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Business Education Innovation Journal

www.beijournal.com

ISSN 1945-0915

Business Education Innovation Journal is an imprint of **ELM STREET PRESS** 

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The purpose of this journal is to assemble researched and documented ideas that help drive successful learning and motivate business students to learn. The intention is to draw ideas from across both methods and disciplines and to create a refereed body of knowledge on innovation in business education. As a result, the primary audience includes business education faculty, curriculum directors, and practitioners who are dedicated to providing effective and exciting education.

We invite you to read about innovations published and apply in your classroom. We also encourage you to develop your original creative ideas, prepare an article, and submit for review.

This particular issue includes a number of interesting classroom innovations in diverse areas.

Peter J. Billington

Editor

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Countries other than the U.S.	\$50	\$100	\$30	\$60

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Postmaster: Please send address changes to Elm Street Press, 350 S 200 E, Suite 301, Salt Lake City, UT 84111.

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Business Education Innovation Journal is listed in the most recent on-line Whitelist edition of *Cabell's Directory of Publishing Opportunities in Management*. www.cabells.com

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An In-Class Assignment on Multidimensional Scaling: Creating Perceptual Maps of Current Movies

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ABSTRACT

Students gain an appreciation of perceptual mapping techniques through an assignment in which they supply their own similarities data for analysis via multidimensional scaling and then analyze the output. By using a product category – current movies – in which students have great interest, and by letting students evaluate their own perceptions, the assignment generates interest in some of the technique’s more arcane problems; these include proper labeling of axes, specifying the correct number of dimensions, and designating a suitable number and composition of concepts. Step-by-step instructions for the instructor are provided, as well as a set of questions and answers for assessing students’ understanding. Students’ assessment of the assignment indicate that they evaluated the assignment favorably in terms of pedagogical merit and affect.

Keywords: perceptual mapping, multidimensional scaling, consumer research, in-class assignments

INTRODUCTION

Today’s undergraduate students have developed a culture of student involvement unlike any previous generation (McLaughlin, 2013; Twenge, 2006). These students expect immediate feedback and gratification (McLaughlin, 2013). They have limited attention spans associated with their use of electronic devices that provide them efficient, abbreviated communication while text messaging or using personal electronic entertainment devices like iPods, iPads, and iPhones (Martin & Tulgan, 2001). In addition, these behaviors have expanded to the graduate student population. It is incumbent upon today’s educators to have engaging, in-class activities and exercises that these students are interested in that match their visual learning styles in-terms of interaction with technology.

Marketing educators increasingly strive to provide practical, hands-on experiential exercises for their students in order to enhance learning of key concepts. Moreover, they frequently find that “there is a need to develop specific activities and materials that ... promote statistical intelligence goals,” (Dobni & Links, 2008, p. 63). Statistical intelligence can be described in terms of ability to question and investigate issues using statistics, while being aware of the technique’s limitations (Chance, 2002) and to apply statistical literacy and reasoning skills in context (delMas, 2002). Moreover, it involves critical thinking and the ability to use statistical tools in real-life, decision making situations (Dobni & Links, 2008).

Statistics can be very intimidating and/or even “boring” to students. But given the inherent new interest in the field of marketing analytics by businesses throughout the world, marketing curriculums recently have been redesigned to accommodate market demand for new skills (Erevelles, Fukawa & Swayne, 2016; Liu & Burns, 2018). Part of the history of marketing data analyses has been the technique of Multidimensional Scaling, (MDS). According to Bijmolt and Wedel (1999) MDS is one of the most popular tools of marketing research (Naumann, Jackson, & Wolfe 1994; Wind, Rao, & Green, 1991). It is applied to a wide range of marketing problems (Cooper, 1983), in particular in the area of perceptual mapping, for which one purpose can be to derive a spatial representation of the market. Yet, according to Arbaugh and Hwang (2012) in a review of management education articles pertaining to online teaching and learning in business courses that used multivariate analytical techniques between the years of 2000 and 2010, only one article out of 113 reported used MDS, suggesting MDS is not yet a popular multivariate technique used by management researchers.

