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Using Cognitive Assessment Testing to Evaluate and Improve a University Program in Communication Studies

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WHEN our department began the state-mandated assessment process nearly ten years ago, the program-related communication assessment measures available were limited (e.g., in Larson, Backlund, Redmond, and Barbour, 1978; and Rubin, Sisco, Moore, and Quianthy, 1983). Campus-wide assessment of communication skills was underway on some campuses (e.g., Loacker, 1981), but because there was no measure of media and speech communication competence to meet our localized needs we opted to develop our own measures. The same kind of process has taken place in many colleges around the country (e.g., Morreale, 1990; Morreale, Moore, Awtry, Taylor, Tatum, & Morley, 1991). In our case, however, the lack of funds to pay for testing, our concern about the measures available, and the need for assessment directly relevant to our specific program were key factors in our decision to develop our own assessment testing. There is now evidence to suggest that standardized testing may not be the most appropriate way to assess student learning and faculty should develop localized measures (Seybert, 1994). Nationally normed standardized tests will undoubtedly establish a core of competencies that communication educators share in common. However, national standards alone may fail to identify the emphasis that individual departments and individual faculty members place on particular competencies. Furthermore, locally developed tests offer both departments and faculty the opportunity to evaluate individualized learning approaches that standardized testing may fail to tap. Additionally, in our department, developing a local test has enabled the faculty to work more closely in monitoring its required core, including course content, course objectives, and communication competencies that underlie the required core.

We concur with those who suggest that assessment must be behavior-based, such as the assessment conducted by Rubin (1982) in her Communication Competency Assessment Instrument and the National Teacher Examination administered by the Educational Testing Service. We also concur with those who remind us that assessment should not emphasize

technique over content (Hunt, 1990) and that cognitive learning also should be used to assess a learner's understanding of technique (Litterst, 1990; Wolff, 1986). As part of the complex assessment process, we believe that a localized element can be extremely beneficial. Perhaps the most important contribution we can make is to share our experience in developing a local cognitive assessment instrument. We found certain aspects of the process gave us useful information, and that is what we want to discuss here. We do not suggest that other departments model either our assessment program in general or our cognitive test in particular. Rather, we encourage departments to view assessment as an opportunity to identify pedagogical and administrative practices that may enhance the learning process of students. One of the most important aspects of our assessment program on which we wish to focus is the potential it has provided for program improvement. Our cognitive test has informed the department on steps that it might take at both the point of advising and curriculum development, and has precipitated changes that have improved our program on various levels.

For instance, the initial development of our cognitive assessment revealed that several factors mediated test performance. Among those factors included enrollment in an internship and full-time versus part-time employment while enrolled in undergraduate study (Neer, 1989). Because an internship and part-time employment positively impact on test performance, we routinely advise students to carefully map their program of study with these and other factors in mind. Curriculum development also has been directly influenced by assessment testing. Our department recently restructured its required core courses to include additional instruction in several communication competencies in which students were found to be deficient (Aitken & Neer, 1992a). These are only a few of the changes we have introduced with the assessment process we initiated in 1987 and continue today. This article will, therefore, attempt to demonstrate how assessment may be used to empower both faculty and students by offering pedagogical and administrative strategies that enhance student learning.

Operationalization of Communication Competency Test Components

The faculty limited its cognitive test, the Pre-Communication Assessment Measure (Pre-CAM) to the four competencies—critical thinking, interpersonal, decision-making, and theoretical competencies—common to two of five required courses (i.e., students must complete public speaking and introduction to communication theory prior to enrolling in upper-divisional course work). We limited assessment to these two courses because each is required prior to enrollment in upper-divisional courses, including three additional required core courses in interpersonal and group communication, media and culture, and research methods. We initially assess students in these two courses so that the department may determine what students have retained from these cornerstone courses and whether additional instruction in particular competencies should be incorporated into the three upper-divisional required core courses.

