ASSESSING THE EFFECTIVENESS OF WHOLE PERSON LEARNING PEDAGOGY IN SKILL ACQUISITION

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This paper describes a whole person learning experiential/behavioral skill pedagogy developed in an executive skills course. The pedagogy was designed to address recent criticisms of MBA education relative to program relevancy and the skill sets of students entering the workforce. The paper presents an experiential learning model based on the concept of whole person learning, discusses how the model used in the class, and provides an empirical assessment of skill improvement over a five-year period. Using a pretest-posttest with control group design to test student skill levels via an assessment center, the effectiveness of the pedagogy was supported. The skills assessed included communication, teamwork, leadership/initiative, decision-making, and planning/organizing. Guidance is provided for implementing the pedagogy into MBA curricula.

INTRODUCTION

Recent questions have been raised as to the effectiveness and relevancy of business education in general, and MBA programs in particular, in being able to infuse students with the skills needed to function at an executive level in modern organizations (e.g., Pfeffer & Fong, 2002). Bennis and O'Toole (2005) attribute this lack of relevancy to business schools' overemphasis on theory in their curriculum. Mintzberg (2004) makes similar points in his book *Managers Not MBAs*. As an illustration of the importance of this topic, the *Academy of Management Learning and Education* devoted most of an issue to reactions to Mintzberg's assertions of MBA program inadequacy (Nord, 2005). More recently, Graen, Hui and Taylor have stated "our business school curricula have not kept pace with the demand for more realistic education" (Graen, Hui & Taylor, 2006: 448).

Questions Relative to Student Skill Levels

As a function of MBA programs' purported curricular inadequacies, there is concern as to whether MBA programs are producing students that have the attributes and skills desired by organizations that hire MBA graduates. For example, a September 2003 *Wall Street Journal*/Harris Interactive survey rated student and program attributes most desired by recruiters *(Wall Street Journal*, 2003). Of the 26 attributes identified by recruiters, the top three are examples of what we would label as desirable executive skills. The percentage of recruiters rating the attribute as "very important" was: (1) 89%-- communication and interpersonal skills, (2) 87%-- ability to work well within a team, and, (3) 85%-- analytical and problem-solving skills.

Boyatzis, Stubbs, and Taylor (2002) found that MBA students could acquire cognitive and emotional intelligence competencies, but not as part of a typical MBA curriculum. Kolb and Kolb (2005) make similar assertions and call for "learning space" in curriculum design. In discussing experiential learning, they state, "Space needs to be created in curricula for students to pursue such deep experiential learning in order to develop expertise related to their life purpose" (Kolb & Kolb, 2005:209).

Project Genesis

The genesis for the executive skills project at our university began as an attempt to design a course to help MBA students develop skills. The motivation for the course came from employers who expressed desire for students who could communicate effectively, work in teams, handle interpersonal problems, and resolve conflicts. Our initial approach was to apply the Learned-Behavior Model (Hunt & Sorenson, 2001), which allowed students "to examine personal assumptions and paradigms related to implementation" (Hunt & Sorenson, 2001: 4). A limitation of our early approach was that the exercises occurred more or less in a vacuum. Students had difficulty attaining an appreciation of their skills and in finding opportunities to apply the skills. Therefore, we sought an approach that would assess initial skills and measure degree of improvement.

An intent of the course was that students would participate in an assessment center as a learning exercise with skill-specific feedback. We became convinced that a fully developed assessment center, used as a pretest and posttest, would allow us to establish a skill baseline, measure improvement, organize exercises and modules around assessment center activities, and provide specific individualized behavioral feedback. Because of these priorities, the assessment center evolved into a fulcrum for the entire pedagogy. As the executive skills course continued to

evolve, the intent behind our approach remained unchanged. The data presented in this paper is an analysis of the results since we adopted the pretest/posttest use of the assessment center, which served as our measure of skill acquisition.

Our Approach to Whole Person Learning

Many MBA graduates likely possess the cognitive skills needed to enter executive level jobs, but may lack the ability to demonstrate on demand a total set of learned behaviors that could be labeled as executive skills. In other words, the possession of a set of cognitive schemas is not the same thing as the possession of a set of behavioral repertoires. Therefore, it is quite possible that an MBA graduate possesses a strong cognitive knowledge set, but lacks both the skills and cognitive schemas necessary to function at the professional executive level. Therefore, at a minimum, MBA educational programs targeted to producing skilled executives should focus on developing executive skills that include the cognitive perspective, but also contain behavioral capacities. Menkes (2005) asserts that executive skills can be taught. He asks, "Can executive skills be taught? Absolutely. Like any set of skills, it can be learned, practiced, and improved" (Menkes, 2005:263).

It is the assertion of this paper that behavioral skills, associated cognitive schemas, and the emotional commitment needed to support such skills can be accomplished through the application of experiential methods based on whole person learning emphasizing behavioral skills to executive skill development in an MBA program. In a whole person learning format, the acquisition of behavioral skills must be accompanied by two closely linked emotional components—an emotional commitment to the application of newly acquired skills and a level of emotional control and emotional management necessary for successful application. Finally,

whole person learning includes associated cognitive schemas that provide requisite skill content and context.