PERCEPTUAL MAPPING RATIONALE

Perceptual mapping methodologies provide a unique opportunity for an in-class assignment that meets both goals. Perceptual mapping is widely used by marketers for positioning products and developing marketing strategies

(Burton, Johnston, & Russ, 1991), making it a valuable tool for students to grasp. Perceptual maps provide a visual representation of consumers' beliefs about brands that compete in a particular market. Brands that appear closer to each other are considered to be "more direct" competitors in that they would appeal to similar markets or market segments. Crowded areas indicate highly competitive spaces, whereas open areas indicate market gaps that may be profitable opportunities for new brands. Approaches that use consumer data to develop perceptual maps involve statistical techniques that can be conveyed at varying levels of rigor, depending on the goals of the instructor. Many techniques can be employed. Instructors wishing to cover perceptual mapping techniques in some depth should consider an in-class assignment that gives students hands-on experience with the data collection process and interpretation of a perceptual map based on similarities data, or an OS (overall similarities) approach to creating perceptual maps (Dolan, 1991). With this approach, a student is asked to evaluate a group of competing brands in terms of how similar or different they are believed to be; evaluations are done piecemeal, by evaluating pairs of brands and indicating which pairs are most similar and which pairs are most different. MDS software is then used to generate a visual map that captures the underlying logic of all the evaluations. An important side benefit of the OS approach is that the underlying logic of the map is revealed via the spatial dimensions (usually two, but more are possible) onto which the brands are mapped; the dimensions' axes correspond to brand attributes or characteristics. MDS software does not name the axes, but they be inferred subjectively, with care. Labeling the axes is essentially equivalent to naming the *determinant* brand attributes the student (or more generally, the consumer) uses to evaluate the brands in question (Crawford & di Benedetto, 2008).

Burton, Johnston, and Russ (1991) describe an approach for bringing the OS approach into the classroom in a previous paper; however, the present paper provides an updated approach for SPSS for Windows that incorporates student use of the Internet to formulate their judgments, as well as step-by-step instructions for implementing the assignment that instructors will find valuable. The assignment is inspired by Dolan's (1991) teaching note on perceptual mapping, in which familiar movies serve as the brands to be analyzed. Students are instructed to rank order movie pairs in terms of their similarities, then fill out and submit a similarities matrix. Subsequently the matrix is input into SPSS for analysis via MDS. Software output, which largely centers on a two-dimensional similarities map, is returned to the student for analysis and discussion. The assignment requires about 75 minutes of class time, spread over two sessions, as well as an hour (for a class of 30 students) or so of instructor time outside of class for running the MDS analysis. An Excel spreadsheet is available from the lead author via e-mail that helps generate a full set of movie pairings for students to evaluate, as well as capture their similarities judgments for processing.

Instructors teaching undergraduate or graduate courses in marketing research, new product development, or marketing strategy should consider this assignment if they wish to offer an interactive, hands-on approach to understanding perceptual mapping techniques. Dobni and Links (2008) recommend that assignments involving statistical methods relate to students' subject matter expertise in order to "evoke interest and motivation" (p. 63). By extension, requiring the student to analyze his own judgments will heighten interest in the exercise. For this reason students act as their own respondents in the study and evaluate their own perceptual maps. Moreover, the assignment centers on movies, a category of nearly universal interest to students. The goal is not to understand how the methodology can be used in the movie industry but, rather, to use a product category that all students are eager to talk about and feel they have suitable competence in evaluating.

An important concern for any assignment involving advanced data analysis is the student's "statistics anxiety," (Onwuegbuzie, 1998). Indeed, the very mention of MDS can be intimidating to students. For this reason the instructor has used this as an in-class assignment, and made it in an ungraded (apart from a class participation grade) exercise, as suggested by Pirog (2010).

STIMULI SELECTION AND DATA COLLECTION

A minimum of six movie titles is needed for the assignment in order to generate a map. However, a total of $n = 8$ titles tends to provide much better results while moderately increasing the respondents' workload. One way to create an appropriate sample of titles is to bring up the topic of movies during a discussion of current events, and note the movies that generate students' interest. To increase likelihood that MDS generates perceptual maps that are easy to interpret, the instructor can impose some similarity among the movie titles by trying to pick films that fall neatly into two or three genres (for example, comedy, romance, action, horror). When the list of n movie titles is compiled,

students should be given the list and told to view the trailers for the movies that they have not seen or are not familiar with outside of class on YouTube or a similar site. (Instructors may want to send a broadcast e-mail to their students containing the links to the trailers.)

