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What Motivates Students to Provide Feedback to Teachers About Teaching and Learning? An Expectancy Theory Perspective

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About Teaching and Learning? An Expectancy Theory Perspective**

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Abstract
The purpose of this empirical research study was to investigate what motivates students to provide formative anonymous feedback to teachers regarding their perceptions of the teaching and learning experience in order to improve student learning. Expectancy theory, specifically Vroom's Model, was used as the conceptual framework for the study. Multiple regression analysis was employed to test both the valence and force equations. Statistically significant results indicated that students' motivation was dependent upon the importance to them of improving the value of the class and of future classes, and the expectation that their formative feedback would lead to increased value for them, their peers in the classroom and for students in future classes. Based on these findings, it is important for teachers who request students to participate in providing anonymous feedback to emphasize that this feedback is a valuable tool to assist in improving current and future teaching and learning experiences.

Introduction

Much attention has been given to student evaluations of teaching in higher education, and there are a number of studies that investigate the value of this practice (Aleamoni, 1999; Giles, Martin, Bryce & Hendry, 2004; Goldstein & Benassi, 2006; Hativa, 1996; Martin, 1987; Melland, 1996; Kohlan, 1973), which has now become very common on American campuses. This type of evaluation is most often completed at the close of the course and is frequently linked to future tenure and promotion decisions. Although much has been published about the value of student feedback, including what to ask students about their teaching and learning experience (Brown & Race, 1995; Race, 2000), very little has been written about what motivates students to provide anonymous feedback to the teacher frequently throughout the semester. This type of formative assessment may often be used by the teacher to make improvements in the course almost immediately for the purpose of improving student learning.

Student feedback has been identified as one of the most important considerations when assessing teaching (Race, 2000), and research findings indicate that adult students are fairly good evaluators of their own learning (Giese, 2006; Kerka, 1997; Knowles, Holton &

Swanson, 1998). Therefore knowing what motivates students to provide this type of "just-in-time" anonymous feedback is an important question to investigate. Obtaining feedback from students provides teachers with opportunities to improve the classroom teaching and learning experience while it is occurring. If research can help determine under what conditions students are motivated to provide meaningful feedback to teachers in order to improve student learning, then teachers have the opportunity to better ensure that those conditions exist in the classroom.

Expectancy Theory of Motivation

Over the past sixty years, numerous researchers have published findings on various applications of expectancy theory of motivation (Atkinson, 1964; Bonner & Sprinkle, 2002; Chen & Lou, 2004; DeSanctis, 1983; Edwards, 1961; Lawler, 1973; Lewin, 1947; Tolman, 1959; Vroom, 1964; Walker & Johnson, 1999), indicating continued interest in the theory and its ability to predict what motivates us to behave in certain ways. Expectancy theory purports that we are motivated to behave in a certain way dependent upon the strength of the belief that (1) specific behaviors will result in specific outcomes, (2) our confidence in the belief that we are capable of achieving those outcomes and (3) that those outcomes have varying degrees of attractiveness dependent upon our perception that achieving the outcome will lead to attaining a second level outcome. First level outcomes are behaviors that help to attain the more desirable second level outcomes. As an example, a sales person may strongly believe that if she meets her sales target (specific behavior), she will receive a substantial bonus (first level outcome) resulting in her ability to take a vacation in Hawaii (second level outcome). Because of the attractiveness of the Hawaii vacation (second level outcome) and because she is fairly confident that she can achieve the sales target (first level outcome), she is willing to put forth a substantial amount of force (she is motivated) to achieve the first level outcome, which she believes will enable her to achieve the more desirable second level outcome.

As an application of expectancy theory, Victor Vroom's expectancy model (1964) is one of the most widely accepted and researched models in the field of work motivation (Donovan, 2001). Several research studies indicate that the model is a fairly good predictor of motivation (Arnold, 1981; Chen & Lou, 2004; Donovan, 2001; Parker, 2000; Porter & Lawler, 1968), although it does have its critics (Campbell & Pritchard, 1976; Mitchell, 1974; Pinder, 1987). Much of the criticism is a result of what some have described as an inappropriate application of the model, which is likely to underestimate the predictive validity of the theory (Donovan, 2001). According to some researchers (Campbell & Pritchard, 1976; Mitchell, 1974; Pinder, 1987), the model is intended to be a within subjects design versus an across subjects design; to date many studies have used an across subjects design (Graen, 1969; Jorgenson, Dunette & Pritchard, 1973). Vroom (1964) himself, identifies a number of approaches to measure the constructs in his model including multiple regression analysis, indicating that more than one type of research design may be appropriate when applying his model. As multiple regression analysis was used in this study, the criticisms regarding across subjects design are not applicable to this study.