Our cognitive testing of competence, although more narrowly defined than the Speech Communication Association's list of well over 100 competencies, is consistent with its established components of competence. It is not our intention to offer finite, absolute, or all-inclusive definitions of the competencies we test. Indeed, several of the competencies do not reflect discrete categories, such as in the case of empathy, supportiveness, and immediacy, each of which share a large degree of both empirical and conceptual overlap. Nor is it our intention to suggest that cognitive or behavioral competence ensures predetermined communication outcomes. For instance, although self-disclosure frequently appears on lists of competence, research has demonstrated that self-disclosure does not ensure communication success, including interpersonal growth or relational development (see, for example, Spitzberg and Cupach, 1989). The competencies described below have been defined on the

basis of broadly based communication behaviors (in the case of critical thinking competence and decision-making competence) that are central to interpersonal, group, and public contexts of communication, on the basis of abstract generalizations relevant to several communication contexts (in the case of theoretical competence), or on the basis of knowledge of a particular context (in the case of interpersonal competence).

For instance, critical thinking competence required students to identify main points and assertions of an argument, the most specific linguistic term to express a point, as well as locate fallacies within an argument. Decision-making competence focused on selecting the most effective organizational patterns for particular speech topics, adaptation of specific topics to particular audiences, and identifying appropriate methods of problem-solving and consensus-building within a small group. On the other hand, interpersonal competence focused on methods of managing interpersonal interaction, understanding the role of non-verbal processes, conflict mediation, and perceptual judgment processes. And finally, theoretical competence focused on identifying premises of major theories of communication, ordering steps in the research process, identifying research findings associated with major theories of communication, and defining major communication constructs. Thus, this study did not attempt to develop test items to cover every component defined in the four competencies described below. Instead, we selected seven to nine test items that broadly defined each competency.

With these qualifications and broad explanations of the test in mind, the components of our cognitive test will be briefly described.

Critical thinking competence (CT). Critical thinking competence includes the ability to analyze supporting materials, make connections and applications to various contexts, and understand the logic of different thinking patterns. The student should recognize the following process skill objectives: (a) to increase accurate observation and memory, (b) to reflect on one's biases and perspectives, (c) to develop the ability to see various sides of an issue, (d) to increase objectivity, (e) to recognize persuasive language, (f) to analyze premises and conclusions, (g) to recognize fallacious reasoning, (h) to determine important questions to ponder, and (i) to find answers to important questions through independent research and problem-solving skills.

Interpersonal competence (IC). A summary of the research on interpersonal communication suggests ten major areas of competence: self-disclosure, empathy, social relaxation, assertiveness, interaction management, altercentrism, expressiveness, supportiveness, immediacy, environmental control (Rubin & Nevins, 1988). Within this framework, the student should understand the influence of intrapersonal variables, including: perceptual processes, self-esteem and self-confidence, and belief-attitude-value structures. The student should recognize the influential role that intrapersonal processes play in affecting interpersonal outcomes.

Decision-making competence (DM). Decision-making competence includes application of: reflective thinking processes, rhetorical sensitivity, argumentation methods, decision emergence, task process activities, relational activities, topic focus, listening, critical thinking, and developmental processes. The student should be able to determine the most appropriate methods by which to communicate effectively, while applying various communication competencies to the decision-making process.

Theoretical competence (TC). Theoretical competence contains the ability to acknowledge the functions of theories that organize, explain, and describe experience. The student should be able to appreciate going beyond the observable to provide predictive knowledge (to control events) and to stimulate and guide research in the field of communication. The student should be able to identify major paradigms of communication theories within differing contexts.

METHOD

Participants

Participants were 180 students enrolled in a mid-sized, urban, mid-western university. The cognitive assessment was administered to students enrolled in the department's cornerstone course in communication theory. The course is required prior to student declaration of a communication major. The course ("Introduction to the Study of Human Communication") was developed to introduce students to the discipline and included prominent areas of inquiry, theoretical frameworks, and methods of communication research. Students completed the test during the 1991-1992 school year (first year students, sophomores, juniors, and seniors).

Apparatus

The Pre-CAM consists of 33 multiple-choice items over the four competencies previously described. Fifty items were originally developed for the test; seventeen of the items were removed to improve the reliability of the test (see results section). Approximately one-third of the test items examined conceptual generalizations underlying the human communication process. Another fifty percent of the items were situation-specific and required the application of communication concepts and principles in highly contextualized settings. The remaining items tested general knowledge of strategies and methods across more generalized communication contexts. Students not only had to understand the theoretical principles at hand, but to make decisions regarding which theory was most appropriate in each of the situations defined.

