

Running head: PREDICTING SATISFACTION WITH ONLINE TRAINING

Using Components of Social Cognitive Theory to Predict  
Military Students' Satisfaction with Self-Paced, Online Training

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## Background of the Study

With the rapid expansion of Internet-based technologies, online learning has emerged as a viable alternative to traditional classroom instruction (Moore, 2003; Tallent-Runnels et al., 2006). As a subset of a much larger form of instruction – distance education – online learning has become the format-of-choice for numerous institutions eager to provide students with the opportunity and convenience of learning from a distance (Moore & Kearsley, 2005). For example, the Department of Defense, an organization that spends more than \$17 billion annually on military schools for almost three million personnel, recently committed to transforming the majority of its classroom training to computer-supported distance learning (United States General Accounting Office, 2003).

The recent growth in online learning has resulted in a major shift in education and training from an instructor-centered to a learner-centered focus (Dillon & Greene, 2003). With this shift has come the suggestion that, in the absence of an ever-present instructor, students learning at a distance must take greater responsibility for the management and control of their own learning (Moore & Kearsley, 2005). Furthermore, a number of researchers have argued that online students, to an even greater extent than traditional learners, require well-developed self-regulated learning (SRL) skills to guide their cognition and behavior (Bandura, 1997; Hill & Hannafin, 1997). Self-regulated learners are generally characterized as active participants who efficiently control their own learning experiences in many different ways, including organizing and rehearsing information to be learned, and holding positive motivational beliefs about their capabilities and the value of learning (Schunk & Zimmerman, 1994, 1998).

Although there are various conceptualizations of academic self-regulation (for a review, see Boekaerts, Pintrich, & Zeidner, 2000), several researchers have found social cognitive models of SRL to be particularly useful in analyzing student success in online education (e.g.,

Hodges, 2005; Militiadou & Savenye, 2003). This may be so because social cognitive models highlight important motivational factors and learning strategies that appear to benefit students in these highly autonomous learning situations. Thus, a social cognitive perspective on self-regulation, which addresses the interrelationship between the learner, the learner's behavior, and the environment (Bandura, 1997; Zimmerman, 2000), appears to lend itself well to an understanding of how successful learners function in online situations.

The purpose of the present study is to investigate the relations between various components of social cognitive theory, including students' motivational beliefs (task value and self-efficacy), their perceptions of the learning environment (perceived instructional quality), and their satisfaction with an online course. Specifically, the following research question is addressed: Using task value, self-efficacy, and instructional quality as predictors, how accurately can students be classified into two groups: those that indicate they are *satisfied* with a self-paced, online course, and those that indicate they are *not satisfied* with a self-paced, online course?

## Methods

### *Participants*

Participants for this study consisted of a convenience sample of 295 students from the U.S. Naval Academy. The sample included 233 men (79.0%) and 61 women (20.7%); one person did not report gender. The mean age of the participants was 20.4 years (SD = 1.0; range 18-24). Information regarding ethnicity was not collected as part of the study.

### *Learning Materials*

The instructional materials used in the present study consisted of a self-paced, online course developed by the Navy for the Naval Aviation Survival Training Program (NASTP).<sup>1</sup>

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<sup>1</sup> The NASTP is an education and training program sponsored by the Chief of Naval Operations. The mission of the NASTP is to prepare all prospective flight personnel for the aeromedical aspects of flight and survival aboard Navy and Marine Corps aircraft.

Self-paced, online courses are a specific type of online learning in which students use a Web browser to access a course management system and complete Web-based courses at their own pace. While completing these courses, students do not interact with an instructor or other students. The online course used in the present study was the first part of a two-stage training program required for all Naval Academy Midshipmen.<sup>2</sup> The online course was taken prior to students' completion of the second stage of their NASTP training, which consisted of traditional, face-to-face instruction at a local Aviation Survival Training Center (ASTC).

### *Procedures*

Approximately one month after completing the online course, Midshipmen arrived at the ASTC for the face-to-face portion of their training. Prior to any instruction at the ASTC, students were invited to complete an anonymous, self-report survey regarding their experiences with the self-paced, online course. Participation in the survey was completely voluntary.