Expectancy theory was applied in this study to investigate the motivational factors that may contribute to students providing anonymous feedback to teachers. Expectancy theory has been more effective in predicting motivation when the subjects being studied had more discretion in performing a task (Robbins, 2005). Thus, as students have complete discretion in whether or not they choose to provide anonymous feedback to teachers, expectancy theory would seem to be a good choice in predicting students' motivation for doing so.

Research Questions

Vroom's model of expectancy theory was used to determine *retrospectively* what second level outcomes students believed would be attained by providing anonymous evaluative feedback (first level outcome) regarding the teaching and learning experience. In other words, the purpose of the study was to determine what attracted students in providing anonymous evaluative feedback by *asking those students who had stated that they had already done so* to identify why they had done so in order to better predict what would motivate future students to provide similar feedback.

For this study, the research questions are stated as follows:

1. Are the expectancy theory constructs as defined in Vroom's model of expectancy theory a good predictor of what motivates students to participate in providing anonymous evaluative feedback to a teacher regarding the teaching and learning experience?

2. From those perceived outcomes identified by students, which are the ones that are likely to motivate students to provide anonymous feedback to a teacher in order that student learning may be improved?

Vroom's Model

The much earlier work of Tolman (1959) is at least part of the theoretical foundation on which Vroom's expectancy model is built. According to Tolman, expectancy theory is based on the assumption that we consciously make choices regarding the actions we take based on perceived outcomes associated with those actions and based on the perceived probability of obtaining the outcomes. According to Vroom (1964), his model is comprised of two related propositions: the valence model and the force model, represented mathematically as follows.

The Valence Model

$$V_j = \sum_{j-1}^{n} (V_k * I_{jk})$$

Where:

V_j = valence or overall attractiveness of first level outcome j;

V_k = valence or attractiveness of second level outcome k;
I_{jk} = instrumentality of outcome j in achieving second level outcome k.

<div align="center">

The Force Model

$$F_i = f \sum_{i-1}^{n} (E_{ij}V_j)$$

</div>

Where:

F_i = psychological force acting on an individual to perform act i;
E_{ij} = strength of the expectancy that act i will be followed by outcome j;

V_j = valence or overall attractiveness of first level outcome j.

Aligned with the previously stated research questions and the two propositions from Vroom's model, the hypotheses are stated as follows.

For the valence proposition:

> H_o: The overall attractiveness of providing teacher feedback is not dependent upon the attractiveness of the second level outcome or outcomes nor the perceived probability that the act of providing feedback is likely to lead to the attainment of the second level outcome or outcomes, $p \leq .05$.

> H_a: The overall attractiveness of providing teacher feedback is dependent upon the attractiveness of the second level outcome or outcomes and the perceived probability that the act of providing feedback is likely to lead to the attainment of the second level outcome or outcomes, $p \leq .05$.

For the force proposition:

> H_o: Psychological (motivational) force (F) acting on a student to provide teacher feedback is not dependent upon the strength of the expectancy (E_{ij}) that the student's specific ability to provide feedback will achieve the desired outcome nor the overall attractiveness of the desired outcome (V_j), $p \leq .05$.
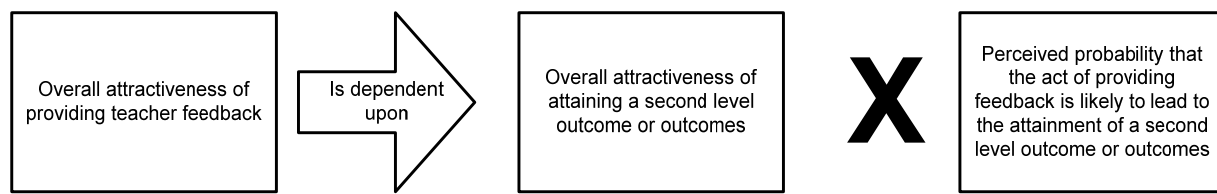
> H_a: Psychological (motivational) force (F) acting on a student to provide teacher feedback is dependent upon the strength of the expectancy (E_{ij}) that the student's specific ability to provide feedback will achieve the desired outcome and the overall attractiveness of the desired outcome (V_j), $p \leq .05$.