After the students have had a chance to review the movie trailers they are ready to participate in the data generation and collection phase. Data collection requires that each student receive a set of $(n)(n-1)/2$ movie pairings, with each pair on a separate card or slip of paper. (The Excel spreadsheet available from the instructor automates this task for an eight-title set.) Then, students should be told to do the following:

1. First, create three piles: in the first pile, put the pairs that are very similar; in the second pile, put the pairs that are most different; in the third pile put the pairs that are somewhere in between.
2. Then, sort each pile, with the most similar pair at the top, and the least similar pair at the bottom.
3. Finally, put the first pile on top of the third pile, and then put the combined piles on top of the second pile.
4. Number the pairs (cards) consecutively, with the most similar pair (top card) numbered "1."

While these instructions are fairly straightforward, some confusion nevertheless arises, so it is best to have the students move through the steps together as a group. When finished, each student should enter the rankings in a similarities matrix (the Excel spreadsheet available from the instructor makes this a simple task), which then is submitted to the instructor. To ensure that the process runs smoothly and that students conform to protocol as closely as possible, we promise extra credit for those students who follow directions well and also fill out an evaluation of the assignment when it is finished. Electronic submissions permit the instructor to copy and paste the information directly into an SPSS file. The file should specify the correct number of movie titles, and an abbreviated name for each title that simplifies interpretation of the map.

APPLYING MDS TO THE DATA

The MDS procedure is widely available in SPSS, SAS, R, MaxStat Professional, NewMDSX, SYSTAT, and in Excel with the XLSTAT or BiPlot add-on statistical software packages. MDS is straightforward enough to use that students could even be required to run the analysis themselves (MDS is included in the Student Version of SPSS). However, where the instructor is primarily interested in the practical, managerial applications of perceptual mapping, he or she should consider running the analyses on the students' behalf. Most of SPSS's defaults are appropriate for the data, but two options need to be addressed:

1. Number of map dimensions. With six movie titles, only two dimensions are permitted. Seven or more titles permit additional dimensions; however, two dimensions usually are satisfactory, and one author has found that three-dimensional maps create an unnecessary layer of complexity to the assignment.
2. Group plots. This option is by default turned off; it must be turned on to get the visual rendition of the perceptual map.

The perceptual map can be copied from the SPSS output file directly into a Word or WordPerfect file. A single document can accommodate the whole class's outputs; the instructor should type the student's name at the top of each page, paste the output to the page, followed by a page break.

STUDENT ANALYSIS OF RESULTS

Print-outs of the maps can be distributed and discussed in the next class meeting. The instructor should begin by reminding the students of the movie titles, their judgment task, and the task of transcribing their judgments into a similarities matrix (a visual example of a similarities matrix helps to reinforce the concepts). Then the instructor can simply say that the similarities matrices were read into the SPSS software, processed, and translated into two-dimensional renditions; each student will receive his or her own perceptual map.

After the students receive their maps, they should be asked to analyze the maps as follows:

1. Which movies are most similar? Most different? Why?
2. How would you label your X-axis? Y-axis? Why?

3. Do you think this map is an accurate picture of how you view these movies? Why or why not?
4. What (if anything) do these axes tell us about you?

The resulting discussion tends to be quite interesting, as students tend to appreciate the chance to express themselves, which students increasingly appreciate in their coursework (Matulich, Papp, & Haytko, 2008). Answers to the first three questions will vary according to the idiosyncrasies of both student perceptions and MDS output. Question #4 addresses the issue of an attribute's "salience" to the respondent, and its role in discriminating among product offerings.

In the authors' experience, most students will be able to label the axes and find that their maps do a reasonably good job of representing their perceptions; however, exceptions do arise. The most frequent problem is that some of the movie titles group together in a way that violates a discernable pattern for the rest of the titles. While in some cases this is due to the student's failure to execute the instructions properly, it usually can be explained by the need for a larger number of dimensions than is possible given the limited number of movie titles. To some extent the instructor can minimize the chance of this outcome by carefully choosing from two categories of movies, which will increase the probability that the movies can be suitably represented in two dimensions. Alternatively, the instructor can specify a relatively "large" set of movies (eight or more is large for this assignment). However, this requires that students evaluate an even larger set of movie pairings. Fortunately, eight pairings have provided good results for this assignment.