In the following sections, we will elaborate our interpretation of whole person experiential learning as it relates to the acquisition of executive skills. In doing so, we rely heavily on the concept of whole person learning (Rogers, 1980). The pedagogy as designed and adopted in this study contains no experiential learning elements that have not been addressed in numerous other research studies. What was unique in this research was that the experiential learning framework was a set of specific foci. Our focused approach to whole person learning was intended to be comprehensive and rigorous with the elements of: 1) a focus on high intensity learning, 2) personally responsible students in an environment designed to benefit from aspects of adult learning and andragogy, 3) a whole person learning orientation with the multiple learning dimensions of cognition, emotion, and behavior, and, 4) utilization of both direct and vicarious learning dynamics designed to yield active involvement. Further, the experiential exercises listed and briefly described in Table 1 were specifically designed to focus on the skills that were designed into the assessment center and measured by the assessment center.

Throughout this explication, we make a series of arguments underlying our contention that whole person learning, when combined with an assessment center for skill measurement, is effective and necessary for executive skill development. We then hypothesize that our pedagogy results in acquisition and retention of the skills measured by the assessment center. We then describe a field study that tested and found support for our hypothesis. We conclude with a discussion of our findings, limitations of our study, and implications for research and teaching practice.

WHOLE PERSON LEARNING AS AN EXTENSION OF EXPERIENTIAL LEARNING

In this section, we elaborate on whole person learning as a related extension of concepts associated with experiential learning. We then provide a formal definition of whole person learning.

Experiential learning is conceptualized in our research and in the application described here as a method of education which has a learning impact on the whole person, including emotion (affect) and behavior in addition to cognitive stimulation (Rogers, 1980). That is, experiential learning functions integratively, combining the emotional/affective and behavioral domains with the cognitive domain always found in educational processes (Boyatzis, Stubbs & Taylor, 2002). For example, Boyatzis, Cowen and Kolb (1995) utilized aspects of whole person learning as key design components in their MBA program design efforts at Case Western Reserve University. If whole person, experientially-based learning is utilized in executive skill acquisition, the question arises as to how to complete the learning cycle from cognitive awareness to the demonstration of acquired skills. From a whole person learning perspective, the intellectual/cognitive, emotional/affective, and behavioral elements occur simultaneously to some extent on all three dimensions (Rogers, 1980). Moreover, these elements of learning may occur sequentially or reciprocally as well.

A potential strength of the whole person model is that it stages receptivity to knowledge transfer because it engages multiple learning dimensions (Hoover, 1999). Learning more likely occurs when students are engaged. In essence, learning does not occur until the learner makes it happen. As Patricia Cranton states "…an educator can do nothing to ensure transformative learning. Learners must decide to undergo the process; otherwise educators indoctrinate and

coerce rather than educate" (Cranton, 1994:166). Boyatzis, et al (1995) make a similar point, stating "you can lead students to an experience, but you cannot make them learn" (Boyatzis, et al, 1995: 235).

Part of engaging students is helping them make sense of their experience. Thus, whole person learning design should make cognitive framing prominent in experiential exercises. Helping students interpret their experience has been described as cognitive mapping (Huff and Jenkins, 2002) of the learning terrain. Cognitively framing the experience helps students integrate learning with sensemaking (Schwant, 2005). It helps students view exercises as more than a random learning experience and increases the likelihood of skill development and lasting change.

The intent of whole person learning techniques is to produce high involvement learning. High involvement learning includes skill practice, learning by doing, and learning by observing (Bandura, 1977; Manz & Sims, 1981). Thus, it includes the cognitive, emotional and behavioral elements consistent with whole person experiential learning. As Lengnick-Hall and Sanders (1997) note, "To create a high-involvement learning system, student co-producers can be provided with information, knowledge, power, and rewards that enable them to more effectively manage learning transformations" (Lengnick-Hall & Sanders, 1997: 1339).

Experiential learning approaches essentially combine the processes of learning with the content of learning. Piaget (1980) posits that one of the central problems of intellectual development is finding equilibrium between two processes: (1) assimilation, a process wherein new experience is shaped to conform to existing knowledge structures, and (2) accommodation, a process wherein the structures themselves change as a result of new experience. To the extent that any educational process is participative and involves the target-learning person, it can

address both of these outcomes. To accomplish such outcomes, the designers and users of experiential learning methods focus deliberately upon the learning dynamics inherent in the process dimension. This focus on process is an attempt to achieve learning and insight from the "how" as well as the "what" of the instruction or training.

Experiential learning is often defined as learning by doing. However, simply learning by doing does not address whether or not the "doing" produces meaningful outcomes, nor does it guarantee the integration of experience across cognitive, emotional and behavioral components. The following definition is designed to fit the more specific whole person learning process used in this research:

> Whole person learning exists when a personally responsible participant, exposed to both direct and vicarious modes of participation, cognitively, emotionally, and behaviorally processes knowledge, skills and/or attitudes in a high intensity learning situation characterized by a high level of active involvement.