According to Donovan (2001), first level outcomes (in this study, teacher feedback) are those likely to be achieved by engaging in a behavior (student providing feedback), which leads to the likely attainment of second level outcomes (student identified outcomes). The twelve second level outcomes that students participating in the study believed could be attained by providing teacher feedback are as follows:
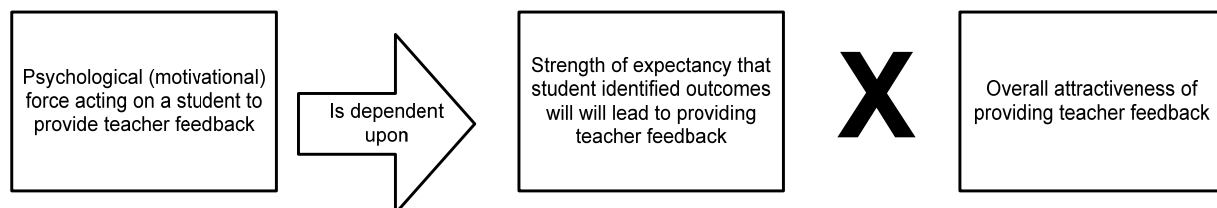
1. Help future students who are taking the same class.
2. Help improve the management of the current class.
3. Opportunity to discuss feedback in class.
4. May improve my grade.
5. May improve course content.
6. Decrease time spent on non-value added work.
7. Improve the method of course content delivery.
8. No fear of negative repercussions related to my responses.
9. Show respect for my professor.
10. Show respect for my colleagues in the class.
11. Increase the value of the class.
12. Reduce the work required for the course.

The diagram below illustrates the specific application of the valence and force propositions in this study.

Valence Proposition Applied to Study

| Overall attractiveness of providing teacher feedback | → Is dependent upon | Overall attractiveness of attaining a second level outcome or outcomes | X | Perceived probability that the act of providing feedback is likely to lead to the attainment of a second level outcome or outcomes |

Force Proposition Applied to Study

| Psychological (motivational) force acting on a student to provide teacher feedback | → Is dependent upon | Strength of expectancy that student identified outcomes will will lead to providing teacher feedback | X | Overall attractiveness of providing teacher feedback |

Methodology

There is a fair amount of discussion in the literature about how to identify second level outcomes (Donovan, 2001; Mitchell, 1974; Vroom, 1964); predominantly, two methods of identification are discussed. The first involves having the researcher identify the outcomes based on intuition and what is known about the outcomes from the literature. Here the challenge is one of successful identification of the correct outcomes while not omitting ones of significance. The second method discussed is having the subjects, themselves, *individually* identify a list of outcomes. The challenge here is one of interpreting and

managing the volume of data. For this study, a modification of the second method of identifying outcomes was employed.

Fifty graduate students from two universities who had previously participated in providing anonymous feedback to the teacher through the use of a course management system were asked to identify the second level outcomes that they associated with providing that feedback. During class, they worked in groups of four to six using a brainstorming technique to identify the second level outcomes that they believed had been attained by previously providing that anonymous teacher feedback. Through discussion, each group eliminated any duplicate outcomes they had identified. These same students then assembled in two larger groups of 25 to evaluate the second level outcomes identified by the smaller groups.

Following student discussion, outcomes that students found to be duplicative were eliminated. The two lists of remaining outcomes from each group of 25 were then compared; again, through student discussion any duplicate outcomes were eliminated. At this point, 19 second level outcomes remained. Then, each of the 19 outcomes was placed on a flip chart and each of the 50 students was given 15 self-adhesive dots to assign to the remaining 19 outcomes according to how attractive they perceived each outcome to be;

students individually assigned the dots to the outcomes that were most attractive to them, using as many points as they wished for any one or more of the 19 outcomes. Findings from a study by Hackman and Porter (1968) indicated that reducing the list of outcomes included in an expectancy model does not significantly decrease its predictability. Knowing that a multiple regression model was to be used in this study and knowing the approximate sample size for the study, the 12 outcomes receiving the highest number of points were selected for further study.

According to Vroom (1964), one of the ways to measure the attractiveness of a second level outcome is through the use of verbal reports. Based on this idea, the 12 remaining outcomes were included in a self-report expectancy survey pilot instrument. Similar to other studies (Chen & Lou, 2004; Reinharth & Wahba, 1975), these items (I_{jk}) were measured using a 7-point Likert Scale ranging from -3 (Highly Unlikely) to +3 (Extremely Likely). An example of an outcome statement with the scale is listed below.