Predictor Variables

We have previously established that assessment scores are predicted by grade-point average, enrollment in an internship and full-time versus part-time employment. The present study examined the influence of additional variables on scores on the cognitive portion of our assessment program. These variables were: (1) communication consumption, (2) communication activity preferences, and (3) test incentive.

(1) *Communication consumption measures.* Communication consumption was operationalized as frequency of communication activity engaged in both print and electronic media. Students identified those sections of the paper most frequently read (e.g., editorial page, sports, national news). Print media also included serials most often read by type (e.g., news weeklies, arts and entertainment, general interest). We examined communication consumption on the assumption that it may provide useful information about students' level of social, cultural, and political awareness. Instructors routinely attempt to tap level of student awareness as a means of stimulating attention and interest in course content. Our purpose in testing communication consumption was to determine whether student awareness was related to their assessment scores. From a pedagogical perspective, our purpose was to determine whether media consumption may be adapted to the classroom as an aid in instruction.

(2) *Communication activity preferences.* Students were instructed to select their preferred communication activity along three dimensions: (a) their preferred or most enjoyable interpersonal activity (dyadic vs. social interaction), (b) the level of communication (e.g., interpersonal, small group, public, and mass) that they perceived to be most important in informing their level of social and cultural awareness, and (c) the course assignment on which students perceived they would receive the highest grade (i.e., written assignment, oral assignment, and interpersonal). The decision to test communication preferences as predictors of assessment scores was based on pedagogical grounds. If particular activities

are associated with higher scores, instructors may opt to select those forms of communication that best enhance student attention and interest as prerequisites to learning. Our purpose in testing communication preferences is not to prioritize one activity as more important than another but, instead, to provide students with additional communication experiences that maximize their learning potential.

(3) *Test Incentive.* Hunt (1990) asserted the need for ensuring student motivation when he described the situation at his university. That is, to counter student resistance to taking assessment tests the university provided a monetary incentive for a student to take the test and do well on the test. Our university has not offered a similar incentive but we wanted to test whether an alternative reward incentive could increase motivation. Although the university has mandated assessment testing, our experience over the last ten years has shown that up to 20 percent of students lack motivation to taking the test; some students rush through the test while other students simply decide not to complete certain portions of the test. We therefore decided to offer an incentive value to students who completed the Pre-CAM: half of the cornerstone courses ($n = 2$) were informed that the highest scores (i.e., one to three students) could exempt students from taking the final exam in the course. The other half of the cornerstone courses were not provided this offer, and only were informed that the test was required for the portfolio of all incoming majors.

Analysis

The reliability of the Pre-CAM items was assessed with Spearman-Brown estimates of reliability along with intracorrelations among the four components and correlation between each component and the test composite (i.e., the four summed components). Our intention was to predict overall Pre-CAM composite scores and, more importantly, detect test components that contributed the most variance to composite scores and also to identify those components that yielded significance independent of the composite test score. Thus, ANOVA tested for significant mean differences between levels of all predictor variables. MANOVA was then selected to determine mean significance between the predictors and the four competencies (test components) that comprise the composite score. Findings for which only univariate significance was observed constitutes "data snooping" on our part. The reader should interpret these findings with caution because the results failed to achieve either ANOVA significance with the test composite or MANOVA significance with the four test components. We report these findings only in the interest of informing educators and administrators on the potential impact of communication consumption and communication activity preferences on cognitive performance.