Experience indicates that students appreciate the assignment even when they obtain subpar results; generally, the students can interpret parts of the map and then identify movie titles that violate their interpretations. In these cases, the student is receptive to the notion that having more data points with which to work may have improved their results.

After discussing the maps and possible data shortcomings, the instructor will need to emphasize that the students' maps represent their perceptions of brands, but imply no normative information on their own. A brief discussion of ideal points and vectors, longitudinal tracking, and the need for supplemental research is a good way to close out the discussion. Crawford and di Benedetto (2008) provide a good managerial discussion of these issues. For an advanced course, the instructor may want to discuss how the data can be aggregated for the purpose of market segmentation; Hair et. al. (1998) provide an excellent discussion in this regard.

Finally, as Dolan (1991) suggests in his teaching note, the axes for perceptual maps of movies tend to correspond to time-honored genres (*e.g.*, comedies, dramas, science fiction, romance), which studios manipulate to position their brands (movies) throughout production and distribution. Thus, consumer perceptions of the brand are likely to comport with studio planners' perceptions closely enough that MDS studies have limited practical value compared to other industries. Nevertheless, students can be encouraged to think about how OS perceptual maps could add value to the marketing of movies; for example, pre-release mapping of scheduled releases can refine marketing efforts to position the movie against other titles, as well as refine forecasts of box-office receipts. This is a good point to consider near the end of the class discussion, because it helps to emphasize the value of perceptual maps outside of the entertainment industry, where brands represent long-term programs that survive through adept competitive positioning. In this context, the opportunities for perceptual mapping extend from the new product development phase through launch planning, post-launch diagnosis and version proliferation (Urban & Hauser, 1980).

STUDENT ASSESSMENT

The assignment was designed to enhance relevancy of the course material, a vital goal in business education (Berry, 1993). Student perception of the assignment's relevancy is a critical component of its success (Abernethy and Butler, 1993). Therefore, we assessed the MDS assignment using data from a survey of student perceptions patterned around a subset of items from Sandler and Kamins (1987). Data were collected over two semesters of an upper level course on "new product management and development." These represent the second and third times that the assignment was used in the course, where the first iteration served as a pilot for refining the in-class and behind-the-scenes procedures. Classroom instructions and related protocol for the assignment essentially were identical across the two assessment semesters, and informal feedback from students was similar throughout the experiences.

Questionnaires were administered during class; students were offered a small (less than one percent) amount of extra credit in order to encourage participation. To encourage a high rate of quality responses, instructions emphasized the anonymity of responses and encouraged students to provide honest answers in the spirit of helping the instructor understand how students felt about the assignments. Students were instructed to take their questionnaires to the department secretary after class, who would record their names for extra credit purposes; it also was explained that the secretary would hold the questionnaires until the end of the semester (i.e., after grades were submitted). Ultimately, nineteen usable questionnaires were collected for the first assessment (out of twenty-two students); twenty were collected for the second (out of twenty-four students).

Table 1 shows the assessment's six scale items, which capture students' beliefs about the *merits* of the assignment, ("helpful," "realistic," and "learned"), as well as *affective* responses, ("involved," "enjoyable"), and an *overall* assessment, ("worthwhile"), akin to satisfaction with the assignment that captures both effects. Responses were captured via 9-point Likert-style scales, where "strongly disagree" = 1, "strongly agree" = 9, and the neutral category "neither disagree nor agree" = 5. To determine if the data could be combined, the six items were summed for each student and divided by six to construct an average score; this was compared across semesters. Analysis of variance indicated no significant difference across semesters ($F = .75$, 38 d.f., $p = .39$). Thus, data for the two sections were combined ($N=38$). Descriptive statistics (means and standard deviations) are presented in Table 1.

