker, subordinate)
- Educational (research adviser, teammates from past group projects, professor, TA)
- Religious (church leader, people you have served with/led in a church calling)

The stakeholders you identify should be persons who have had, currently or in the past, a "stake" in your leadership qualities. They should have enough personal experience with you (typically at least a 3-4 month relationship) to provide accurate results. In addition, their opinions of you, and the honesty of the feedback they provide, should not be heavily influenced by your personal relationship with them. This is especially true when selecting family members or other relatives. If this is the case, be sure to select individuals who will provide the most honest and candid results.

When you contact your stakeholders, let each of them know what will be expected of them. These expectations include:

- 15-20 minutes to complete the online survey
- Willingness to provide honest and objective feedback (let them know that their responses will be anonymous)
- A deadline for them to complete the survey so that you can complete the "360-degree Survey Administration Assignment" (which is the next assignment) before its due date. You will want to read this assignment in advance so that you know what is expected and can prepare accordingly.

Also, let your stakeholders know that after they confirm their participation, you will be sending them a link to the survey within a few days of the due date of this assignment.

Submission Instructions: To complete this assignment, submit a document to Learning Suite with the following:

- A statement that you have successfully created a Qualtrics account, and that your account has been confirmed
- The e-mail address (ending in @byu.edu or @byu.net) used to set up your account.
- A list of each of your stakeholders, including their name, relationship, and category. Include a brief explanation (1-2 sentences) as to why you selected them as a stakeholder. Also indicate whether you have made contact (or attempted to make contact) with your stakeholders.

C.1.2 – 360-degree Survey Administration Assignment

After you have set up your Qualtrics account and identified your stakeholders, as outlined in the previous assignment, you will administer the survey to the stakeholders.

Survey Distribution Instructions:

1. After the TA has shared the survey with you, the survey will appear in your Qualtrics account under the "My Surveys" tab. The survey is titled "360 Leadership Assessment".
2. Create your own copy of the survey by selecting the "Copy" icon on the right hand side of the screen, and then add your name to the end of the title so it reads "360 Leadership Assessment - Your Name". It is this copy of the survey that you will distribute to your stakeholders, not the original that was shared with you by the instructor/TA.

3. Activate your survey by checking the box in the “Active” column on the left hand side of the screen. Also, ensure that the “Open Access” toggle (in “Survey Options” under the “Edit Survey” tab) is activated.
4. Click on the “Distribute Survey” tab and then copy and paste the link which appears into an e-mail message that you will send out to your stakeholders. You will need to compose your own e-mail message explaining to your stakeholders the expectations and how to complete the survey, as outlined in the assignment instructions.
5. While you are awaiting their responses, you should complete the survey for yourself. Create an additional copy of the survey (see step #2 above) so that it will keep your responses separate from the responses of your stakeholders.
6. After all participants have taken the survey click the “View Results” tab to view the responses. This is the menu from which you can export your data to include in your PLP report. You can also click on this tab to check how many of your stakeholders have taken the survey. If some of your stakeholders do not complete the survey, you should send them a reminder or identify new stakeholders.

As mentioned in the previous assignment you will need to ensure that your stakeholders complete the survey in time for you to complete this assignment. Once you have received the feedback from your stakeholders, take some time to compare and contrast the results with the evaluation which you performed for yourself. Based upon what you learned from your 360-assessment, you will set personal goals regarding your contribution to your LAP team and what you plan to accomplish throughout the project. In case you are uncertain of what the LAP is, it is the major group project which you will be working on this semester.

Submission Instructions: To complete this assignment you will submit a document through Learning Suite (approx.1/2 page, single spaced) which includes the following:

1. What are the main weaknesses you learned about yourself from the 360-assessment?
2. What are the main strengths you learned about yourself from the 360-assessment?
3. What are the goals that you set for yourself for the LAP project?

C.1.3 – Team Evaluation #1

Throughout the course of your LAP project, your team will hold three group discussions. The purpose for these discussions is to help identify strengths and weaknesses, set goals, and evaluate your progress (both individually and in your group). This assignment is the first of the three evaluations. You should also read ahead to the Team Evaluation #2 and #3 assignments so that you know what is expected beforehand.