RESULTS

Pre-CAM Reliability

The four competency-component Pre-CAM assessment test yielded an overall reliability coefficient of .71. Individual alphas for the components were as follows: theoretical competence = .56, decision-making competence = .63, critical thinking competence = .70, and interpersonal competence = .69. All four components correlated between .68 and .82 with the Pre-CAM composite ($p < .001$ with two-tailed test). The test components were significantly intracorrelated with coefficients ranging between .26 and .58 ($p < .01$ with two-tailed test) with the theoretical competence component generating the highest intracorrelations (i.e., .40 to .58) with the other three components. Parameter estimates associated with the parallel reliability model yielded a common inter-item correlation estimate of .22. Reliability analyses also revealed squared-multiple correlations ranging from .18 (critical thinking competence) and .21 (interpersonal competence) to .34 (decision-

making competence) and .44 (theoretical competence) among the four test components. Descriptive statistics revealed a grand mean of 20.59 and a standard deviation of 4.91 with a scoring range of 23 (6 through 29). Factor analysis of the four test components confirmed the unidimensionality of the pre-CAM; that is, all four components loaded between .64 and .84 on the unrotated factor (Eigenvalue = 2.17, % variance = 55).

Effects of Communication Consumption

MANOVA significance was observed with two consumption variables: frequency of weekly television viewing (Wilks' = .91, $F = 2.12$, $df = 2.175$, effect size = .05, power = .85, $p < .03$) and frequency of newspaper editorial page consumption (Wilks' = .94, $F = 2.90$, $df = 1.173$, effect size = .06, power = .78, $p < .02$). Univariate tests for frequency of television use revealed that students who viewed television 20 or more hours per week scored lower on the theoretical competence component ($F = 4.03$, eta-squared = .04, power = .71, $p < .02$) and the interpersonal competence component ($F = 5.64$, eta-squared = .06, power = .86, $p < .004$). Editorial page reading resulted in univariate significance with the theoretical competence component ($F = 8.27$, eta-squared = .05, power = .86, $p < .005$). In addition, students who watched weekly news shows scored higher on the critical thinking component than students who failed to view weekly news shows ($F = 4.34$, $df = 1.173$, eta-squared = .02, power = .54, $p < .04$; watch = 4.29, do not watch = 3.76). Table 1 reports mean scores for television viewing and editorial reading frequency with the four test components.

TABLE 1
Effects of Media Consumption

	Component Mean Scores			
	TC	DM	CT	IC
<i>Editorial Page:</i>				
Read	6.75	4.67	4.23	6.02
Do not read	6.05	4.67	3.92	5.68
<i>Weekly Television Use</i>				
0 - 2 hours	6.11	4.72	4.00	6.50
3 - 15 hours	6.68	4.74	4.08	5.89
16+ hours	5.47	4.13	3.65	4.87

Figure 1
The Communication Assessment Measure (Pre-CAM)

1. The primary purpose of speech making is:
 - a. to display the speaker's knowledge
 - b. to gain experience as a speaker
 - c. to learn more about the speech topic
 - d. to try out new ideas with an audience
 - *e. to gain a desired response from listeners
2. One of the ways speakers analyze audiences is by looking at traits such as age, sex, religion, and group membership. This is called:
 - a. psychological audience analysis
 - b. situational analysis

- *c. demographic analysis
 - d. descriptive analysis
3. As the size of your audience increases, your presentation should usually become more:
- *a. formal
 - b. flexible
 - c. punctual
 - d. extemporaneous
4. If you were giving an informative speech to a general audience about investing in the stock market, the most important factor to consider when analyzing your audience would probably be:
- a. the physical setting for the speech
 - *b. the knowledge of the audience about the topic
 - c. the size of the audience
 - d. the group membership of the audience
 - e. the cultural background of the audience
5. If you were giving an informative speech to a general audience on the presidency of John F. Kennedy (elected in 1960), the most important factor to consider when analyzing your audience would probably be:
- a. religion
 - b. sex
 - *c. age
 - d. economic standing
6. In presenting a persuasive speech to a general audience on the topic of income tax reform, the most important factor to consider when analyzing the audience would probably be:
- a. education
 - b. group membership
 - c. age
 - *d. economic standing
7. To paraphrase is to:
- a. use someone else's idea without giving them credit
 - b. create a new way to describing an event
 - c. violate the standards of ethical public speaking
 - *d. give the gist of someone's statement in your own words
 - e. use testimony for persuasive purposes
8. Which organizational pattern would be most effective for arranging the main points of a speech with the specific purpose to inform the audience about the three basic types of fairy tales:
- a. chronological
 - b. spatial
 - c. problem-solution
 - *d. topical
 - e. all of the above
9. The conclusion of a speech is an appropriate time to:
- a. establish good will
 - b. include supporting materials not used in the body
 - *c. reinforce commitment to the central idea
 - d. apologize for any mistakes made during the speech
 - e. all of the above