Average scores across the six scale items (6.98, S.D. = 1.29) indicate that students evaluated the MDS assignment favorably. Responses to the three questions that directly address perceived merit of the assignment, ("helpful," "realistic," "learned"), were 6.92 or higher, indicating that students felt they gained useful knowledge. Notably, responses to the "realistic" item averaged 7.56 (S.D. = 1.33), which the authors found encouraging because the primary goal of the assignment is to provide students with a problem they perceive to be relevant to their professional development. The two affective responses, ("involved," "enjoyed"), scored slightly lower on average (means of 6.90 and 6.26, respectively) than the merit questions, with comparable variances, but were encouraging nonetheless. Finally, the overall assessment score, ("worthwhile"), is 7.28 (S.D. = 1.38), which is higher than all the others except "realistic." Again, this is encouraging because it is an indicator of overall satisfaction; students may not have been as involved with the assignment or enjoyed it as much as we had hoped, but in the end, they were glad they did it.

Focusing only on means in Table 1, it is tempting to conclude that overall satisfaction with the assignment (as measured by "worthwhile") is driven by students' perceptions that it is "realistic," since these means are similar and lie outside the range for the other variables. However, such a conclusion is possible only by an evaluation of correlations. Therefore, we constructed Pearson r coefficients for correlations between "worthwhile" and the other five scale items. The values are shown in the final column of Table 1. Interestingly, "realistic" was found to have the weakest correlation with "worthwhile," ($r = .51$), while the other merit variables, "helped" and "learned," were most strongly correlated with it (r equal to .91 and .89, respectively). Interestingly, r -values for the two affect variables ("involved" and "enjoyed") were smaller ($r = .60$ and .58, respectively), which indicates that student satisfaction with the exercise is driven more by how much students perceive they learned than how much they liked the assignment or how realistic they found the exercise.

CONCLUSION

According to Arbaugh and Hwang (2012) in a review of management education articles pertaining to online teaching and learning in business courses that used multivariate analytical techniques between the years of 2000 and 2010, only one article out of 113 reported using MDS, suggesting MDS may not be popular multivariate technique among management researchers. However, that should not dissuade any researcher or educator in a variety of disciplines from using perceptual mapping techniques such as MDS. As a matter of fact, Stern and Tseng (2002) found in their study asking marketing academics and practitioners what should be taught in an undergraduate marketing research course that marketing practitioners favored more coverage of advanced multivariate data analysis, including MDS. Given the visual dependence on technological and electronic devices to hold the attention of the millennial and post-millennial student where they can interact with the data and see where the data maps, perceptual mapping exercises seem perfectly suited to engage today's students.

Ultimately, the goal of this assignment is not to make the student an expert in the OS method for producing perceptual maps. Rather, the goal is to provide a suitable depth of understanding of the underlying concepts involved

in perceptual mapping using consumer data. By acting as both respondent and analyst, students have an opportunity to appreciate OS perceptual mapping in more depth than they would by reading about the technique. Moreover, the experience is a suitable springboard for discussing the attribute ratings (AR) approach to perceptual mapping, which should be discussed as a viable alternative (Dolan, 1991). The AR approach renders the perceptual map by specifying the most determinant attributes *a priori*, and then using them as axes for plotting student's ratings of brands on an X-Y graph. Students essentially plot the map much as they would a scatter plot for a business statistics course, the difference being that the scatter of AR data indicate distinct brands. As a result, overall similarities are revealed in the final stage of analysis (*i.e.*, when the map is rendered) rather at the beginning. In contrast to the OS approach, AR techniques require no specialized software, and the kinds of questionnaires used for data collection are more familiar to students than is the case with OS. However, the AR approach is fraught with challenges of its own, not the least of which is correctly specifying the determinant attributes up front. Furthermore, a good deal of effort is required to fill out the questionnaires, which are very repetitive, and then quantitatively analyze the data to choose an underlying logic for rendering the perceptual map (see Crawford & di Benedetto, 2008 for a thorough discussion). Finally, by design the AR approach lacks the "prestige," or dramatic reveal, that the MDS map provides. Confronted with the MDS map, students set out forensically to explain the underlying logic, which is a satisfying puzzle in its own right. Experience with the assignment strongly indicates that the OS/MDS approach to perceptual mapping prepares students to appreciate the salient details of other mapping methods, in an informative and engaging manner.