For this assignment your team will meet as a group to set goals for the project. Before coming to this group discussion you will need to have completed the 360-degree leadership assessment. At the group meeting you will disclose to your group your weaknesses and your strengths that you learned from the 360-assessment, as well as the goals which you set for yourself. Each member of the team will take a turn sharing with the group. Once each of the team members has completed their disclosure, the team as a whole will discuss and establish goals, objectives, and team-member expectations for the project.

This discussion should take approximately 20-30 minutes, and should be done at the beginning of your team's first meeting. If your team has a designated leader for the project, this person will facilitate this meeting. If your team does not have a leader for the project, a person will need to be assigned to lead the discussion.

Submission Instructions: To complete this assignment you will submit through Learning Suite a document which includes the following:

1. Did your team hold a meeting/discussion, according to the criteria outlined above, and did you attend and participate in this meeting?
2. What are the goals, objectives, and expectations that your team as a whole established for the project?
3. Write a paragraph (approx. ¼ page, single spaced) about your personal reflections from this experience.

C.1.4 – Team Evaluation #2a

For this assignment you will perform a team-member evaluation for each of your teammates. Prior to performing the evaluation you should study the reading on supportive communication which is attached. When you provide the feedback, pay particular attention to "The Eight Attributes of Supportive Communication" in Table 4.2 on pg. 247 of the reading. Also, to ensure that you receive feedback from your teammates, you should be proactive in encouraging them to perform their evaluations of you.

These evaluations will be conducted via a Qualtrics survey, which will be shared with you through your Qualtrics account. Create a copy and rename it "Team Evaluation #2". To administer the survey, follow the same procedure which was followed for the 360-assessment, although rather than sending this survey out to stakeholders, you will e-mail the survey link to each of your teammates. If you have any questions regarding the procedure, refer back to the "360- degree Leadership Assessment" assignment. <u>You will likely want to send out the survey for this assignment about a week before the due date so that you will have sufficient time to compile your results</u>.

Just so you are aware beforehand, your feedback will not be anonymous; that is, your teammates will be aware of who it is that rated them. <u>You should also read ahead to "Team Evaluation #2b" so that you know what is expected for that assignment beforehand, and also to ensure that you have adequate time to plan and coordinate a team meeting before the due date</u>.

Submission Instructions: To complete this assignment, submit through Learning Suite a document with your responses to the following:

1. Did you read and reflect upon the reading on supportive communication?
2. Did you complete the team-member evaluation for each of your teammates on Qualtrics? (Yes or No. If no, what percentage of the evaluations did you complete?)

C.1.5 –Team Evaluation #2b

After all members of your team have completed the survey, you will once again set personal goals regarding your contribution to the team and what you plan to accomplish throughout the remainder of the project, only this time it will be based upon the feedback which you received from your teammates. After doing this, you will once again hold a group discussion, following the same basic format as the previous meeting. In this discussion you will report to your group members how well you think you fulfilled the goals which you set for yourself at evaluation #1. You will also disclose to your group what you learned about yourself from this evaluation, and the goals which you set for yourself going forward. Again, each member of the team will take a turn sharing, and then the team as a whole will follow-up on its previous goals, and set new goals for the remainder of the project. Just as with evaluation #1, this discussion should take 20-30 minutes, and should be facilitated by a designated leader.

Submission Instructions: To complete this assignment you will submit through Learning Suite a document (1/2 - 1 page, single spaced) which includes the following:

1. How well did you achieve the goals which you set for yourself at the first evaluation?
2. What are the main weaknesses and strengths that you learned about yourself from the feedback you received from your teammates, and what are the goals that you set for yourself for the remainder of the project?
3. Did your team hold a meeting/discussion, according to the criteria outlined above, and did you attend and participate in this meeting? (Yes or No will suffice)
4. What are the goals that your team as a whole set for the remainder of the project?
5. Write a paragraph about your personal reflections from this experience.