10. Arranged in random order below are a main point, a subpoint, and three supporting points from a speech about diabetes. Which is the subpoint:
 - *a. insulin injections are a life saver for many people
 - b. in the future, it may be possible to take insulin orally, without the discomfort of injection
 - c. before insulin was developed in 1921, diabetes was usually a fatal disease
 - d. diabetes can be controlled by injections of insulin and by control of diet
 - e. today, daily injections of insulin allow even severe diabetics to live normal lives
11. Which of the following words is the most concrete and specific:
 - a. Ford products
 - *b. Mustangs
 - c. vehicles
 - d. transportation
 - e. automobiles
12. If you were discussing statistical trends in a speech, what kind of visual aid would you probably use to clarify the trends for listeners:
 - a. a chart
 - b. a map
 - c. a diagram
 - *d. a graph
 - e. a model
13. What error in reasoning is exemplified by the following statement: "This morning I walked under a ladder and this afternoon my bicycle was stolen. If I hadn't walked under that ladder, I would still have my bicycle.":
 - a. false cause
 - b. hasty generalization
 - c. invalid analogy
 - *d. faulty deduction
 - e. circular thinking
14. Which of the following is not an effective way of managing interpersonal conflict:
 - a. recognize that conflicts can be settled
 - b. check your perceptions to make sure you understand each other
 - *c. put a solution into effect without evaluating it
 - d. define and describe the conflict
15. Group members can deal with conflict situations and enhance decision-making in several ways. Which of the following is not an effective method:
 - a. aiming at a consensus
 - b. focusing on ideas and not personalities
 - c. looking for and building areas of agreement
 - *d. suppressing conflict so it does not get out of hand and interfere with decision-making
16. When angry we should focus on a person's behavior instead of his or her personality, intelligence, skill, or worth. Theory recommends that we allow both our honest anger and affirming love to show through to others. Given this context, which of the following is the least effective method statement for expressing anger:
 - a. "I don't like blaming or being blamed"
 - *b. "you are trying to run my life"
 - c. "I am angry"
 - d. "I feel rejected"

17. Some people are more successful than others in initiating conversation. The person who is successful is most apt to:
 - a. talk a lot, with a fairly rapid rate
 - b. disagree or argue freely to stimulate discussion
 - *c. ask open-ended questions
 - d. keep compliments to him/herself
18. According to research, which of the following is false regarding expressing feelings verbally:
 - a. to experience emotions and to express them to another person is not only a major source of joy, it is also necessary for one's psychological well-being
 - *b. problems arise in relationships because we have feelings
 - c. if you want to communicate clearly, one's verbal and nonverbal feelings should agree or be congruent
 - d. when one is unaware or unaccepting of your feelings, or when you lack skills in expressing emotions, your feelings may be communicated indirectly through commands, sarcasm, and accusations
19. In perceiving people and stereotyping, researchers have explained how we observe and interpret the behavior of others. Which of the following is not one of their findings:
 - a. we attend most closely to the unusual in behavior, and we do so, apparently, in order to learn, to gain sufficient information about the person performing this unusual behavior so that we may anticipate how he or she is going to behave in the future
 - *b. in most situations, there is simply more information than we can handle
 - c. what we notice about ourselves and what we choose to tell another person about ourselves are usually those things that are common in our customary environments
 - d. once we have classified two people into different categories, we may exaggerate the differences between them and ignore similarities
20. Which of the following statements is false:
 - *a. more communication is always a good thing
 - b. communication aids in satisfying many of our needs
 - c. meanings rest in people, not words
 - d. noise or communication interference can be internal or external
21. Which communication activity do people engage most often:
 - a. speaking
 - b. touching
 - *c. listening
 - d. reading
22. In which situation would empathic listening be most beneficial:
 - a. listening to a professor's lecture
 - b. listening to a campaign speech
 - *c. listening to a friend's problems
 - d. all of the above
 - e. none of the above
23. One of the ways we perceive others is to attribute or infer intentions to others based on our perception of their personality:
 - *a. True
 - b. False