REFERENCES

- Abernethy, A.M., & Butler, D.D. (1993). Scaled case grading forms: A method to improve the assessment of student case performance. *Marketing Education Review*, Vol. 3 (Fall), 40-46.
- Arbaugh, J. B., & Hwang, A. (2012). Uses of multivariate analytical techniques in online and blended business education: An assessment of current practice and recommendations for future research. *Journal of Management Education*, Vol. 3, No. 2, 229-260.
- Berry, L. (1993). Our roles as educators: Present and future. *Journal of Marketing Education*, Vol. 15, (Fall), 3-8.
- Bijmolt, T., & Wedel, M. (1999). A comparison of multidimensional scaling methods for perceptual mapping. *Journal of Marketing Research*, Vol. 36, No. 2, 277-285.
- Burton, S., Johnston, M.W., & Russ, R. (1991). Introducing students to perceptual mapping using multidimensional scaling: An experiential approach. *Marketing Education Review*, Vol. 1 (Summer), 35-43.
- Chance, B. L. (2002). Components of statistical thinking and implications for instruction and assessment. *Journal of Statistics Education*, Vol. 10, No. 3, doi: 10.1080/10691898.2002.11910677
- Cooper, L. G. (1983). A review of multidimensional scaling in marketing research. *Applied Psychological Measurement*, Vol. 7 (Fall), 427-50.
- Crawford, C. M., & di Benedetto, C. A. (2008). *New products management*. (9th ed.). New York: McGraw-Hill/Irwin.
- delMas, R. C. (2002). Statistical literacy, reasoning and thinking: A commentary. *Journal of Statistics Education*, Vol. 10, No. 3, doi: 10.1080/10691898.2002.11910675
- Dobni, D., & Links, G. (2008). Promoting statistical intelligence in marketing research students: Best practice ideas. *Marketing Education Review*, Vol. 18, No. 1, 61-64.
- Dolan, R. (1991). Perceptual mapping: A manager's guide. *Harvard Business School Note*, 590-121.
- Erevelles, S., Nobuyuki F., & Swayne, L. (2016). Big data consumer analytics and the transformation of marketing. *Journal of Business Research*, Vol. 69, No. 2, 897-904.
- Hair, J., Anderson, R.E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. Fifth Edition, Upper Saddle River, New Jersey: Prentice Hall.
- Liu, X., & Burns, A. C. (2018). Designing a marketing analytics course for the digital Age. *Marketing Education Review*, Vol. 28, No. 1, 28-40.
- Matulich, E., Papp, R., & Haytko, D. L. (2008). Continuous improvement through teaching innovations: A requirement for today's learners. *Marketing Education Review*, Vol. 18 (Spring), 1-7.
- Martin, C. A., & Tulgan, B. (2001). *Managing generation y*. New York, NY: HRD Press.
- McLaughlin, E. J. (2013). Teaching millennials: Bridging the schism between traditional instruction and active engagement of undergraduate students in a problem-based introductory finance class. *International Research Journal of Applied Finance*, Vol. IV, Issue 2, 263-269.
- Naumann, E., Jackson Jr, D. W., & Wolfe, W. G. (1994). Examining the practices of united states and japanese market research firms. *California Management Review*, Vol. 36, No. 4, 49-69.
- Onwuegbuzie, A. (1998). The dimensions of statistics anxiety: A comparison of prevalence rates among mid-southern university students. *Louisiana Educational Research Journal*, Vol. 23, 23-40.
- Pirog, S. F. (2010). Promoting statistical analysis in the marketing curriculum: A conjoint analysis exercise. *Marketing Education Review*, Vol. 20, No. 3 (Fall), 253-258.
- Sandler, D., & Kamins, M. (1987). Cognitive and affective dimensions of educational objectives: scale development and measurement. *Journal of Marketing Education*, Vol. 9 (Fall), 52-57.
- Stern, B. L., & Tseng, P. D. (2002). Do academics and practitioners agree on what and how to teach the undergraduate marketing research course? *Journal of Marketing Education*, Vol. 24, No. 3, 225-232.
- Twenge, J. M. (2006). *Generation me: Why today's young americans are more confident, assertive, entitled and more miserable than ever before*. New York, NY: Free Press, Simon and Schuster, Inc.
- Urban, G.L., & Hauser, J.R. (1980). *Design and marketing of new products*. Englewood Cliffs, NJ: Prentice Hall, Inc.
- Wind, J., Rao, V. R., & Green, P. E. (1991). Behavioral methods. *Handbook of Consumer Behavior*, 507-532.