This definition ties together the previously introduced concepts and introduces the prescriptive personally responsible role of the adult learning individual – one of autonomy and self-direction (Brookefield, 1990; Forrest & Peterson, 2006). This autonomy, a situation wherein the student, and not the instructor, becomes responsible for designing and implementing the learning goals, is a key component of the executive skill development program described in this research.

One weakness of emphasizing the student responsibility approach is inflated self-assessment associated with utilizing self-assessment criteria (Kruger & Dunning, 1999). Overconfidence can lead to insufficient emotional arousal and a failure to integrate a cognitive or behavioral experience into the learner's schemas and repertoires. To combat this potential pitfall,

we often require students to do a whole person feedback reaction paper at the conclusion of exercises or learning modules. This paper functions as a mechanism for instructor feedback, allows for a final integration of developmental experiences, and keeps the learning outcomes focused on intellectual realizations, emotional insights, behavioral breakthroughs, and future focus applications. Additionally, we generally ask students at the onset of the semester to self-report their *a priori* skill level on executive skill dimensions; thus when feedback from exercises and modules is provided, the potential for dissonance and increased receptivity to subsequent learning content is enhanced.

Management educators have traditionally focused primarily on the cognitive aspects of learning even when addressing executive skill components, and have tended to use traditional techniques grounded in the lecture format. This paper recognizes such an approach can produce a one-dimensional, low intensity learning experience on the cognitive/intellectual dimension. In contrast, experiential learning emphasizing whole person learning simultaneously activates cognitive, behavioral, and emotional dimensions of learning and behavioral change necessary for skill acquisition. Because the behavioral and emotional dimensions emphasized in our pedagogy are often overlooked in traditional pedagogy and are prerequisites for integration of executive skills into behavioral repertoires, we contend:

> Hypothesis 1: A high intensity experiential learning pedagogy based on concepts of whole person learning, personal responsibility and active involvement is positively related to observable managerial skill acquisition as measured by skill components derived from an assessment center.

METHODS

Our dataset consisted of 485 incoming MBA students at a large public university who completed a required course in executive skills in the traditional 15-week format. A Hadi outlier test was conducted because graphical inspection of the data indicated that two students diligently completed their first assessment center but made absolutely no effort on the second assessment center. The test identified these students, who were subsequently dropped from our analyses, leaving a final sample of 483 students. Of these, 420 were MBA students exposed to the experiential teaching pedagogy in a course focusing on the acquisition of executive skills. Our students were enrolled in 19 different sections of the course, which is required of all MBA students in this program, over a five-year period. Six different instructors taught the sections.

Research Design

Our research design is a quasi-experiment. Because our sample relied on students engaged in required coursework, we could not randomly assign individual students to treatment (exposure to experiential/whole person pedagogy) versus control (traditional pedagogy) groups. Those who received the pedagogy commenced by participating in an assessment center pre-test in the first or second class meeting (prior to any formal instruction), followed by behavioral skills teaching interventions spanning 8-10 weeks, and concluding with an assessment center post-test. Behavioral activities and modules were administered during the teaching modules; generally, one week was allocated per assessment center component. Control groups received the assessment center pre- and post-tests, but the intervening modules, while comprised of similar topics to that experienced by treatment groups, were taught using traditional, lecture-based techniques.

The pretest/posttest format had the benefits of: 1) establishing a baseline measure of skill level, 2) focusing upon selected skill areas as learning targets (these were active communication,

teams and teamwork, decision-making, leadership initiative, and planning/organizing), and, 3) establishing a post-treatment measure of skill level. The two assessment centers were identical in format but varied in content. This allowed for consistent skill assessment while providing a differing set of performance challenges. This also minimized test-retest effects.

The assessment center utilized to identify skill acquisition levels was the commercial product entitled the Iliad Assessment Center developed by Bommer and Bartels (1996). This assessment center measures the skill components of the five learning targets listed in the previous paragraph. The content of the executive skills course between the two assessment center administrations was to teach managerial skills identified and measured in the initial assessment. The Iliad skill measures are derived from a series of behavioral activities students complete as part of the assessment center. These behavioral activity components consist of: 1) an in-basket, 2) a team meeting for an executive hiring decision, 3) a team meeting to discuss customer service initiatives, and 4) an individual speech. Both team meetings and the individual speech were videotaped for subsequent rating; the written portion of the in-basket was subjected to a content analysis. This process yields a score for each student on the behavioral activity components just mentioned as well as individual scores derived from assessing the target measures of active communication, teamwork, decision-making, leadership initiative and planning/organizing.

The raters used for this study were employed by the developers of the Iliad Assessment Center and were completely blind to the identity of the students (they are in different states and have no personal connections) as well as blind to the experimental condition. All raters were either current or former students in a master's in industrial psychology program and are paid for their rating. Raters receive frame of reference training and rate in pairs. Conflicts between raters

are settled through reviewing the tapes and reaching agreement. These raters had an average of one year of rating experience and routinely rate students using the Iliad Assessment Center.