C.1.6 – Team Evaluation #3

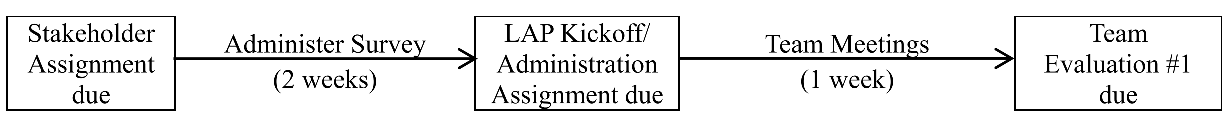
For this evaluation, follow the same basic procedure which you followed for the previous evaluations. This includes, reviewing the reading on supportive communication, as well as creating an additional copy of the previous evaluation (rename it "Team Evaluation #3"), and distributing it to your teammates. In addition, just as you did in the first two evaluations, you will hold a team discussion; however, this will not involve goals going forward. As you will have now completed the project, the purpose of this meeting is to follow-up on previous goals. It is also a chance for your team to reflect upon and discuss the team's overall experience.

Submission Instructions: To complete this assignment you will submit through Learning Suite a document (1/2 - 1 page, single spaced) which includes the following:

1. Did you review the reading on supportive communication? (Yes or No)
2. Did you complete the team-member evaluation for each of your teammates on Qualtrics? (Yes or No. If no, what percentage of the evaluations did you complete?)
3. How well did you achieve the goals which you set for yourself throughout the project?
4. Did your team hold a meeting, according to the criteria outlined above, and did you attend and participate in this meeting? (Yes or No)
5. Write a paragraph about your personal reflections of your experiences and growth (both personal and team) on this project.

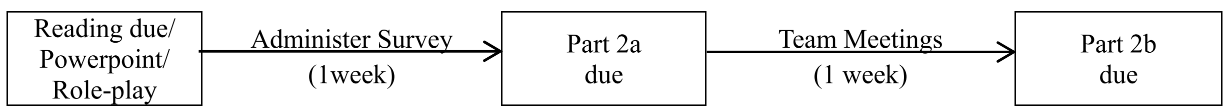
C.1.7 – Additional Instructions for the Professor and TA

- The "Account Setup and Stakeholder Assignment" should be scheduled to be due about 2 weeks before the "Survey Administration Assignment" is due. The survey should be shared with students on Qualtrics as soon as possible after they submit the "Stakeholder" assignment. The two-week time period should then provide the students with adequate time to distribute the survey to their stakeholders and compile their results.
- The due date of the "Survey Administration Assignment" should coincide with the "kickoff" of the LAP project. This "kickoff" refers to the class period in which the professor formally outlines the LAP project and informs students of who their group members are.
- The due date for the "Team Evaluation #1" assignment should be one week after the "Administration" assignment. This will provide the teams with one week to conduct their first team meeting and hold their group discussion.
- This schedule is outlined below.



- "Team Evaluation #2" should take place at approximately the mid-point of the project. The reading on supportive communication should be due before class, and the PowerPoint presentation and the role-play of the meeting should be given in class, one week previous to the due date of “Part 2a”. “Part 2b” should be due one week after “Part 2a”. This will provide students with one week to hold their team discussion after they have received their feedback from their teammates.

- This sequence is illustrated below:



- “Team Evaluation #3” should be due at the end of the project.
- If a professor is unable to locate a copy of the reading on supportive communication, the PowerPoint presentation to be given before “Team Evaluation #2a”, or the team evaluation survey, they should contact Dr. Rollin Hotchkiss in the civil engineering department.

C.2 – Team Evaluation Procedure for Capstone

C.2.1 – 360-degree Leadership Assessment Assignment

If you have completed a 360-evaluation within the past year you are not required to complete this assignment. If this is the case, you will simply submit a document to Learning Suite stating that you have completed a 360-evaluation within the past year. If you have not done an assessment in the past year it is essential that you complete the following. It is critical to the success of your capstone project, both personally and as a team.