### *Instrumentation*

The instrument used in the present study was composed of 26 items divided into two sections. The first section included 18 Likert-type items with a response scale ranging from 1 (*completely disagree*) to 7 (*completely agree*; see survey items in Appendix). A principle axis factor analysis with oblique rotation (Oblimin; delta = 0) was conducted on the 18 items from the first section of the survey. Oblique rotation methods allow for factors to be correlated, and the assumption was made that the three factors thought to be present in the instrument might, in fact, correlate. Evaluation of the correlation matrix indicated that it was factorable: Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .913, which is "marvelous" (>.90) according to Kaiser's criteria (Pett, Lackey, & Sullivan, 2003).

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<sup>2</sup> Midshipmen are Naval Academy undergraduates who will enter the Navy or Marine Corps as military officers upon graduation. The participants in the proposed study were sophomores and juniors.

The number of factors to extract was determined on the basis of several criteria, including parallel analysis, examination of the resulting scree plot, and eigenvalues greater than 1.0 (Hayton, Allen, & Scarpello, 2004). All three methods suggested three factors should be retained; the three factors accounted for 52.6% of the total variance in the items. Inspection of the table of communalities revealed that all the items had high extracted communalities (i.e., > .40), which indicates that much of the common variance in the items can be explained by the three extracted factors (Pett et al., 2003). The resulting three-factor scale (see subscale descriptions below) included items designed to assess students' personal motivational beliefs (task value and self-efficacy) and their perceptions regarding the instructional quality of the online training.

*Personal motivational beliefs.* Task value and self-efficacy – two personal motivational beliefs known to play an important role in social cognitive views of self-regulation and performance (Pintrich, 1999) – were assessed. The 6-item *task value* subscale was designed to measure learners' judgments of how interesting, useful, and/or important the online course was to them ( $\alpha = .85$ ). High scores on this subscale indicate the person found the online course interesting, important, and useful (Eccles & Wigfield, 1995). The 5-item *self-efficacy* subscale was designed to assess a learner's confidence in his/her ability to learn the material presented in a self-paced, online format ( $\alpha = .87$ ). High scores on this subscale indicate the person was completely confident he/she could learn the material presented in a self-paced, online format (Bandura, 1997). Sample items from these two subscales include "I liked the subject matter of this course" (task value) and "Even in the face of technical difficulties, I am certain I can learn the material presented in an online course" (self-efficacy).

*Instructional Quality.* The 7-item *instructional quality* subscale was designed to assess students' beliefs that the online course utilized effective instructional qualities and design

features ( $\alpha = .87$ ). High scores on this subscale indicate the person found the instructional features of the course to be effective and of high quality. Sample items include “The course was easy to navigate” and “The quizzes helped me learn the material.”

The second section of the survey contained 8 background and demographic items. This section also included three individual items used as variables in the present study:

(1) *Online Technologies Experience*. Online technologies experience was assessed with a single self-report item: “In your estimation, how experienced are you with online computer technologies?” The response scale ranged from 1 (*extremely inexperienced*) to 7 (*extremely experienced*).

(2) *Online Learning Experience*. Online learning experience was assessed with a single self-report item: “In your estimation, how experienced are you with self-paced, online learning?” Again, the response scale ranged from 1 (*extremely inexperienced*) to 7 (*extremely experienced*).

(3) *Satisfaction*. Overall satisfaction with the course was assessed with a single self-report item: “Overall, were you satisfied with your self-paced, online learning experience?” The response scale consisted of two choices: 1 (*yes, I was satisfied*) and 0 (*no, I was not satisfied*).

## Results

Logistic regression was used in the present study to investigate factors associated with students’ satisfaction with a self-paced, online course. Logistic regression was chosen primarily because of its inherent flexibility as an analysis technique; that is, it lends itself well to the development of a reliable prediction model when the outcome of interest is dichotomous (Cohen, Cohen, West, & Aiken, 2003).

Using a hierarchical method, the independent variables were grouped into three sets. In step 1, control variables (gender [male = 0, female = 1], online technology experience, and online learning experience) were added to the model, followed by motivational beliefs (task

value and self-efficacy) in step 2, and perceived instructional quality in step 3. Steps 2 and 3 were entered in an order consistent with ecological models (Bronfenbrenner, 1979); that is, based on their purported proximity to the learner. All three models tested used the same dichotomous dependent variable of whether (yes/no) participants were satisfied with their self-paced, online learning experience. Using a likelihood ratio Chi-square test, improvements in model prediction for each set of independent variables was assessed.