Table 1**Student Assessments of the MDS Assignment**

Scale Item	Variable	Mean	S.D.	r*
The MDS assignment was helpful to me in understanding consumer research (merit)	helpful	6.97	1.55	0.91
I learned a lot about this topic from this assignment (merit)	learned	6.92	1.58	0.89
Working on this assignment allowed me to apply my knowledge to a realistic marketing problem (merit)	realistic	7.56	1.33	0.51
I was highly involved in this assignment (affect)	involved	6.90	1.74	0.60
The assignment was enjoyable (affect)	enjoyed	6.26	1.60	0.58
This activity was worth the effort (combination: merit and affect)	worthwhile	7.28	1.38	1.00
	<i>Total ÷ 6</i>	<i>6.98</i>	<i>1.29</i>	

Note: N = 48; scale items range from Strongly Disagree (1) to Strongly Agree (9).

*Correlation with “worthwhile”

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Vulnerability in the Classroom: A Catalyst for Subjective Well-Being, Empathy, and Learning

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ABSTRACT

Building on a leader development assignment used at the United States Military Academy at West Point, we created an innovative course requirement assigning undergraduate students at a public civilian university in the Mountain West to share and analyze crucible events as part of an individual student presentation. Crucible events are defining moments of change comprised of adversity and a positive response to that adversity. We developed this course requirement to enable enduring positive experiences and enhanced long-term outcomes for students. Although this assignment caused many participating students to feel vulnerable, students reported that this vulnerability facilitated subjective well-being, empathy, and learning.

Keywords: Vulnerability, Subjective well-being, Empathy, Learning

INTRODUCTION

While teaching leadership and management at the United States Military Academy at West Point, two of the authors of this article became familiar with the journey line presentation in which cadets present key moments in their lives where they experienced major struggles and subsequent successes while discussing how each crucible shaped who they have become. As part of a military leadership course, the cadets mapped these moments of struggle and success onto a timeline and shared these crucible moments with their instructor and a mentor of their choosing—offering lessons learned about leadership and character while expounding on the value of authenticity, personal reflection, and resilience.

In this article, we explain how and why we have transformed the journey line activity into an intensive, demanding, and high-impact course requirement for an upper-division advanced organizational behavior course at a public civilian university in the Mountain West. We explain the development and implementation of this course requirement and demonstrate that students report increases in subjective well-being, empathy, and learning.

USE OF THE JOURNEY LINE IN THE CLASSROOM

We developed a journey line course requirement comprised of an oral presentation and written submission. The oral journey line is a ten-minute individual presentation in front of the class where the student tells a story of the positive and negative events that occurred during a certain period in their life: a series of crucibles or defining moments of struggle and growth. Each student tells of two crucibles using concepts related to organizational behavior. Student performance on the oral presentation is assessed using the following criteria: (1) Preparation—being ready, organized, and professional; (2) Communication—communicating clearly, creatively, and enthusiastically in sharing the journey line while connecting with the class through vulnerability; (3) Scholarship—accurately describing concepts related to organizational behavior and effectively linking those concepts to the journey line; and (4) Relevance—establishing the practical significance of the journey line.

Because this is an intensive assignment requiring a substantial and meaningful effort over an extended period-of-time, students rehearse with the instructor, explore potential theories and practical linkages, and give their presentation in front of the class. Students then receive written and verbal feedback relating to the four performance criteria from fellow students and the instructor. Verbal feedback (*vis-à-vis* the Socratic pedagogy; Bowen, 2014) is an essential element of student development and serves as an important means by which students learn from collaboration with peers and the instructor. Using peer and instructor feedback, the student writes about their

crucibles and aligns them with organizational behavior concepts while telling compelling stories and linking the stories and concepts to practical empirical research outcomes.