Please read this entire assignment before you begin in order to make sure that you understand what is required. These instructions not only include requirements for this homework assignment, but also include important information to help you in administering the 360-survey to your stakeholders. Please read carefully to ensure that you do not overlook any details.

Part A: Set up a Qualtrics account by following the two steps below.

1. Create an e-mail alias that ends with either @byu.edu or @byu.net. Do this on myBYU under Communication -> E-mail Alias Manager. You can still have this e-mail forward to your regular e-mail, but you must have an e-mail ending with @byu.edu or @byu.net to create a Qualtrics account.
2. Create a Qualtrics account by going to byu.qualtrics.com and clicking on “Please click here to create an account.” Once you create your account you will receive an e-mail from Qualtrics in order to confirm your account. The survey cannot be shared with you unless you have confirmed your account. If you experience problems with this, please contact one of the TAs.

Part B: Identify and contact at least 6 stakeholders from your life, and invite them to participate in your 360-degree assessment. In identifying them, consult the list below, and try your best to find stakeholders from the widest variety of backgrounds possible. If you desire, you may invite more than 6 stakeholders (this is actually beneficial and will likely help you to gain more personal insight).

- Personal (spouse, parent, grandparent, or other relative)
- Employment (supervisor, coworker, or subordinate)
- Educational (research adviser, teammates from past group projects, professor, TA)
- Religious (church leader, people you have served with/led in a church calling)

The stakeholders you identify should be persons who have had, currently or in the past, a "stake" in your leadership qualities. They should have enough personal experience with you (typically at least a 3-4 month relationship) to provide accurate results. In addition, their opinions of you, and the honesty of the feedback they provide, should not be heavily influenced by your personal relationship with them. This is especially true when selecting family members or other relatives. If this is the case, be sure to select individuals who will provide the most honest and candid results.

When you contact your stakeholders, let each of them know that the survey will take approximately 15-20 minutes to complete, that you would like an honest and objective evaluation, and that their responses will be anonymous.

Submission Instructions: To complete this assignment, submit a document to Learning Suite with the following:

- A statement that you have successfully created a Qualtrics account, and that your account has been confirmed.
- The e-mail address you used to set up your account.
- A list of each of your stakeholders, including their name, relationship, and category.

Survey Distribution Instructions: The instructions below are not actually a part of this assignment, but are the steps to follow afterwards, when you actually administer the survey to the stakeholders. The TA is available to address any questions you may have.

1. After the TA has shared the survey with you, the survey will appear in your Qualtrics account under the “My Surveys” tab. The survey is titled “360 Leadership Assessment”.
2. Create your own copy of the survey by selecting the “Copy” icon on the right hand side of the screen, and then add your name to the end of the title so it reads “360 Leadership Assessment - Your Name”. It is this copy of the survey that you will distribute to your stakeholders, not the original that was shared with you by the instructor/TA.
3. To distribute the survey, ensure that the “Open Access” toggle under the “Survey Options” tab is activated. Next, click on the “Distribute Survey” tab and then copy and paste the link which appears into an e-mail message that you will send out to your stakeholders. You will need to compose your own e-mail message explaining to your stakeholders the expectations and how to complete the survey, as outlined in the assignment instructions.
4. While you are awaiting their responses, you should complete the survey for yourself. Create an additional copy of the survey (see step #2 above) so that it will keep your responses separate from the responses of your stakeholders.
5. After all participants have taken the survey click the “View Results” tab to view the responses. You can also click on this tab to check how many of your stakeholders have taken the survey. If some of your stakeholders do not complete the survey, you should send them a reminder or identify new stakeholders.

C.2.2 – Team Evaluation #1

Throughout the course of your Capstone project, your team will hold three group discussions. The purpose for these discussions is to help identify strengths and weaknesses, set goals, and evaluate your progress (both individually and in your group). This assignment is the first of the three evaluations. You should also read ahead to the Team Evaluation #2 and #3 assignments so that you know what is expected beforehand.

