

QI Summary Report – Faculty Perceptions about Writing

Using the reasoned action approach (TRA) two successive studies were conducted to determine variables that influence faculty to assign writing in their courses. Originating as the *theory of reasoned action* (TRA; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975; Fishbein; 1980), TRA is based on the established premise that people perform behaviors that they intend to perform and do not perform behaviors they intend not to perform (Ajzen & Fishbein, 1977; Wong & Sheth, 1985). TRA involves measurement of attitudes, subjective norms, perceived control and perceived difficulty. Further research by Ajzen (1988; 1991) suggests that although TRA applies well to behaviors that are under one's control, not all behaviors are under a person's control – thus the notion of perceived behavioral control acts as a proxy. Additional research by Trafimow, Sheeran, Conner and Finlay (2002) posits that some perceived behavioral control measures tend to measure control, while others tend to measure difficulty, and that while both are influenced by relevant beliefs, there is reason to disentangle perceived control from perceived difficulty.

Our goal is to identify which beliefs predict behavioral intentions to assign writing, and if appropriate, introduce an intervention that changes beliefs about writing that will result in the increased likelihood of faculty intention to assign writing in their courses. Ultimately, we want to determine that changing the beliefs found to be most relevant in the first phase of the study actually does change behavioral intentions and behavior.

The first study was set up to

1. Determine which of the four variables - attitude, subjective norms, perceived control and perceived difficulty – best predict teachers' behavioral intentions to assign writing
2. Obtain a list of relevant beliefs for each of the variables to be used in Study 2

The second study was set up to

1. Investigate open-ended beliefs obtained in Study 1 to find out which beliefs best predict intentions to assign writing
2. Identify which beliefs should be the focus of interventions intended to increase faculty intentions to assign writing

Faculty Writing Survey – Study 1

In this study, careful attention was given to measurement issues, and we employed a structure called the *principle of correspondence*. In addition, we agreed that reliability sets an upper limit on validity, so we were determined to have measures that maximize reliability. As such, all items specified the action, target, context and time so as to comply with the principle of correspondence. In addition, we included four items for measuring each construct, each designed to maximize their inter-item correlations while nevertheless remaining feasible.

Participants were recruited from NMSU campuses via teaching workshops and an NMSU listserv. All participants taught at least one face-to-face class (not online) during the semester in question. In addition to responding to questions regarding the constructs of interest, participants generated responses pertaining to the positive and negative beliefs about and consequences of assigning writing.

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Reliability for the measures are:

- Behavioral intentions – .99
- Attitudes – .93
- Subjective norms – .97
- Perceived difficulty – .93

Correlations with behavioral intentions:

- Attitude-intention correlation was .65 ($p < .001$)
- Subjective norms-intention correlation was .31 ($p < .05$)
- Perceived control-intention correlation was -.12 (not statistically significant)
- Perceived difficulty-intention was .43 ($p < .01$)

Attitudes and perceived difficulty were the two best predictors of intentions to assign writing. Multiple correlation regressing behavioral intentions on to all variables was .68. Attitude-intention correlation alone accounts for 42% of the variance in intentions. Including all other variables only increased the variance to .68, and the explained variance to 46%, which was not a statistically significant increase.

Four tables were created to list all beliefs participants listed related to the four constructs. Two types of negative beliefs tended to be on three of the four tables: Time and difficulty involved with grading writing assignments were considered to be

- a) Disadvantages
- b) Factors that place writing in their classes beyond their control
- c) Factors that make it difficult to require writing in their classes

Study 1 Summary: Study 1 identified attitudes and perceived difficulty as the best predictors of behavioral intentions to assign writing, and provided a set of beliefs about assigning writing that were widely endorsed by participants.

Faculty Writing Survey – Study 2

The goals of Study 2 were to cross-validate that attitudes and perceived difficulty predict behavioral intentions, but with a larger sample, and to capitalize on the information gained in Study 1 about relevant beliefs pertaining to attitudes and perceived difficulty. In this study we assessed the ability of individual beliefs to predict behavioral intentions, so as to determine that those beliefs are the best candidates for intervention.

Participants were recruited similarly to those in Study 1, and we obtained a sample of 113 faculty, with 107 completing all measures.

Procedures were similar to Study 1, but because they did not contribute to the prediction of behavioral intentions above the measures of attitude and perceived difficulty, we dropped measures relating to subjective norms and perceived control. We added close-ended

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questions that came from the responses elicited from the open-ended questions in Study 1: These include beliefs pertaining to attitudes and beliefs pertaining to perceived difficulty.