I believe that my completing the survey shows respect for my colleagues in the class:

-3	-2	-1	0	+1	+2	+3
Highly Unlikely						Highly Likely

The personal probability of achieving each of these outcomes by providing feedback (I_{jk}) was also measured using the same scale. An example of the personal probability statement and accompanying scale is listed below.

How likely do you believe that **your personal effort** in providing teacher feedback will contribute to achieving the underlined outcome above?

-3	-2	-1	0	+1	+2	+3
Highly Unlikely						Highly Likely

Questions specific to the measurement of motivational force, expectancy and overall attractiveness of providing feedback were included in the pilot expectancy survey instrument in addition to demographic information. The pilot expectancy survey self-report instrument was then administered to 108 graduate and upper division undergraduate students. For the 12 outcomes (V_k) and their 12 accompanying personal probability statements (I_{jk}), Cronbach's Alpha determined by SPSS was .89, indicating the unidimensionality of the valence construct (V_j).

When creating the final expectancy survey instrument, a few improvements were made. The final instrument contained a single measure of valence (V) asking students to rate the attractiveness of providing anonymous teacher feedback on a 7-point Likert Scale ranging from -3 (Very Unattractive) to +3 (Very Attractive). The construct of force (F) or effort exerted by the student when completing the anonymous teacher feedback was measured by three separate statements, each utilizing a 7-point Likert Scale ranging from 0 – 7, with 0 indicating no effort and 7 indicating very high effort. The three statements used to measure force are listed below.

> F1: How much effort did you put into answering the survey?
> F2: How much of the survey did you complete?
> F3: How important to you was it to complete the survey?

One item assessed the strength of expectancy (E) that the student's specific feedback would lead to a successful contribution in attaining the second level outcome or outcomes; this was again measured by a 7-point Likert Scale ranging from extremely unlikely (0) to extremely likely (7).

To be included in the study, students had to be given the opportunity by the teacher to provide anonymous feedback within two weeks of completing the self-report expectancy survey instrument. Based on meeting this criterion, students from two Midwestern universities who were enrolled in one of six classes being taught by one of five teachers were asked to complete the self-report expectancy instrument within two weeks after being asked to provide anonymous evaluative teacher feedback in a course management system. At the beginning of these six classes, the expectancy survey was administered to 344 students. The first question on the survey instrument asked students whether they had previously participated in providing anonymous teacher feedback. Regardless of how students responded to the initial question, "Earlier this semester, I completed an anonymous survey that was intended to let the teacher know how I thought the class was going," students were instructed to complete the remainder of the survey. Seventeen students responded "No" to the preceding statement and seven did not respond at all. These surveys were removed from the study with a remaining N of 320 students or 93% who had affirmed that they had provided anonymous teacher feedback.

Remaining participants included 117 females, 200 males and three undetermined, including 304 upper division undergraduates and 16 graduate students. Participation in the study was voluntary. Students were told prior to survey administration that completing or not completing the survey instrument would have no impact on their grade for the course. Students were also told that the purpose of completing the survey instrument was to help identify why they had chosen to provide anonymous teacher feedback about how the class was going. Finally, participants were told that the outcomes that they saw listed on the survey instrument where identified by graduate students who had provided anonymous

teacher feedback in the past. Data from the expectancy survey instrument was entered into SPSS.

Results

Multiple linear regression analysis was used to analyze data for both the valence and force propositions. However, prior to running the regression analyses, a reliability analysis was conducted on the survey items pertaining to the student identified second level outcomes associated with providing teacher feedback (I_ks). This was done to assess the internal consistency of the I_k items, or to determine if all the items similarly contributed to second level outcomes perceived attractive by students. The scale of I_k items was found to have a Cronbach's Alpha of .85. Perusal of the reliability analysis item-total statistics flagged one item (I_8: One of the reasons I completed the anonymous teacher feedback is because I need not fear any negative repercussions related to my responses.) as being spurious. When I_8 was deleted from the scale, Cronbach's Alpha increased to .86 and the corrected item-total correlation for I_8 was .10, indicating this item was not measuring what the other eleven I_k items were measuring (the remaining items all had corrected item-total correlations ranging from .34 to .81). As a result of the reliability analyses, I_8 was removed from the scale and not included in the multiple regression analyses.