For this assignment your team will meet as a group to set goals for the project. Before coming to this group discussion you will need to have completed a 360-degree leadership assessment. Based upon what you learned from your 360-assessment, you will set personal goals regarding your contribution to the team and what you plan to accomplish throughout the project. At the group meeting you will disclose to your group your weaknesses and your strengths that you learned from the 360-assessment, as well as the goals which you set for yourself. Each member of the team will take a turn sharing with the group. Once each of the team members has completed their disclosure, the team as a whole will discuss and establish goals, objectives, and team-member expectations for the project.

This discussion should take approximately 20-30 minutes, and should be done at the beginning of your team’s first meeting. If your team has a designated leader for the project, this person will facilitate this meeting. If your team does not have a leader for the project, a person will need to be assigned to lead the discussion.

Submission Instructions: To complete this assignment you will submit through Learning Suite a document (1/2 - 1 page, single spaced) which includes the following:

1. What are the main weaknesses and strengths that you learned about yourself from the 360-assessment, and what are the goals that you set for yourself for the project?
2. Did your team hold a meeting/discussion, according to the criteria outlined above, and did you attend and participate in this meeting?
3. What are the goals, objectives, and expectations that your team as a whole established for the project?
4. Write a paragraph about your personal reflections from this experience.

C.2.3 – Team Evaluation #2a

For this assignment you will perform a team-member evaluation for each of your teammates. Prior to performing the evaluation you should study the reading on supportive communication which is attached. When you provide the feedback, pay particular attention to "The Eight Attributes of Supportive Communication" in Table 4.2 on pg. 247 of the reading.

To complete the evaluations, fill out a copy of the attached Word document for each of your teammates and then provide them with a copy of their feedback. You will also complete and deliver the attached mentor evaluation. It is up to your discretion how you want to fill out (i.e., electronically or by hand) and deliver (by e-mail or in person) these forms, but it is your personal responsibility to ensure that each of your teammates and your mentor receive a copy of their individual feedback. In addition, you should encourage your teammates to perform their evaluations of you. You will receive points based upon the number of evaluations that you receive (see item 3 below). Also, just so you are aware, your feedback will not be anonymous; that is, your teammates will be aware of whom it is that rated them.

You should read ahead to "Team Evaluation #2b" so that you know what is expected beforehand, and also to ensure that you have adequate time to plan and coordinate a team meeting before the due date.

Submission Instructions: To complete this assignment, submit through Learning Suite a document with your responses to the following:

1. Did you read and reflect upon the reading on supportive communication?
2. Did you complete and deliver a copy of the team-member evaluation to each of your teammates? (Yes or No. If no, what percentage of the evaluations did you complete?)
3. Did you complete and deliver a copy of the mentor evaluation to your graduate student mentor?
4. What percentage of your teammates performed an evaluation of you? List the names of any teammates who did not evaluate you.

C.2.4 –Team Evaluation #2b

After all members of your team have completed the evaluations, you will once again set personal goals regarding your contribution to the team and what you plan to accomplish throughout the remainder of the project, only this time it will be based upon the feedback which you received from your teammates. After doing this, you will once again hold a group discussion, following the same basic format as the previous meeting. In this discussion you will report to your group members how well you think you fulfilled the goals which you set for yourself at evaluation #1. You will also disclose to your group what you learned about yourself from this evaluation, and the goals which you set for yourself going forward. Again, each member of the team will take a turn sharing, and then the team as a whole will follow-up on its previous goals, and set new goals for the remainder of the project. Just as with evaluation #1, this discussion should take 20-30 minute, although this time it will be facilitated by your graduate student mentor.

Submission Instructions: To complete this assignment you will submit through Learning Suite a document (1/2 - 1 page, single spaced) which includes the following:

1. How well did you achieve the goals which you set for yourself at the first evaluation?
2. What are the main weaknesses and strengths that you learned about yourself from the feedback you received from your teammates, and what are the goals that you set for yourself for the remainder of the project?
3. Did your team hold a meeting/discussion, according to the criteria outlined above, and did you attend and participate in this meeting? (Yes or No)
4. What are the goals that your team as a whole set for the remainder of the project?
5. Write a paragraph about your personal reflections from this experience.