24. Words do which one of the following that nonverbal communication cannot do:
- words can express emotions better than nonverbal cues
 - *b. judgments and opinions must be clarified through words rather than nonverbal communication
 - nonverbal communication is more precise than verbal cues
 - words cannot communicate abstract ideas as easily as nonverbal cues
25. Language usually plays only a minor role in how we think about or perceive a particular group of people:
- True
 - *b. False
26. One of the following is true regarding nonverbal communication:
- *a. it is culturally determined
 - it carries more meaning than verbal communication
 - it is easier to interpret than verbal communication
 - most of our nonverbal communication is intentionally controlled
27. Communication competency may be described as:
- the ability to demonstrate knowledge of appropriate communication behaviors in specific situations
 - actual language performance and the achievement of interpersonal goals
 - responsible participation by an individual in a transaction which leads to maximized outcomes of shared meaning
 - *d. all of the above
 - only A and C
28. Physiological needs, safety and security needs, love and social belonging, esteem and prestige, and finally reaching one's highest level of self-actualization are elements:
- *a. relating to Maslow's hierarchy of needs
 - defining Skinner's theory of radical behaviorism
 - pertaining to Herzberg's motivation theory
 - none of the above
29. Satisfaction with a work supervisor:
- *a. correlates with the communication competence of both the subordinate and the supervisor as perceived by the subordinate
 - depends on how well the organization has complied with the tenets of motivation-hygiene theory
 - correlates with salary level
 - depends on length of experience in interactions between the supervisor and subordinate
- (30-33.) The goal of the scientific method is to generate explanatory hypotheses that may be tested through careful observation. The four statements below describe the necessary steps. Match the description with its chronological place in the scientific method.
- step one
 - step two
 - step three
 - step four
30. Deduce other results from the method. Find other causes that fit and make predictions.
(d)

31. Look at the facts and develop a general explanation from which the observed facts may logically be reduced. Speculate about the processes which might have produced the results. (c)
32. Decide whether the implications produced are true. Conduct research to determine whether the facts should be rejected or refined. (b)
33. Observe some facts. These facts should be related to other facts and be repeatable. These are called phenomena. (a)

Effects of Communication Preferences

Several communication preference variables approached MANOVA significance with the four test components. Before determining whether to report these findings, ANOVA first was conducted with the Pre-CAM composite. Our concern rested with identifying which Pre-CAM components influenced the Pre-CAM composite. Thus, MANOVA tests that approached significance are reported for those consumption variables that yielded a significant ANOVA with the Pre-CAM composite.

One communication preference variable yielded ANOVA significance with the Pre-CAM composite. The communication medium perceived to be the "most informative" yielded significance with the Pre-CAM composite ($F = 4.61$, $df = 1.170$, effect size = .026, power = .57, $p < .03$) and approached MANOVA significance with the four test components (Wilks' = .94, $F = 2.26$, eta-squared = .05, power = .65, $p < .06$). Univariate significance was observed with the decision-making component ($F = 4.46$, eta-squared = .03, power = .55, $p < .04$; interpersonal = 4.24, public/mass = 4.77). This finding demonstrates that students who perceive mass or public communication to be the most informative communication medium scored higher on the decision-making component.

The communication medium that students perceived as "most enjoyed" approached significance with the test composite ($F = 3.53$, $df = 1.178$, eta-squared = .02, power = .46, $p < .06$) but failed to achieve MANOVA significance with the four test components. However, ANOVA significance was observed with the interpersonal competence component ($F = 6.54$, eta-squared = .04, power = .72, $p < .01$; interpersonal = 5.91, public/mass = 5.03). Students who preferred dyadic communication to other forms of interpersonal communication (i.e., social gatherings and activities) also scored higher on the interpersonal competence component ($F = 4.93$, $df = 1.123$, eta-squared = .04, power = .59, $p < .03$; dyadic = 6.14, other = 5.52). Preferred course assignment (on which students thought they would perform the best) also approached MANOVA significance (Wilks' = .91, $F = 1.90$, $df = 2.165$, effect size = .045, power = .80, $p < .058$) and univariate significance with the interpersonal competence component ($F = 3.53$, eta-squared = .04, power = .65, $p < .03$; written assignment = 6.24, oral assignment = 6.04, interpersonal assignment = 7.03). That is, students who perceived their grade performance to be enhanced by interpersonal assignments, scored higher on the interpersonal competence component.