The contribution of each second level outcome (k) to the overall valence (V) or attractiveness of providing anonymous teacher feedback was assessed through the use of multiple regression analysis similar to that used in the work of Chen and Lou (2004). Valence (V) served as the dependent variable and the items representing the students' perceived likelihood of achieving each of the eleven remaining second level outcomes (I_k) by giving anonymous teacher feedback served as the independent variables. Collinearity diagnostics were run on the 11 remaining independent variables to evaluate whether multicollinearity existed. Results of the diagnostics indicated 18.84 as the highest condition index value, 3.26 as the highest variance inflation factor (VIF) and .31 as the smallest tolerance value. Thus, there was no support for the existence of multicollinearity in the regression multiple regression analysis.

To maintain consistency with the analyses conducted by Chen and Lou (2004) as well as those of Stahl and Harrell (1981), the scale on which the I_k items (personal probabilities) were measured was transformed so that likelihood was represented by a percentage. Table 1 illustrates the transformation.

Table 1: Transformation of the I_k's

	Highly Unlikely						*Extremely Likely*
Original I_k	-3	-2	-1	0	+1	+2	*+3*
Transformed I_k	0%	12.5%	37.5%	50%	62.5%	87.5%	100%

Table 2 presents the means and standard deviations of valence (V) and the eleven I_k's used in the regression analysis. The resulting regression coefficients (β_k) represent the relative attractiveness, or V_k, of each individual second level outcome k in making a decision about the overall attractiveness (V) of providing anonymous teacher feedback. Results indicate that roughly 21% (R^2) of the variance in valence can be predicted by the combination of the

I_k's. Furthermore, the regression analysis predicting valence from the perceived likelihoods of the eleven personal outcomes being achieved by providing anonymous teacher feedback (I_k's) resulted in an F-test statistic of $F_{(11,295)} = 7.15$, $p < .0001$, indicating that there is a statistically significant association between valence and the combination of the eleven I_k's. In other words, together, students' perceived likelihoods of the eleven personal outcomes occurring as a result of participating in anonymous teacher feedback significantly predict the attractiveness of participating in providing that feedback.

Table 2: Means and Standard Deviations of Valence and I_k's; N = 307

Valence (on a scale of -3 to +3)							Mean	Std. Dev.
V: How attractive to you was providing anonymous feedback to your teacher?							1.28	1.24
Second Level Outcomes (Applying probability scale from Table 1)								
Highly Unlikely					Extremely Likely			
-3	-2	-1	0	+1	+2	+3		
0%	12.5%	37.5%	50%	62.5%	87.5%	100%		
I_1: I believe the likelihood my feedback will help future students taking this class is:							62.78	25.41
I_2: I believe the likelihood my responses will help improve the management of current class is:							57.78	26.06
I_3: I believe the likelihood of discussing my responses in class is:							51.46	29.20
I_4: I believe the likelihood of my responses actually improving my grade is:							22.96	25.42
I_5: I believe the likelihood my responses will help improve the course content is:							51.42	26.13
I_6: I believe the likelihood my responses will decrease the time spent on non-value added work in class is:							48.70	23.71
I_7: I believe the likelihood of my responses improving the method of course content delivery is:							53.95	24.36
I_9: I believe the likelihood that my completing the survey shows respect for my instructor is:							78.22	21.37
I_{10}: I believe the likelihood that my completing the survey shows respect for colleagues in my class is:							66.50	24.43
I_{11}: I believe the likelihood my responses will increase value of class is:							57.90	25.80
I_{12}: I believe the likelihood my responses will reduce the work required for class is:							28.09	22.86

While the overall regression equation was statistically significant, as noted in Table 3, only two of the eleven standardized regression coefficients were found to be significantly different from zero at an alpha level of .05. "I believe that the likelihood my feedback will help future students taking the same class," was shown to have a statistically significant relationship with valence when all other I_k's were held constant ($\beta = .214$, $p = .003$); and "I believe the likelihood my responses will increase the value of the class," (I_{11}) was also shown to have a statistically significant relationship with valence when all other I_k's were held constant ($\beta = .197$, $p = .034$). These findings indicate that the null hypothesis for the valence proposition is false and that the alternative hypothesis may be accepted.