The Iliad Assessment Center has been validated and employed in other published studies and is discussed in detail by Rode et al. (2005). From the student's perspective, the assessment center experience is 145 minutes long and is an integrated "day-in-the life" in a management level position. There are five dimensions (i.e., planning/organizing, communication, decision-making, teamwork, and leadership/initiative) rated in the assessment center. The raters use proprietary behavioral checklists and are trained to reach consensus on the presence, absence, and sometimes magnitude or effectiveness of the specific behaviors. Readers desiring more information on the scoring and norming of the assessment center should contact the fourth author. Use of the assessment center on a pre-test/post-test basis allowed for comparison of student performance across the behavioral components and the assessed managerial skills. Each skill acquisition module between the pre- and post-tests was conducted in a comprehensive whole person experiential learning format combining: 1) cognitive frameworks, 2) skill component identification, 3) opportunity for skill internalization, 4) behavioral practice, and 5) collective and individualized feedback on process and outcomes of the behavioral exercise. Some exercises had both direct and vicarious/observational experiential components. Table 1 lists learning components utilized in the pedagogy.

Insert Table 1 here

Variables and analyses

Assessment center scores were provided for each student for both pretest and posttest and compared to an extensive database (i.e., over 5,000) of students and professionals who had

experienced the center. The raters provided the raw scores via the behavioral checklists via the process provided earlier. From these raw scores, normed percentiles were derived for overall performance as well as for each of the five dimensions (leadership, communication, planning/organizing, decision-making, and teamwork). For example, a score of 70% in leadership indicates that the student scored higher than 70% of his or peers on behavioral effectiveness in this dimension. The same six outcome measures constituted the second assessment center administration (the posttest) --- overall performance plus each of the five dimensions.

Thus, our *dependent variables* were the post-test percentile score for a given student either on the overall assessment center performance or on one of the five assessed skill areas. Our *independent variable* identified exposure to the treatment via a dummy variable for exposure to whole person learning pedagogy, and equaled '1' for those exposed to the pedagogy, and '0' for those who took the pre- and post-tests but were not exposed to the pedagogy in the interval between the tests.

In the final year of data collection, we used a control group of 63 students who were exposed to the assessment center pre-test and post-test spaced similarly apart in time, but were presented management concepts and principles in a traditional, lecture-based pedagogy. Our *control variables* included the pretest scores for the corresponding dependent variable (overall or specific dimension), which was crucial in not only controlling for pre-existing differences but also for any possible regression to the mean effects. We also developed a categorical variable to reflect the identity of each instructor of a given section, thus making it possible to control for any between-instructor variability in the pedagogy or effectiveness. Finally, we controlled for the

academic year in which the class was administered. To test our hypotheses, we employed ordinary least squares (OLS) regression.

RESULTS

Descriptive statistics and correlations between all variables are presented in Table 2. Table 3 presents average scores for treatment and control groups for the pre-test, post-test, and improvement.

Insert Tables 2 & 3 about here

Overall, substantial improvement from pre-test (57.57) to post-test (75.69) was noted in the sample as a whole. Recall that overall and dimensional scores were in percentile format, with higher percentiles indicating greater observed behavioral proficiency relative to the larger database of Iliad participants. Teamwork was the only dimension that did not show improvement (48.61 pre-test, 48.40 post-test). Our research did not hypothesize or even expect that all five skill dimensions would show statistically significant increases. The assessment center, as it is videotaped for skill behaviors and content scored for written memos, has a fixed time limit of 145 minutes in every application. Therefore, it could be possible for students to devote a percentage of their efforts to one skill set (e.g., decision-making and prioritization) such that other dimensions could potentially be "short changed." The fact that four of the five dimensions showed significantly significant increases while teamwork remained unchanged, is strong evidence of student overall skill development. It is also possible that our students' lack of work experience could have channeled their efforts in directions that were prone to be more individualistic in nature as opposed to more collectivistic in nature.

Each of the dimensions was significantly and positively correlated with the other dimensions for the pre-test as well as for the post-test. These correlations ranged from r=.16 on the post-test between teamwork and both communication and planning/organizing to r=.62 on the post-test between leadership and communication. Each of the dimensions was significantly and positively correlated with itself from pre-test to post-test administrations. These correlations ranged from r=.28 for decision making to r=.40 for teamwork.

Pre-test overall scores were significantly correlated with four instructors (i.e., Instructor 2, 3, 4, and 6). There were also significant differences for post-test overall scores across three instructors (i.e., Instructor 1, 3, and 5). Instructor differences in performance and improvement indicated that we should control for instructor in our regression analyses.