### *Descriptive Statistics*

Table 1 presents means, standard deviations, and internal reliability coefficients (Cronbach's alphas) for the three continuous independent variables used in the present study. Descriptive statistics for the control variables are not reported here. Overall, descriptive results for each variable revealed a mean that was slightly more than one unit above the midpoint of the response scale and a standard deviation between 1.06 and 1.15. When the two satisfaction groups were considered separately, means for each independent variable were consistently higher for the "satisfied" group versus the "not satisfied" group. Furthermore, results from univariate *t*-tests indicated that all mean differences between the two groups were significant at the  $p < .001$  level.

When the satisfaction groups were considered together, the frequency distributions for the three variables showed evidence of negative skew. Additionally, distributions for each independent variable showed varying levels of leptokurtosis. Unlike ordinary least squares (OLS) regression, however, logistic regression makes no assumptions regarding the distribution of the independent variables. Therefore, these distributions, which deviated somewhat from normality, were *not* considered to be a problem for the logistic regression analysis.

Reliability refers to the extent to which measured scores are repeatable (Cortina, 1993). Although there are many forms of reliability (e.g., test-retest, alternate forms, and inter-rater reliability), measures of internal consistency, such as Cronbach's alpha, are among the most

frequently used in psychometrics (Schmitt, 1996). In general, internal consistency refers to the degree of relatedness of a set of items. Cronbach's alphas for the three subscales used in the present study were considered quite good, ranging from .85 to .87 (Clark & Watson, 1995).

**Table 1**

*Descriptive Statistics for the Independent Variables of Interest and the Dichotomous Dependent Variable*

Outcome Variable	Independent Variables										
			Task Value			Self-Efficacy			Instructional Quality		
	N	%	M	SD	$\alpha$	M	SD	$\alpha$	M	SD	$\alpha$
Total	295*	100	5.54	1.06	.85	5.39	1.13	.87	5.44	1.15	.87
(1) Yes, Satisfied	222	75.3	5.88	.72	–	5.71	.76	–	5.91	.63	–
(0) No, Not Satisfied	73	24.7	4.49	1.24	–	4.44	1.48	–	4.05	1.24	–

\*Note. Due to missing data, the sample size for the self-efficacy variable was 294.

### *Assessing Multicollinearity*

To investigate the degree of multicollinearity for the set of independent variables, Pearson correlations and an OLS multiple regression analysis were conducted. Table 2 presents results of the correlation analysis, as well as tolerance and variance inflation factors (VIF) for each independent variable. As indicated, there was very little multicollinearity between the independent variables. All zero order correlations were  $\leq |.70|$ ; the tolerance values were  $\geq .53$  ( $\leq .10$  indicates a serious problem with multicollinearity); and the VIF values were  $\leq 1.87$  ( $\geq 10.0$ , “provides evidence of serious multicollinearity involving the corresponding IV”; Cohen et al., 2003, p. 423). Based on these results, it was determined that each independent variable had the potential to add unique information to the prediction of the dependent variable, satisfaction.

**Table 2***Pearson Correlations, Tolerance, and Variance Inflation Factors for the Independent Variables*

Variable	N	M	Tolerance	VIF	1	2	3	4	5	6	7
1. Satisfaction	295	–	–	–	–	.06	.17**	.26***	.57***	.49***	.70***
2. Gender	294	–	.98	1.02		–	-.09	-.08	.04	.01	.05
3. Online Tech. Exp.	294	5.96	.78	1.29			–	.42***	.11	.28***	.15*
4. Online Learning Exp.	293	4.76	.79	1.27				–	.20***	.25***	.22***
5. Task Value	295	5.54	.62	1.62					–	.35***	.63***
6. Self-Efficacy	294	5.39	.72	1.40						–	.50***
7. Instr. Quality	295	5.44	.53	1.87							–

Note. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

*Logistic Regression Analysis*

Table 3 provides a summary of the hierarchical logistic regression analysis. As indicated, the addition of each set of variables resulted in significant improvements in all measures of model fit (Menard, 2000). For example, the likelihood ratio  $R^2$  (i.e.,  $R^2_L$ ) was used to assess the proportional reduction in deviance produced by each subsequent model when compared to the null model. Results revealed a proportional reduction in deviance of .625 for the model with all six predictors included (i.e., model 3), as compared to .068 and .444 for models 1 and 2, respectively. Moreover, results revealed that, adjusted for base rate, classification error was reduced by 77.6% in model 3 ( $\tau_p = .776$ ), as compared to 36.7% and 64.6% in models 1 and 2, respectively. Additionally, the classification characteristics of each model improved with the addition of more variables. Specifically, model 3 correctly classified 91.8% of students, while models 1 and 2 correctly classified 76.6% and 86.9% of students, respectively. Finally, results of

the Hosmer and Lemeshow goodness-of-fit tests indicated that all three models fit the data as well as the saturated model; that is, all significance tests were non-significant. For example, results of the Hosmer and Lemeshow test for model 3 were  $\chi^2(8) = 3.417, p = .906$ .