<div align="center">Table 3: Multiple Regression of I_k's on Valence; N = 307</div>

IV	Unstandardized Coefficients		Standardized Coefficient		
	B	Std. Error	β	t	p
Intercept	0.089	.284		0.31	0.754
I_1	1.045	.004	.214	2.98	0.003
I_2	0.573	.004	.121	1.54	0.124
I_3	-0.222	.002	-.052	-0.90	0.369
I_4	-0.038	.003	-.008	-0.13	0.898
I_5	0.211	.004	.044	0.54	0.588
I_6	-0.483	.003	-.092	-1.42	0.156
I_7	0.227	.004	.045	0.51	0.608
I_9	-0.490	.004	-.085	-1.34	0.183
I_{10}	0.412	.003	.081	1.29	0.198
I_{11}	0.946	.004	.197	2.13	0.034
I_{12}	-0.382	.003	-.070	-1.21	0.228

A multiple regression analysis was then conducted for the force proposition. The force proposition predicts students' levels of effort in providing anonymous teacher feedback (F) dependent upon students' perceptions of the attractiveness of supplying that feedback (V) and dependent upon the expectancy that providing that feedback will lead to a successful contribution toward an overall evaluation of the teaching and learning experience (E). The construct of Force was measured by three separate items, specifically:

F_1: "How much effort did you put into answering the survey?"
F_2: "How much of the survey did you complete?"
F_3: "How important to you was it to complete the survey?"

To make the items consistent with each other, F_2 and F_3 were reverse coded so that responses smaller in numeric value indicated less completion of the survey and less feeling of importance, respectively. The recoded scale ranged from 0 to 7. Descriptive analyses of the three items showed little variability in F_2; thus it was decided to omit this item from the overall calculation of force (i.e., the majority of students responded that they completed all or almost all of the teacher feedback). Table 4 illustrates the force statistics.

Table 4: Means and Standard Deviations of F_1, F_2, & F_3; N = 320

Force (scale of 0 – 7)	Mean	Std. Dev.
F_1: How much effort did you put into answering the survey?	4.47	1.15
F_2: How much of the survey did you complete?	6.61	1.02
F_3: How important to you was it to complete the survey?	3.79	1.54

The final measure of Force used in the regression equation was the student's average response to F_1 and F_3 with higher responses indicating higher levels of effort exerted on providing anonymous teacher feedback. As done with F_2 and F_3, the scale for expectancy (E) needed to be reverse coded so that lower responses corresponded with more negative attitudes of the students. In keeping with the format of Chen and Lou's (2004) regression analysis and as done above with the I_k items, the scale for expectancy (E) was then transformed as indicated in Table 5 so that E was represented by percentages indicating personal probabilities.

Table 5: Expectancy statement: "My perception is that my level of participation or effort in completing the survey has resulted in a successful contribution to providing teacher feedback."

	Highly Unlikely						Extremely Likely
Expectancy	-3	-2	-1	0	+1	+2	+3
Transformed Expectancy	0%	12.5%	37.5%	50%	62.5%	87.5%	100%

Table 6 presents the means and standard deviations of overall force, valence, and expectancy used in the multiple regression analysis.

Table 6: Means and Standard Deviations of $F_{Overall}$, Valence, and Expectancy; N = 320

Item	Mean	Std. Dev.
F_{Overall} (Scale of 0 – 7)	4.08	1.17
Valence: How attractive to you was providing anonymous feedback to your teacher? (Scale of -3 - +3)	1.28	1.23
Expectancy: I believe the likelihood that my level of effort in completing the survey has resulted in a successful contribution to providing teacher feedback is: (mean percentage using values from Table 5)	57.03%	24.11%

Results of the multiple regression analysis indicate that roughly 22.5% (R^2) of the variance in overall Force can be predicted by the combination of Valence and Expectancy (see Table 7). Furthermore, this regression analysis resulted in an F-test statistic of $F_{(2,317)} = 49.19$, $p < .0001$, indicating that there is a statistically significant association between force, or the overall effort a student put forth in completing the anonymous teacher feedback survey; and the combination of valence, the attractiveness of providing the feedback; and expectancy, the student's perceived likelihood that providing feedback would lead to a successful contribution to the teacher's feedback. In other words, together, students' perceived likelihood of their providing feedback leading to a successful outcome and the attractiveness of providing such feedback are able to significantly predict the effort a student exerts when providing that feedback.

As indicated in Table 7, the standardized regression coefficient for both valence and expectancy were found to be statistically significant at an alpha level of .05 ($\beta = .257$, $p < .0001$ and $\beta = .312$, $p < .0001$, respectively), indicating that valence has a statistically significant relationship with force when expectancy is held constant. Likewise, expectancy

has a statistically significant relationship with force when valence is held constant. These findings indicate that the null hypothesis for the force proposition is false and that the alternative hypothesis may be accepted.