While exposure to the pedagogy was negatively correlated with pre-test overall scores (r=-.10, p<.05) and with four of the five dimensions, the pedagogy was positively correlated with post-test overall scores (r=.13, p<.01) and with four of the five dimensions. Table 2 provides a closer descriptive examination of exposure to the pedagogy, scores, and improvement. Using t-tests, we found that individuals exposed to the pedagogy significantly improved their overall scores on the post-test by an increase of 20.2 percentiles (20.2, p<.001) on four of the five dimensions: leadership (12.7, p<.001), decision-making (14.6, p<.001), planning and organizing (20.1, p<.001), and communication (23.3, p<.001). Recall that these data denote improvement in percentile ranking. Thus, we believe that these improvements are not only statistically significant, but also quite substantial in an absolute sense. Students in the control group who were not exposed to the pedagogy did not improve significantly on their overall score (4.2, n.s), nor did they improve significantly on four of the five dimensions, the exception being communication (11.0, p<.001). In comparing improvement between treatment and control

groups, students exposed to the pedagogy improved 16 percentiles more than those not exposed to the pedagogy on their overall score (16.0, $p<.001$), leadership (9.4, $p<.01$), decision-making (17.3, $p<.001$), planning and organizing (16.0, $p<.001$), and communication (12.3, $p<.001$).

Our hierarchical ordinary least squares (OLS) regression results are presented in Table 4.[1] In Step 1, the pre-test, year, and instructor controls were included in the analysis; in Step 2, we added our independent variable, which was the presence or absence of exposure to the experiential teaching pedagogy.

Insert Table 4 about here

The data from Table 3 indicate that whole person experiential learning teaching pedagogy was generally associated with increased improvement in assessment center scores, after controlling for pre-test scores, instructor and year effects, and incorporating the control group designed to detect test-retest effects. Overall improvement for the sample attributable to whole person experiential/behavioral teaching was $b=12.92$ ($p<.001$) percentiles. For the sake of interpretation, what this means is that a student who scored in the 50th percentile overall on the pre-test could be expected to score in approximately the 63rd percentile (50 + 12.92 = 62.92) on the post-test after exposure to the pedagogy, other things being equal.

Significant improvement was noted in four of the five dimensions: leadership, ($b=20.59$, $p<.001$); decision-making, ($b=11.31$, $p<.001$), planning and organizing, ($b=10.37$, $p<.001$), and communication, ($b=11.54$, $p<.05$). Excepting the area of teamwork ($b=6.34$, n.s.), exposure to the whole person experiential learning approach discussed in this study was associated with

[1] STATA's XTREG procedure employing cross-sectional time series analysis and specifying random effects was also conducted and produced similar results.

increased skill acquisition improvement and our hypothesis was generally supported. While the improvement in variance explained was generally not high ($\Delta r2$=.015, p<.001), the amount of improvement indicated by the regression coefficient (b=12.92) was substantial. We believe this was because of two reasons. First, there was a great deal of variability across students in pre-test, post-test, and improvement scores, which increased the standard errors associated with our regression coefficients. Second, our hierarchical ordinary least squares (OLS) analysis compelled us to enter pre-test scores as controls and these absorbed much of the variance in post-test scores prior to entering our independent variable. The same pattern was observed for leadership, decision-making, planning and organizing, and to a lesser extent, communication.

DISCUSSION

This study addresses two interrelated education components. One is the whole person based experiential/behavioral teaching approach as summarized in the study's hypothesis. The other is the assessment center as a mechanism that was used to not only generate specific behaviorally based skills, but also to measure skill acquisition and retention using a pretest-posttest research design. The pedagogy as designed and adopted in this study contains experiential learning elements similar to those that have utilized in numerous other research studies. As mentioned earlier, what was unique in this research was the whole person experiential learning framework, designed to be comprehensive and rigorous, adopted for application. Design elements included: 1) a focus on high intensity learning, 2) personally responsible students in an environment designed to benefit from aspects of adult learning and andragogy, 3) a whole person learning orientation with the multiple learning dimensions of cognition, emotion, and behavior, and, 4) utilization of both direct and vicarious learning dynamics designed to yield active involvement. The bulk of the exercises described in Table 1

were not only designed to focus on targeted assessment center skills, but they were also created by the researchers for use in the adopted pedagogy.

Our research demonstrated support for the adopted whole person experiential learning approach when it comes to executive skills acquisition as measured by the assessment center. A closer examination of the results shows that the improvement associated with the whole person experiential approach resulted in an improvement averaging over one-half of a standard deviation across the different skills. This degree of improvement is adequate to make an average person "strong" and a "strong" person exceptional. To provide some reference point, an improvement of one-half standard deviation would be about eight points on a standard IQ test. Obviously, gains of this magnitude are notable, and of practical relevance.

The pedagogical approach utilized has even broader implications for management education when considered in the larger experiential learning framework discussed earlier. This learning model creates a learning opportunity that is highly individualized, allows for measurement of progress throughout the learning process, and takes advantage of the involving dynamics of whole person based experiential learning. The key elements listed here could have applications in a number of management education settings.

Course content could be determined by the individual student's personalized development needs, as opposed to the instructor's pet concepts. A baseline of student skill capacities could be established at the beginning of the learning process, thus operating as a springboard for subsequent learning and skill development. Experiential learning exercises could be designed using whole person learning criteria and focused upon specific skill components. Issues of personal integration-including unfreezing as a condition precedent to learning and refreezing of acquired skills- could be addressed at every stage of the learning process.