**Table 3**

*Model Summaries for Hierarchical Logistic Regression Analysis*

Measure	Step 1			Step 2			Step 3		
	b	Wald $\chi^2$	p	b	Wald $\chi^2$	p	b	Wald $\chi^2$	p
<i>Step 1: Demography &amp; Experience</i>									
Gender	.526	2.004	.157	.487	.939	.333	.358	.334	.563
Online Tech. Experience	.192	2.215	.137	-.088	.229	.632	-.191	.707	.400
Online Learning Experience	.377	11.534	.001	.298	3.932	.047	.462	5.573	.018
<i>Step 2: Motivational Beliefs</i>									
Task Value				1.644	41.006	.000	1.003	10.648	.001
Self-Efficacy				1.183	29.205	.000	1.093	12.860	.000
<i>Step 3: Instructional Quality</i>									
Instructional Quality							1.972	32.360	.000
Model Summary Statistics									
R <sup>2</sup> <sub>L</sub>		.068			.444			.625	
$\tau_p$		.367			.646			.776	
Model Deviance		301.217			179.739			120.978	
Block LR $\chi^2$		22.161**			121.478**			58.761**	
% Correct		76.6			86.9			91.8	

Note. \*\* $p < .001$ .

b = unstandardized regression coefficient; Wald  $\chi^2$  = Wald test Chi-square; p = significance level; R<sup>2</sup><sub>L</sub> = likelihood ratio R<sup>2</sup>;  $\tau_p$  = reduction in classification error, adjusting for base rate; Block LR  $\chi^2$  = likelihood ratio Chi-square test for addition of variables in block; % correct = overall percent of students correctly classified.

Deviance for null model = 323.377; percent of students correctly classified by null model = 75.6.

The likelihood ratio Chi-square test was used to assess the contribution of the set of predictors added in each step of the hierarchical logistic regression. Results indicated that adding task value and self-efficacy to the model with only three predictors (i.e., to the model with only control variables) significantly improved model prediction,  $\chi^2(1) = 121.478, p < .001$ . Said another way, the model deviance with only control variables (301.217) was reduced to 179.739 with the motivational beliefs variables included in the model, a statistically significant reduction ( $p < .001$ ). Likewise, adding perceived instructional quality to the model with only control and motivational beliefs variables also significantly improved model prediction,  $\chi^2(1) = 58.761, p < .001$ . That is, adding perceived instructional quality reduced overall model deviance from 179.739 to 120.978, a statistically significant reduction ( $p < .001$ ).

Table 4 provides a summary of the logistic regression results for the final model with six predictors. As indicated, perceived instructional quality ( $b = 1.972, p < .001$ ), self-efficacy ( $b = 1.093, p < .001$ ), and task value ( $b = 1.003, p < .05$ ) were the most critical variables in distinguishing between those students who were satisfied with the self-paced, online course and those who were not. Using a Bonferroni adjustment ( $.05/6 = .008$ ), the online learning experience variable approached significance ( $b = .462, p = .018$ ). For perceived instructional quality, holding all other predictors constant, the odds of a student reporting satisfaction with the self-paced, online course increased by a factor of 7.182 for every one unit increase in his/her perceived instructional quality score. For self-efficacy, partialing out the effects of the other variables in the equation, the odds of a student reporting satisfaction with the course increased by a factor of 2.983 for every one unit increase in his/her self-efficacy score. Finally, task value was also positively related to satisfaction, with a corresponding odds ratio of 2.725. Aside from online learning experience, which approached significance (odds ratio = 1.588,  $p = .018$ ), the

other control variables, gender and online technologies experience, were unrelated to satisfaction.