Table 7: Multiple Regression of Expectancy and Valence on Force; N = 320

IV	Unstandardized Coefficients		Standardized Coefficient		
	B	**Std. Error**	**β**	**t**	**p**
Intercept	4.701	.191		24.586	.000
Valence	.266	.048	.257	4.970	.000
Expectancy	.014	.042	.312	6.027	.000

Discussion

When reviewing the descriptive statistics, it is noted that the mean values for all but three of the 11 secondary outcomes are exceeding 50%, indicating that the majority of students perceived the outcome would occur as a result of providing anonymous feedback to the

instructor. However, in terms of the valence proposition, only two of the 11 outcomes included in the analysis were statistically significant in identifying what attracted students to provide anonymous feedback. This could imply that although students believed that most of the secondary outcomes were attained as a result of providing anonymous student feedback, only two of those outcomes motivated them significantly to provide teacher feedback, those being the belief that doing so would improve the value of the current class as well as improve the value of future classes.

What is interesting to note is that the same eight secondary level outcomes supported by students as reasons to provide student feedback, including the two statistically significant ones, according to definition could be considered intrinsic motivators, or motivators that are defined as leading to behavior that is enjoyable versus leading to any specific material reward (Pintrick & Schunk, 1996). The three remaining secondary level outcomes, which were not supported by the majority of students as reasons to provide teacher feedback, were extrinsic motivators, or motivators leading to material reward, specifically likelihood of improving my grade, likelihood of spending decreased time on non-value added work and likelihood of reduced work in the course. Research findings indicate that intrinsic motivators are better at predicting satisfaction and performance (Ewen, Smith, Hulin & Locke, 1966; Wernimount, 1966). Thus, in this particular study, the findings regarding intrinsic and extrinsic motivators are in agreement with findings from previous studies. Vroom (1964) suggests, however, that intrinsic rewards should not be considered for his model or should at least be considered separately, as they are not externally administered. On the other hand, current research findings by Reiss (Ohio State University, Research News; 2005), indicate that defining the existence of intrinsic and extrinsic motivators lacks empirical evidence. Thus, separation of outcomes was not attempted in this study.

Another finding worth discussing is that students do not seem to see a relationship between providing teacher feedback and improving their grade for the course. That may be because they perceive that their ability to achieve a higher grade in the course is independent of how the course is taught, or that the teacher feedback given will not change how the course is taught; yet if the second premise were true, than the findings that indicate that students provide feedback to increase the value of the course appear contradictory. A major premise in education, which forms the foundation of this study, is that teaching methodology does impact learning, and the educational literature in support of this premise is abundant (Angelo & Cross, 1993; Bersin, 2004; Bonk & Graham, 2006; Fink, 2003; Michaelsen, Jarvis, P., Holford, J. & Griffin, C., 1999; Knight & Fink, 2004; Palmer, 1998; Walvoord, 2004). Additionally, as aforementioned, adult students are fairly good evaluators of their own learning (Giese, 2006; Kerka, 1997; Knowles, Holton & Swanson, 1998). Therefore it may be of value for teachers to point out that students providing teacher feedback not only have the potential of improving the value of the course as perceived by the students, but the teacher feedback also has the potential of improving individual student performance as measured by grades through improved student learning.

Two more points worthy of mention arise from two statements measured on a 7-point Likert scale that were included in the expectancy survey instrument. Eighty-three percent (83%) of the students responded that formally evaluating a teaching and learning experience was useful to them and 93% responded that they felt comfortable participating in such evaluations. These responses provide further supporting evidence that students see the value in providing teachers with anonymous feedback and that they are comfortable in doing so. Furthermore, these findings are in agreement with former research where students expressed similar perspectives regarding their participation in evaluating learning (Giles, et. al., 2004).

The remainder of the discussion is focused on the two statistically significant outcomes. Findings from the study indicate that it is important for teachers to let students know that

the feedback they receive from them will be used to improve the value of the current class and future classes. There are many ways that teachers may do this, including the most obvious way of telling students that the reason they are requesting feedback is to improve the value of the current class and future classes. As an example, teachers may tell students at the beginning of the semester that student feedback is welcomed and expected in order that improvement in teaching methods may lead to improved student learning. However, there are additional less direct ways of letting students know that their feedback is valuable in leading to improved learning experiences.