Test Incentive

Reward value yielded significance with the test composite (Wilks' = .88, $F = 2.59$, $df = 1.88$, effect size = .11, power = .71, $p < .05$). Although achieving MANOVA significance, two of the test components only approached univariate significance. Students provided with the test incentive—possible exemption from the course final examination—scored higher on the theoretical competence ($F = 2.83$, eta-squared = .03, power = .48, $p < .09$; Reward = 6.31, No Reward = 5.75) and the interpersonal competence components ($F = 3.17$, eta-squared = .04, power = .52, $p < .08$; Reward = 5.84, No Reward = 5.18).

DISCUSSION

Results from this study and previous studies (Aitken & Neer, 1991, 1992a, 1992b, 1993, 1994) are assisting our department in developing a profile of factors that influence cognitive assessment scores in particular and, perhaps, student learning in general. In addition to internship enrollment and part-time employment status, the present study adds test incentive and select measures of communication consumption and communication preferences to that profile of factors. Findings across these studies has enabled our department to take the needed steps at the level of advising and program structure to help mediate the impact these factors have on student learning.

Linking testing directly to communication consumption has excellent potential for analysis. The analysis of a student's communication consumption and communication preferences outside the classroom provides a more interactive method of assessing competency level. Although the predictor variables tested in this study failed to consistently affect Pre-CAM scores, select findings may inform classroom teachers on ways to relate course material to students' interests, tap their reservoir of knowledge during class discussion, and stimulate students to raise questions in class. This information may provide ways to adapt course content to students and motivate them to redirect part of their communication consumption and activities to sources that strengthen their communication competence.

Although analysis of communication consumption and activity has predictive value, one cannot assume that a relationship indicates causation. Faculty can explore, however, the effect of using instructional materials to which students easily relate. In addition, faculty can encourage use of media consumption and communication activities that may lead to higher competency levels. We are not prepared to outline all that should be done on this issue, but this kind of assessment may lead to improved student communication competence. For instance, the viewing of weekly television news shows has a small but positive effect on critical thinking competence. Thus, in a course in rhetorical criticism or persuasion, for example, students could be assigned to analyze a weekly news show or an editorial. Our intention is not to alter communication consumption habits but to redirect some of the time that students spend on television viewing to programs that will reinforce and extend classroom learning.

Findings for preferred communication activity further reveal a small, but detectable impact on assessment scores. As findings in the present study indicate, students who prefer dyadic interaction over other forms of interpersonal interaction scored higher on the interpersonal competence component. Again, we do not want to infer causation because it could be argued that students who prefer dyadic interaction may also be more interpersonally aware or disposed than their counterparts. A similar case may be made with the communication medium perceived to be the most informative and with the communication assignment on which students perceived they would perform the best. That is, it is not surprising that students who prefer interpersonal assignments would score higher on interpersonal competence. For these students, their scores reflect those competencies on which they devote the most attention because of their level of skill and/or interest. On the other hand, what may be surprising is that reported differences between students (e.g., those who read vs. those who do not or those who prefer interpersonal assignments vs. those who do not) failed to reveal overwhelming differences in test scores. Until additional studies report larger mean differences (and stronger effect sizes and power estimates) we cannot state beyond conventional wisdom that the variables we have tested in this study consistently impact on students' learning experience.

Nonetheless, we should expect students to perform at their best on which they know the most or spend the most time. Thus, one of the implications of these findings is that

students who do not prefer interpersonal and group activities also may experience an increase in decision-making competence and interpersonal competence if directed toward these same activities. Whether instructors should or should not attempt to redirect students toward these activities involves an ethical decision. However, one issue to consider in this decision is what students will be expected to know in the workplace. As one survey of human resource managers indicates, (Curtis, Winsor, & Stephens, 1989), employers seek prospective employees who are both interpersonally competent and competent in decision-making. Thus, instruction in interpersonal competence might be further enhanced by incorporating dyadic and group methods of instruction in several upper-divisional courses.