**Table 4**

*Logistic Regression Results for the Final Model with Six Predictors*

Variable	b	SE	Wald $\chi^2$	df	p	OR	95% CI for OR	
							Lower	Upper
Gender	.358	.619	.334	1	.563	1.43	.425	4.81
Online Tech. Exp.	-.191	.227	.707	1	.400	.826	.529	1.29
Online Learning Exp.	.462	.196	5.573	1	.018	1.588	1.08	2.33
Task Value	1.003	.307	10.648	1	.001	2.725	1.49	4.98
Self-Efficacy	1.093	.305	12.860	1	.000	2.983	1.64	5.42
Instr. Quality	1.972	.347	32.360	1	.000	7.182	3.64	14.17
Constant	-21.016	3.051	47.460	1	.000	.000		

Note. b = unstandardized regression coefficient; SE = standard error; Wald  $\chi^2$  = Wald test Chi-square; df = degrees of freedom; p = significance level; OR = odds ratio; CI = confidence interval.

### *Residual Diagnostics*

Cases with studentized residuals greater than 2.0 were flagged; results are presented in Table 5. There were seven students identified as extreme cases. A review of their scores revealed that the majority of these students reported relatively high scores for task value, self-efficacy, and/or instructional quality, yet also reported that they were not satisfied with the online course. The model with six independent variables, however, predicted that these students would be satisfied with the course. Ultimately, though, because there were only seven “outliers” out of a total of 295 cases, these extreme values were not considered problematic with respect to model interpretation.

**Table 5***Residual Diagnostics for Identified Extreme Cases*

Case Number	Observed Satisfaction (1 = yes, 0 = no)	Lever	Cook	ZResid
13	0*	.022	.403	-4.231
85	0*	.058	.353	-2.404
172	1*	.103	.786	2.616
208	0*	.042	.369	-2.909
220	0*	.009	.223	-4.910
242	1*	.063	.530	2.813
289	0*	.009	.359	-6.221

\*Note. Case was misclassified by model. Lever = leverage value; Cook = Cook's D; ZResid = normalized residual.

## Discussion

Findings from the present study support prior research indicating that students' motivational beliefs about a learning task and perceptions of instructional quality are related to positive academic outcomes. In particular, results are significant in that they take much of what has been confirmed in traditional classroom environments and provide some evidence that these relationships extend to self-paced, online learning in the context of military training. Consistent with expectations, students' self-reported task value, self-efficacy beliefs, and perceptions of instructional quality were significant predictors of their overall satisfaction. In fact, the final logistic regression model with six independent variables was quite promising as a predictive model. Specifically, the model was able to correctly classify 91.8% of the cases; its classification error, adjusted for base rate, was reduced by 77.6% ( $\tau_p = .776$ ); and it had a proportional reduction in deviance of .625 when compared to the null model. In total, the overall fit of the final model appears to be very good.

### *Task Value*

After accounting for the other independent variables, task value was a significant predictor of overall satisfaction. It appears that students who believed the course was interesting and important were more likely to be satisfied with the training. These findings parallel the work of Pintrich and DeGroot (1990) who found that intrinsic value was strongly related to students' positive attitudes, cognitive engagement, and academic performance. Similarly, in a study of undergraduates enrolled in four different online courses, Lee (2002) found that task value was a significant positive predictor of students' overall satisfaction. Artino (2006) obtained similar results in a study of 204 military personnel participating in self-paced, online training. His results revealed that task value was the strongest individual predictor of students' satisfaction, as well as their perceived learning and intentions to enroll in future online courses.

### *Self-Efficacy*

After controlling for the other independent variables, self-efficacy was a significant predictor of students' overall satisfaction with the online training. These results are consistent with the findings of previous investigations of self-efficacy and its relations to adaptive outcomes, including students' performance and satisfaction in traditional classrooms (Pintrich & DeGroot, 1990; Zimmerman & Bandura, 1994; Zimmerman & Martinez-Pons, 1990). Although the links between self-efficacy and adaptive outcomes have been well researched in traditional classrooms, only a few studies have tested these relationships in online courses. For example, Lim (2001) found that self-efficacy was the strongest individual predictor of adult learners' overall satisfaction with online education, a finding that is supported by the present study.