One of the major ways that this may be done is by sharing the anonymous feedback received with the students in the classroom, which was one of the 11 second level outcomes that students identified as desirable when providing teacher feedback. Sharing feedback serves five purposes. First, it demonstrates that the teacher is serious about using the feedback given to improve teaching and learning. Second, it provides the teacher an opportunity to seek clarification on feedback received. Third, it gives the teacher and students the opportunity to better determine if the feedback exhibits the beliefs of one or two students or if it is more universal in nature, possibly indicating the need for more serious evaluation. Fourth, it permits the teacher to identify potential changes in teaching that may address some of the feedback received, permitting students to react to these potential changes right on the spot. Finally, it gives the teacher an opportunity to explain why feedback may not, in some instances, result in any change. The only downside of sharing and discussing anonymous feedback in the classroom is that through discussion, it

may make the feedback less anonymous. However, it is been the experience of the author that often times students will say, "I am the one who said that and here is what I meant by it," which generally opens the door to further rich discussion from others in the class.

Being willing to incorporate recommended changes into the teaching plan is another way to demonstrate to students that their feedback is valued. One thing the author has learned from teaching is that different methods of teaching for different learners may be important. For example, when utilizing a hybrid or blended teaching format where asynchronous discussion assignments are part of the teaching plan, graduate business students who are frequently working full time jobs, find it difficult to complete asynchronous discussion assignments with due dates occurring during the work week as they are often traveling, which many times causes difficulty in accessing a computer and the internet. A change in assignment due dates is an example of a fairly easy change to incorporate into a teaching plan almost immediately without decreasing the rigor of the teaching plan.

Finally, telling students that an important part of the teacher's responsibility is to help them learn, letting them know that most teachers are interested in their having the best learning experience possible and asking for feedback regularly regarding certain aspects of teaching is likely to lessen the risk that students may perceive is present when they provide teacher feedback. In this study 270 (84.5%) of the participants agreed that students should evaluate classroom learning experiences and only one student (.3%) strongly disagreed with this practice, indicating that students do see the value in providing teacher feedback. There are some excellent resources available to help teachers clearly identify to students what aspects of their teaching they would like to have assessed. One of the most comprehensive resources in this area is the work of Brown and Race (1995).

Limitations

Based on the nature of the study, sample selection was not random; therefore results cannot necessarily be generalized to other student populations. Secondly, it may be possible that the fifty students who identified the secondary outcomes used in the expectancy survey instrument failed to identify all of the outcomes that could be significant motivators in predicting why students would provide anonymous teacher feedback. Thirdly, a within subjects model was not used in the application of Vroom's Model as the purpose of the study was to determine whether there was a statistically significant relationship between the variables in the model for the purpose of predicting students' motivation in providing teacher feedback based on previously identified second level outcomes. Therefore results of the study cannot be compared to results from other studies that used within subjects or across subjects research designs and the criticisms associated with the use of those designs do not apply to the research design used in this study. Finally, as with any self-report survey responses, there exists speculation as to the assumptions on which those responses are based.

Future Research

An area of interest for future consideration and study is exploring the effects of teaching style on students' motivation to provide evaluative feedback regarding the teaching and learning experience. A number of studies in contingency theory demonstrate that in any environment the interaction between the leader (teacher) and followers (students) impacts the behavior of both the leader and the followers (Fiedler, 2002; House, 1996; Northouse, 2004). In fact, the very foundation of path-goal contingency theory of leadership is based

on expectancy theory of motivation (Northouse, 2004). It seems likely that teaching style would impact students' motivation to provide teacher feedback.

Furthermore, findings from contingency theory studies would seem to indicate that different student traits may benefit from different teaching styles. As an example when applying concepts from path-goal theory, students who tend to be more pragmatic and authoritarian may prefer a more directive teaching style that provides them with more structure and less ambiguity when completing an assignment, whereas students who have a greater need for affiliation may prefer a teaching style that is more participatory and supportive of their needs.

In conclusion, the purpose of this study was to investigate what might motivate students to provide anonymous formative teacher feedback during the course of a class in order that teachers may use that feedback to improve student learning. The benefit of receiving this feedback gives teachers the opportunity to improve the teaching and learning experience for the current class as well as for future classes. Vroom's model of expectancy theory formed the basis of the investigation. Regression analysis was employed to investigate both the valence and force equations. Statistically significant findings indicated that students' motivation was dependent upon the importance to them of improving the value of the current class and that of future classes, and the expectation that their evaluative feedback would lead to increased value for them and for future students. Based on these findings, it is important for teachers who request students to participate in providing anonymous feedback to emphasize that this feedback is a valuable tool used to assist them in improving current and future teaching and learning experiences.

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