A small, but consistent, problem in our assessment testing has been student motivation. We have made participation voluntary because we want to avoid sabotaged results. While some departments have chosen to require certain test scores to graduate, we believe there are ethical problems in doing so when students had no such requirements upon entering the program. We value the "helping-faculty" nature of assessment we now enjoy over a more "punishing-students" approach inherent in requiring a particular test score. An award for the highest student score or other positive approaches may prove more beneficial in obtaining the information needed to assess our program adequately (e.g., a citation on student's diploma and a certificate from the chair and dean that acknowledges this level of achievement). Students may find this recognition useful to cite on their resumes. The use of a grade incentive—possible final examination exemption in this case—has shown that external motivational devices help increase student performance on assessment tests. Findings for test incentive are extremely important because departments need assessment testing to yield the most accurate results possible when reporting test scores to university administrators.

One of the benefits of cognitive testing that we failed to anticipate is the credibility with which test results are viewed by students. It is one thing to tell students that media consumption will enhance one's learning potential and quite another to provide statistical documentation to that effect. That is, citing test results offers a stronger persuasive rationale than simply offering advise to students that they engage in particular forms of media consumption. While faculty know that students who read may score higher on assessment tests, students may not accept this as more than an assertion unless it is accompanied by statistical evidence. And, the local nature of the results—students' own peers—helps to bolster recommendations we offer regarding media consumption in the classroom as well as individual advising of students out of the classroom.

The Pre-CAM cognitive test we have briefly described in this study is only one set of data we assess. One of the most important functions that the test performs is that of providing quantified evidence that corroborates results of other sources of assessment. University administrators now seem to be more interested in quantitative data than in qualitative data. Cognitive testing fulfills this expectation quite well. In fact, our university, along with many others, now prefers more established quantified data reporting in the form of field tests or standardized tests with national norms. We are uncertain what effect this trend will have on the development of local tests. While the Pre-CAM provides quantified results, it lacks national norms. However, we did not design the test with the intention of developing a national test of cognitive communication competence. Rather, our purpose was to assist us in assessing our required core and diagnosing communication competence across the core. Perhaps the strongest rationale for a local test rests with the ability of faculty within their own departments to develop assessment measures relevant to the unique configuration of their required core and the communication competencies their core services.

Given the uncertain future of local testing at our university and perhaps elsewhere, we still encourage departments to develop tests for their own particular use. While administrators may be more concerned with statistical documentation of learning outcomes, depart-

ments are more concerned with identifying factors that positively impact upon learning. Jensen (1993) offers another rationale for developing locals tests despite the university mandate to report standardized test results (such as the GRE). She argues that we should not necessarily accept institutional logic because it may be based on previously held but now radically challenged assumptions about the knowability of the world (in the case of assessment the belief that a standardized test score is an adequate or even accurate measure of capability or potential) or because institutional logic may be harmful (such as awarding academic units financial rewards based on test scores). While departments may be unable to counter the use to which assessment results are put, they are at least able to provide university administrators with additional data that explains and illuminates test scores. And, in the case of deficient scores, the university should encourage departments—without financial penalty—to invest their efforts at diagnosing deficient test outcomes so that the university at large may benefit from the knowledge gained in understanding what factors affect learning outcomes.

Twenty years ago, the trend of requiring student evaluation of faculty began a process of self-analysis of teaching that is well accepted today. Perhaps the assessment trend is extending the depth of faculty self-analysis, while providing real potential for improved instruction. The assessment process and resulting changes can create a new sense of pride among administrators, faculty, and students. Our specific program is more clearly focused, faculty are engaged in continuous dialog about the improvement of undergraduate instruction, and students are responding to our improved dialog about their learning. The assessment process has enabled faculty to see a larger picture of how their instruction fits into a student's entire learning process, while enabling students to better understand faculty expectations. In our situation, there is a renewed emphasis on our joint responsibility for success.

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