### *Instructional Quality*

After accounting for the other independent variables, perceived instructional quality was the strongest individual predictor of overall satisfaction. It seems that students' who felt the

online course was high-quality were also more likely to be satisfied with their online learning experience. These findings are consistent with results that have been reported in the online learning literature (for a review, see Moore & Kearsley, 2005; Simonson, Smaldino, Albright, & Zvacek, 2003). For example, in a study of 222 adult learners, Reinhart and Schneider (2001) found that perceptions of the distance learning environment were significantly related to students' overall satisfaction.

### *Educational Implications*

Results from this study suggest some preliminary implications for developers of online training. In particular, instructional designers may do well to consider creating online courses in a way that enhances both their students' valuing of the required learning tasks and their sense of efficacy to complete those tasks. For example, integrating course content with "real-world" issues can not only capture students' immediate interest but can also help them appreciate the broader relevance and importance of what they are learning (Bransford, Brown, & Cocking, 2000). Moreover, students' sense of efficacy can be promoted in several ways, including providing inexperienced learners with achievable online tasks and scaffolding students' self-regulation by embedding timely and explicit feedback into all self-paced course activities (Bandura, 1997; Zimmerman, 2000). Although none of these suggestions are unique to online learning, they are considered by many to be "best practices" for all types of instruction (American Psychological Association, 1997; Bransford et al., 2000).

Furthermore, because perceived instructional quality seems to be an important predictor of students' overall satisfaction, course designers may want consider employing high-quality design elements in their online courses in order to boost perceived instructional quality. The common practice of simply transforming face-to-face training into low-quality, "page-turner" instruction is likely to be a completely inadequate approach. Although more research is needed,

the use of high-quality design elements may help course designers as they strive to develop satisfied, lifelong learners who will *choose* to use online learning resources (Bonk & Wisner, 2000). In the end, however, more research is needed to determine if these preliminary design suggestions are capable of positively influencing students' satisfaction and, ultimately, their academic performance in self-paced, online situations.

### Limitations and Conclusions

The results of the present study were strictly correlational in nature; therefore, one cannot infer causality from the observed relationships. Although the findings suggest fairly robust relations between the measured variables, the direction of influence between the independent variables and outcome measure is a bit ambiguous, and thus more controlled research is needed before definitive pathways can be established.

Another limitation in this study was the application of a self-report instrument to measure the various constructs from social cognitive theory. Like any survey, the instrument used has reliability and validity limitations. In particular, social desirability bias and response sets are considered significant threats to the construct validity of any self-report instrument (Thorndike, 2005). Additionally, construct validity can be threatened when all variables are measured using the same method (i.e., mono-method bias; Shadish, Cook, & Campbell, 2002). Future research that includes more direct, behavioral measures would help clarify how students' attitudes impact their actual choices regarding self-paced, online learning.

Despite these limitations, results from the present study provide insight into the relationship between motivational beliefs, perceptions of instructional quality, and overall satisfaction. Consistent with social cognitive models of self-regulation, findings support the view that students' satisfaction with an online course can be explained, in part, by their motivational beliefs and attitudes toward the learning task. These findings suggest that online course

developers should develop their instruction using high-quality design elements that help learners not only appreciate the value or importance of content or skills but also support and scaffold their attempts to master them.

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Predicting Satisfaction with Online Training  
Appendix

Items from the Task Value, Self-Efficacy, and Instructional Quality Subscales

**Task Value (alpha = .85):**

1. It was personally important for me to perform well in this course.
2. This course provided a great deal of practical information.
3. I was very interested in the content of this course.
4. Completing this course moved me closer to attaining my career goals.
5. It was important for me to learn the material in this course.
6. The knowledge I gained by taking this course can be applied in many different situations.

**Self-Efficacy for Learning with Self-Paced, Online Training (alpha = .87):**

1. Even in the face of technical difficulties, I am certain I can learn the material presented in an online course.
2. I am confident I can learn without the presence of an instructor to assist me.
3. I am confident I can do an outstanding job on the activities in a self-paced, online course.
4. I am certain I can understand the most difficult material presented in a self-paced, online course.
5. Even with distractions, I am confident I can learn material presented online.

**Instructional Quality (alpha = .87):**

1. The course was easy to navigate.
2. The interactive portions (not the end-of-module quizzes) helped me learn the material.
3. The course materials prepared me well for the quizzes.
4. The end-of-module quizzes were easy to understand.
5. The end-of-module quizzes helped me learn the material.
6. The instructional graphics helped me understand the material.
7. I liked the way the course "looked" (colors, decorative graphics, fonts, etc.)