C.2.5 – Team Evaluation #3

For this evaluation, follow the same basic procedure which you followed for the previous evaluations. This includes, reviewing the reading on supportive communication, as well as completing and delivering a copy of the evaluation to each of your teammates as well as the separate evaluation for your mentor. In addition, just as you did in the second evaluation, you will hold a team discussion facilitated by your graduate mentor; however, this discussion will not involve goals going forward, and is more so a follow-up to the previous goals and a recap of the project. As you will have now completed the project, this meeting is intended as a chance for your team to reflect upon and discuss the team's overall performance and experience on the project.

Submission Instructions: To complete this assignment you will submit through Learning Suite a document (1/2 - 1 page, single spaced) which includes the following:

1. Did you review the reading on supportive communication? (Yes or No)
2. Did you complete and deliver a copy of the team-member evaluation to each of your teammates? (Yes or No. If no, what percentage of the evaluations did you complete?)
3. Did you complete and deliver a copy of the mentor evaluation to your graduate student mentor?
4. How well did you achieve the goals which you set for yourself throughout the project?
5. Did your team hold a meeting, according to the criteria outlined above, and did you attend and participate in this meeting? (Yes or No)
6. Write a paragraph about your personal reflections of your experiences and growth (both personal and team) on this project.

C.2.6 – Team-member Evaluation Form

In evaluating the performance of this team member, consider and reflect upon each of the items listed below. From this list, select one area which identifies this team member's area of greatest improvement, and one area which identifies their greatest contribution to the team, and then write them in the spaces provided below. In addition, provide an explanation and justification for your responses, and if possible include specific examples. In the end, please provide thoughtful, honest, and accurate feedback, which will be helpful and useful to your teammate.

ATTENDANCE
Did they regularly attend group meetings? Were they late or absent for meetings, which required the group to work around them or else reschedule the meeting?

CONTRIBUTION
Did they do their fair share of the work? Did they actively participate in group meetings and contribute ideas? Did they come to group meetings prepared?

INTERPERSONAL SKILLS
Were they courteous and cooperative? Did they value different perspectives and seek input from other team members? Did they resolve disagreements in a mature and straightforward manner?

QUALITY OF WORK
Were they competent in completing the tasks which they were assigned? Did their work meet project requirements and the expectations of the rest of the group?

TIMELINESS
Did they meet deadlines set by the group? Did they cause delays in the work of other group members? Did other group members have to pick up this person's work in order for the team to meet deadlines?

RESPONSIBILITY AND ACCOUNTABILITY
Did they carry out their assigned tasks? Did they make excuses or blame others when they failed to complete a task or meet a deadline?

TASK SUPPORT
Did they freely share information and provide assistance to others? Did they volunteer to do tasks which may have been outside of their area of interest, yet were necessary to complete the project?

Your name:

Name of person you are evaluating:

Area of most needed improvement:

Justification/explanation:

Area of greatest strength:

Justification/explanation:

You may also provide any additional comments, if any, regarding the performance of your teammate which were not addressed in your previous comments.

C.2.7 – Mentor Evaluation Form

In the spaces below, please provide a written evaluation of the graduate student mentor for your capstone project. Your comments may address areas for improvement, and/or strengths. Please provide thoughtful and honest feedback, which will be helpful and useful to your mentor. In addition, please explain and justify your responses, and if possible include specific examples. Keep in mind that the major purpose of the mentor is not to do the work of the project for you, but to help facilitate and coordinate the efforts of your team; both within the team itself, and also with the project sponsor.

Your name:

Name of your project mentor:

How invested and committed was your mentor to fulfilling his/her role on the project, and to the success of your team?

How effective was your mentor at facilitating communication and teamwork among your team members?

How consistent and timely was your mentor at responding to your requests for information or assistance?

Please provide any additional comments, if any, regarding the performance of your graduate student mentor that were not addressed in your previous comments.