Programs could be structured such that personalized learning and meaningful goal setting would be emphasized at every stage. Positive support mechanisms utilizing both instructor and peer group feedback could be utilized to affirm personal responsibility choices made during experiential learning exercises. Examples of mechanisms that can be utilized for this purpose include learning journals (Pavlovich & Collins 2006) and focused exercise feedback (Blass & Carr, 2006). In any case, the general objective is to lessen any dysfunctional cognitive dissonance factors (Festinger, 1962; Cooper & Fazio, 1984) that may have been generated by engaging in the processes inherent in dynamic individual change. Finally, generalized debriefing and end of course summaries could be used to focus on integration of the transfer of acquired skills from the classroom to post graduate endeavors (Dweck & Leggett, 1988).

Beyond the strengths of the whole person experiential/behavioral teaching approach, the supporting role played by the assessment center in this story needs further emphasis. Even though assessment centers have recently seen an increase in usage in academic settings, their use when teaching skills is particularly compelling. First, an assessment center can provide an objective baseline for student skills when entering a course or a program. Second, assessment centers can provide exactly the types of outcome data useful to internal and external university stakeholders alike.

Of particular relevance, learning outcomes such as those provided by assessment centers are desirable because they generate data supportive of the current emphasis of the Association to Advance Collegiate Schools of Business on learning assessments and the AACSB's framework of "the assurance of learning standards" (AACSB, 2007: 72e) as well as the stated needs of prospective employers. Moreover, this data can be collected in a manner that is engaging and represents a real learning experience for the students. More specifically, the changes associated

with the pretest should not be thought of as contaminated by test/re-test effects, and this was the motivation for including a control group.

Further, it is very likely that going through the assessment center the first time taught the students important lessons about time management and organizational skills in a high intensity setting that made their usage in the posttest more successful. Thus, the assessment center's learning should not be ascribed as a threat to validity but rather a legitimate and relevant learning effect. Finally, because the assessment center is behavioral in nature, its usage is pedagogically harmonious with experiential learning generally, and whole person learning specifically.

An additional benefit of using an assessment center is the possibility to compare groups of students across time or even to benchmark students with students from other institutions. In this way, the use of the Iliad Assessment Center was important because the assessment has been in existence for more than eight years, has been conducted at more than fifteen universities, and has assessed more than 20,000 students. Thus, the availability of norms allows for a better sense of where both individuals and groups of individuals are starting so that their relative strengths and weaknesses can be considered when designing and implementing the whole person experiential/behavioral approach on which this paper is based. By combining the experiential/behavioral approach with the use of a well-used, objective assessment center tool, we believe that we have been able to improve student skill acquisition and have better served a wide variety of stakeholders in the process.

More specifically to some of our findings, the failure to find significant improvement in one of the five dimensions – teamwork – may be attributable to one or more factors. It may be that our application of WPL may not have been strong in delivering the teamwork module, or even that WPL generally does not work as well for teamwork behavior, although we cannot

conjecture a guess as to why this may be so. As discussed earlier, we believe it far more likely that one or both of the following occurred: First, individuals may have been motivated by their pre-test feedback to assume more individual initiative behaviors. Each of the other four dimensions reward such initiative, but teamwork scores reflect behaviors facilitating and supporting the inputs of others. Second, it simply may have been more difficult for our MBA students for any of various reasons to fully integrate true teamwork behaviors into their behavioral repertoire despite our best efforts to develop them in the ten weeks between administrations of the assessment center.

LIMITATIONS

Like any study, the current study had some limitations. One limitation of our study centers on our sample. The university in question has a distinct MBA student population, with the majority of students having little to no work experience. Different student compositions could possibly generate different results. We can say anecdotally that the faculty involved in this five-year window frequently discussed the difficulties in motivating the students and having them see the value in executive skills. Thus, we believe we were operating in a less-than-munificent environment for the pedagogy to be effective. We do not believe the sample produced spurious findings.

If anything, we believe this study's findings understate the potential for experiential learning in other settings. Indeed, the incremental variance explained that we found was not particularly high, but a quick glance at Table 1 shows that students varied a great deal in their pre- and post-test scores, and thus our regression model terms had a high standard error, which decreased our model's variance explained. Also, our control variables and in particular our pre-

test control absorbed a considerable amount of variance in our dependent variable, and these variables were entered prior to our independent variable, further reducing variance explained.

Another limitation is that while we made every effort to control for learning threats to internal validity, it is possible that there was a differentially greater learning effect not attributable to the pedagogy in our treatment group but rather some other unmeasured factor. However, we did provide similar time gaps in both the treatment and control group so we attempted to rule out as many unmeasured features as possible.

Third, we would be remiss not to again note that this study's setting was not a tightly controlled lab experiment but a quasi-experiment in the "action research" tradition. As such, instructor differences could only be controlled statistically as variables in our regression models. Ideally, instructors would be identical in their approach, implementation, and effectiveness of experiential teaching, but this is obviously impossible. Using multiple instructors and controlling for their individual differences statistically is the closest we could come to realizing this ideal.