Questions pertaining to attitude included consequences of assigning writing, and an evaluation of how good or bad the consequences would be, if they indeed happened. This was done to compute belief x evaluation product scores that would force a direction of the participant intending to or not to assign writing. For example, if a participant believes a particular consequence of assigning writing to be “extremely likely” and “extremely good” if it occurs, the product score would be $3 \times 3 = 9$ which would be a force in the direction of the participant intending to assign writing. In contrast, if a person considers a particular consequence of assigning writing to be “extremely likely” but “extremely bad” if it occurs, the product score would be $3 \times (-3) = -9$ which would be a force in the direction of the participant intending not to assign writing. According to Ajzen and Fishbein (1980), Equation 2 provides the relation between beliefs (b_i) evaluations (e_i), and attitudes (A).

Questions pertaining to perceived difficulty included questions about the extent to which different variables made it easy or difficult to assign writing.

Reliability for the measures are:

- Behavioral intentions – .99 (.99 in Study 1)
- Attitudes – .95 (.93 in Study 1)
- Perceived difficulty – .87 (.93 in Study 1)

Correlations with behavioral intentions: Although attitudes and perceived difficulty both were significant predictors of behavioral intentions, their relative efficacy as predictors reversed from Study 1. As in Study 1, the multiple correlation involved attitudes and perceived difficulty to predict behavioral intentions was strong – $R = .65$ (.68 in Study 1).

- Attitude-intention correlation was .33 (.65 in Study 1)
- Perceived difficulty-intention was .61 (.43 in Study 1)

Product scores generated from measures of beliefs and evaluations were correlated via product terms with behavioral intentions. Significant correlations are:

- Increase student learning ($r = .56$)
- Increase critical thinking ($r = .54$)
- Increase ability to communicate ($r = .46$)
- Increase students’ ability to apply what is learned in class ($r = .51$)
- Increase students’ reflection on course material ($r = .48$)
- Aids in assessment of student learning ($r = .47$)

Pertinent correlations between perceived difficulty beliefs and behavioral intentions are:

- Having control over structure of the course ($r = .49$)
- Belief that it is good for the students ($r = .64$)

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A large multiple regression analysis including all of the belief-evaluation products and all of the difficulty beliefs to predict intentions to assign writing resulted in $R = .77$. An impressive number for this type of research that highlights the potential value of intervening at the level of several beliefs rather than single belief. For example, the belief that assigning writing is good for the student best predicts intentions to assign writing. Using the coefficient of determination, that belief accounts for 41% of the variance in intentions to assign writing. Because the multiple correlation involving all beliefs was .77, the implication is that 59% of the variance could be accounted for by using all of the beliefs. In summary, there is a difference of 18% ($59\% - 41\% = 18\%$) that can be exploited by using all of the beliefs instead of just the top predictor.

These findings provide a sense of reasonable optimism regarding design of a successful intervention approach. The multiple correlation of .77 also may be a reasonable explanation of the reversal of the relative contribution of attitudes and perceived difficulty from Study 1 to Study 2: The belief that assigning writing is good for the students was listed as a factor that makes assigning writing easier—that is, a perceived difficulty item—but it also can be thought of as a positive consequence of writing, which would render it an attitude item. Although Trafimow and Duran (1998) have shown that attitudes and perceived difficulty are different concepts, in general, our suspicion is that there is some overlap between them with respect to the issue of assigning writing. In short, the implication is that interventions designed to convince faculty that assigning writing helps students should increase the frequency of writing assignments. Increasing optimism is the research by Elbow (1994, 1997) that suggest the usefulness of educating faculty about ways to assign writing that do not involve a large amount of time and effort. This explicitly addresses the two top disadvantages identified by participants to assigning writing, “grading papers is time consuming” and “a great deal of effort is required to give useful feedback.”

Intervention Strategies

While most faculty are generally inclined to acknowledge the importance of writing, for a variety of reasons, many of them do not assign writing in their courses. Our findings identify attitudes and perceived difficulty as the most important predictors of assigning writing.

Almost all of the items listed above with significant correlations regarding evaluative beliefs can be interpreted as specific ways in which assigning writing can be good for students. With “being good for students” as a central theme, intervention strategies that highlight the value of writing to aid student learning and performance, coupled with instruction on how to assign writing such that it is not overly burdensome on the faculty, could hold tremendous promise.

There is significant literature on both – benefits of writing to students and their learning; and best practices in increasing student writing in ways that are not overly intrusive on the faculty member. In addition, there are significant gains to be had through helping faculty understand that having students write (even informally, and perhaps even more so) in

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their courses can increase the understanding and command of discipline and course content.

In conclusion, the present findings clarify that attitudes and perceived difficulty are more promising than subjective norms or perceived control, as general constructs worthy of investigation in the context of increasing teacher’s intentions to assign writing. At the level of beliefs—the level at which one would intervene—we found that beliefs pertaining to ways in which assigning writing is good for students were excellent predictors of intentions to assign writing. We find this very encouraging because it suggests an admirable level of commitment that most teachers have to benefit students. Furthermore, given the extensive data showing that writing is good for students, it should not be difficult to convince faculty that, in fact, writing does benefit students.