Similarly, it would have been preferable to have a larger number of students in our control condition, and to have these spaced out in time and across instructors in a similar manner as our treatment condition. Curricular and ethical demands prohibited us from designing our quasi-experimental study in such a fashion. We could not ethically deprive some of our MBA students the rich, hands-on, behaviorally based experiential pedagogy, nor could we deprive a greater population of control students too much class time away from the pedagogy.

The control group did receive a treatment (a traditional course). The ability to have a true "placebo" condition would have strengthened our findings but the use of such a design was deemed unethical given our population and setting. However, the use of a traditional course as

our control group likely underestimated the actual effects of the pedagogy, so this type of control group did likely provide a more conservative test of our hypothesis. Further, we believe a traditional course in management provides a more realistic baseline for comparison than simply a sample of students exposed to two assessment centers at the appropriate points in time. This is because educators interested in the pedagogy need an answer to the question of whether this pedagogy is superior to a traditional, cognitively based pedagogy.

FUTURE RESEARCH

While it was beyond the scope of the present study, the efficacy of a traditional MBA program in its totality in developing behavioral skills needs to be further evaluated. This would require a test-retest design with the baseline skills being measured at the start of the MBA program and again upon graduation. Combined with the introductory skills-based course described here, the test-retest-retest design would allow for a measurement of the persistence of acquired behavioral skills beyond our introductory skills-based course. Such a data set would allow a better assessment of the lasting value of the experiential/behavioral teaching approach.

Second, moderators related to improvement should be explored in further research. Are certain demographic, personality, cognitive and decision-making styles, and attitudinal/motivational factors predictive of improvement and skills acquisition? Many individual difference variables could be of interest as potential predictors of differential improvement. As an example, it may be that some personality types (e.g., extraverts) respond more favorably to the experiential/behavioral approach than others (e.g., introverts). If patterns of predicted success could be identified, applicants for MBA programs could be selected based on these important individual differences. This certainly remains a matter for empirical evaluation.

Third, future research needs to identify long-term outcome measures associated with behavioral skill proficiency and improvement. We would certainly hypothesize that such pedagogy and skill acquisition would pay off in terms of better job placement and career progression. While current research suggests that this is the case (e.g., Judge, et al, 1995; Waldman & Korbar, 2004), such a belief remains speculative until empirically addressed.

In closing, while teaching executive skills using a whole person experiential pedagogy takes substantial energy, the results appear to be worth the increased effort. Using the tools put forth in this paper, business educators have at least a "toe hold" on accomplishing the difficult but highly worthwhile objective of preparing our students to function effectively in modern organizations.

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TABLE 1

Target Skill Areas and Examples of Experiential Exercises Utilized by Target Area

1) **Teamwork and Team Effectiveness**
    a) Emotional lifeline exercise---a team building exercise involving the sharing of personal data in a private setting
    b) Trust building exercises---a blindfolded trust walk, done by teams and utilizing a competitive poker game with cards obtained at checkpoints
    c) Paintball team competition---a team building exercise on a paintball course
    d) Graded team presentations---team members shared a common grade outcome
2) **Leadership and Leadership Initiation**
    a) Starfish situational leadership exercise---a communication based time-to-performance exercise with teams in direct and vicarious experience modes
    b) Leadership role assessments---the Quinn Leadership Roles were scored for individuals and then compiled by teams
    c) Group facilitation exercise with leader roles and follower roles---specific behaviors for the leader role and the follower role were exhibited by individuals and awarded by team members in a team decision-making activity
3) **Communication (Oral and Written)**
    a) Empathic communication role play exercise---active listening and reflective paraphrasing skills were practiced in supervised role plays
    b) Listening and feedback exercises---more individual practice of reflective paraphrasing skills
    c) Five minute video taped business presentation with minimally accepted score criteria---individual behaviors were recorded and analyzed as per target skills
    d) Business writing workshop---a personal coaching approach was utilized to teach business writing skills
    e) Emotional intelligence exercise on non-verbal communication---a series of facial expressions and body postures were scored for intended emotional expression
4) **Decision Making**
    a) Ethical decision-making exercises---case studies were used to create active class debates on ethical decision-making choices
    b) Individual and team negotiation exercises---versions of the prisoner dilemma challenge were used to illustrate zero-sum outcomes
    c) Conflict management exercise---an interdependent role play scenario was used to illustrate the possibilities of win-win outcomes

TABLE 2
Descriptives and Correlations (n=483)

	M	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Pretest overall	57.57	26.51																		
2 Pretest leadership	52.94	28.31	.74***																	
3 Pretest decision-making	63.14	25.63	.75***	.53***																
4 Pretest plan/organizing	57.68	26.66	.64***	.32***	.36***															
5 Pretest communication	54.27	28.08	.71***	.47***	.33***	.34***														
6 Pretest teamwork	48.61	28.01	.52***	.24***	.28***	.29***	.18***													
7 Posttest overall	75.69	21.71	.45***	.24***	.34***	.30***	.31***	.35***												
8 Posttest leadership	64.39	25.45	.42***	.30***	.34***	.27***	.31***	.24***	.77***											
9 Posttest decision-making	75.52	20.91	.30***	.16***	.28***	.18***	.17***	.23***	.80***	.51***										
10 Posttest plan/organizing	75.72	21.70	.30***	.17***	.20***	.29***	.15***	.20***	.65***	.38***	.43***									
11 Posttest communication	75.97	22.83	.41***	.26***	.31***	.24***	.37***	.23***	.79***	.62***	.53***	.42***								
12 Posttest teamwork	48.40	28.20	.22***	.00	.13**	.11*	.14**	.40***	.46***	.26***	.26***	.16***	.16***							
13 Instructor 1	.06	.23	-.01	-.13**	-.04	-.05	.14**	-.09*	.06*	.00	.05	.05*	.01	.06*						
14 Instructor 2	.06	.23	-.09*	-.07	-.18***	-.00	-.03	.03	-.04	-.06*	-.19***	.01	.01	-.00	-.06*					
15 Instructor 3	.14	.35	-.16***	-.25***	-.14***	-.03	-.13**	.04	.13**	-.00	.05*	.02	.11*	.26***	-.10*	-.10*				
16 Instructor 4	.29	.46	.16***	.10*	.15***	.03	.14**	.08*	.03	.10*	-.02	-.03	.12**	-.06*	-.16***	-.16***	-.26***			
17 Instructor 5	.39	.49	-.03	.15***	.05	-.02	-.16***	-.10*	-.11*	-.03	.01	-.03	-.13**	-.18***	-.19***	-.20***	-.32***	-.52***		
18 Instructor 6	.06	.24	.09	.07*	.02	.09*	.13**	.06*	-.02	-.09*	.08*	.04	-.15***	.05*	-.06*	-.06*	-.10*	-.16***	-.20***	
19 Experiential teaching	.87	.34	-.10*	-.07*	-.09*	-.06	-.18***	.07*	.13**	.05*	.17***	.18***	-.04	.08*	.09*	.10*	.15***	-.60***	.31***	.10*

* p<.05
** p<.01
*** p<.001

Table 3

Average scores on pre- and post-tests and improvement for treatment and control groups

	Experiential Teaching (T) (n=420)			Control (C) (n=63)			T-C
	Pre-test	Post-test	Improvement	Pre-test	Post-test	Improvement	Net Improvement
Overall	56.6	76.8	20.2***	64.3	68.5	4.2	16.0***
Leadership	52.2	64.9	12.7***	58.1	61.0	2.9	9.4**
Decision-Making	62.3	76.9	14.6***	68.9	66.3	-2.7	17.3***
Planning & Organizing	57.1	77.2	20.1***	61.6	65.7	4.1	16.0***
Communication	52.3	75.6	23.3***	67.5	78.6	11.0***	12.3***
Teamwork	49.4	49.2	-0.2	43.5	42.7	-0.8	0.6

* p<.05
** p<.01
*** p<.001

TABLE 4

Hierarchical OLS Regressions of Post-test Scores on Experiential Teaching (n=483)

DV	Overall		Leadership		Decision-Making		Plan/Organize		Communication		Teamwork	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Pre-test	.41***	.41***	.33***	.34***	.29***	.28***	.26***	.25***	.33***	.35***	.35***	.34***
Instructor 1	.16	9.10+	12.46*	26.73***	-13.70***	-5.78	-8.76*	-1.58	19.89***	27.99***	-4.96	-.61
Instructor 2	-1.26	4.58	8.14	17.53*	-19.89**	-14.58*	-8.25	-3.56	17.14**	22.50**	9.37	12.15
Instructor 3	-1.72	7.19	11.78+	26.08**	-10.99*	-3.16	-17.18**	-10.00	12.87*	20.99***	2.67	6.94
Instructor 4	-6.42	-.61	-1.05	8.31	-34.96***	-29.82***	-12.98*	-8.29	23.67***	29.30***	-3.10	-.22
Instructor 5	14.40***	15.73***	14.92**	17.24**	-5.68	-4.52	-2.49	-1.39	28.63***	30.25***	14.39**	15.05**
Year 1	13.18***	7.30*	8.70*	-.59	19.04***	13.67***	13.29***	8.57*	-3.72	-9.10*	-1.40	-4.31
Year 2	12.58**	3.63	5.01	-9.24	14.16***	6.29	16.76***	9.57+	5.23	-2.70	2.44	-1.81
Year 3	3.00	-5.96	-5.88	-20.19**	1.38	-6.43	15.86***	8.66	3.88	-3.91	-16.13**	-20.53**
Exp. Teach		12.92**		20.59***		11.31***		10.37*		11.54**		6.34
R2	.32	.33	.15	.18	.22	.23	.14	.15	.21	.22	.28	.28
ΔR		.01**		.03***		.01***		.01*		.01**		.00
F		17.53***		10.03***		14.46***		8.12***		13.46***		18.59***

Unstandardized regression coefficients are reported.
* p<.05
** p<.01
*** p<.001