Student performance on the written submission is based on the following criteria: (1) Written communication—being concise and compelling while using appropriate grammar and punctuation; (2) Scholarship—accurately describing concepts related to organizational behavior and effectively linking those concepts to the journey line; (3) Relevance—establishing the practical significance of the journey line by linking the concepts to empirical research outcomes; and (4) Response to feedback—being highly responsive to relevant feedback from the oral presentation as it relates to effective storytelling, accurate description of the concepts, and compelling use of empirical data. Some examples of crucible events students have presented include: overcoming addiction; going through a divorce (or observing parents go through a divorce); living in a foreign country; being laid off; being arrested; failing a class; being bullied by friends, coworkers, family members, or supervisors; enduring social shaming due to differing religious beliefs or political views; enduring hateful behavior on the basis of race, gender, or sexual orientation; seeing loved ones suffer through emotional or physical illness; and losing loved ones to suicide and other causes of death.

Some students have difficulty identifying crucible events. When this occurs, the instructor helps the student identify challenges and inflection points in their lives, moments where they have become a different person and begun to adopt a new perspective as a result of adversity. When students have rich crucibles but are struggling to identify how their story connects to theoretical concepts, the instructor mentors them through this process and rehearses with them. The instructor also provides a list of dozens of theories and concepts from which to choose. Moreover, in consultation with certified therapists, we ensure a safe psychological environment in which individuals feel comfortable being vulnerable while also ensuring students understand that they are not compelled to be vulnerable—they have a choice. As such, students are permitted to write a research paper or present to just the instructor as alternatives to the journey line class presentation. A vast majority of the students enjoy the journey line while only a small number of students have opted for the alternative assignment. Allowing students this option (even if few take it) is an important feature of psychological safety in the classroom and risk mitigation for the students. As one student was wrestling with whether or not they would present in front of the class, they determined that presenting to the class would provide valuable closure: “at first, it wasn’t pleasurable. I cried when I worked on it. Over time, however, I started finding the positive of my experience and truly felt the positive feelings it started to give me. This was very therapeutic in the end and I felt I needed to present in front of my peers.”

Therefore, with this graded requirement, students get to choose the depth of vulnerability and have complete latitude as to what they choose to share. In addition to being given the option to complete another assignment, before the students share publicly, the instructor meets with the students individually to review their stories and concepts in order to help them work through their decision as to how much they are comfortable sharing with the class. Following the presentation, the instructor focuses on delivering the feedback sensitively and screens written feedback from the students evaluating the journey line. Validating the students’ experiences and helping them see their latent strengths are important elements of the journey line experience (see Selcer, Goodman, & Decker, 2012). For example, one student told about being dropped off on a corner by his drug addicted mother who, before driving away, informed him she did not want him anymore. The student was in his early teens at the time. Now, he is a first generation college student thriving in his classes, leading his peers, and enduring substantial adversity with grace and composure. In a feedback session with the student, the instructor directed him to the research on grit. The student’s face beamed as he began to see the strengths he had developed over the years and the latent competencies he was awakening. As an example of how the journey line experience shaped the life of this student, we show a series of responses from this student regarding his journey line experience:

I felt that presenting my journey line helped me overcome some challenging items that I needed to gain closure on. I was able to open up to semi-strangers and myself about the underlying truths that I had not yet discovered.

When I was able to connect class concepts to my own life it really helped solidify the education behind them. I was able to get a deeper understanding because it was self-applied. I was able to connect class concepts on events in my life that I had no idea were related. It helped me think deeper on the theories and concepts.

I was able to gain empathy and understanding of diversity. We are all different, and that is what makes us unique. The fact that we all had something different to share proves that no one is the same, and to me that was powerful.

With each person being so vulnerable, it made me want to be just as vulnerable to show them they were not alone in sadness and struggle. It made me appreciate the thoughts and opinions of each person because they had a story and background to them. I grew to care deeply for my classmates.

IMPACT OF THE JOURNEY LINE IN THE CLASSROOM

In order to assess the effects of the journey line, we collected qualitative data from undergraduate students (n=49) following completion of the journey line assignment. Qualitative data provide the best opportunity to understand the depth of impact of the journey line experience on students' subjective well-being, empathy, and learning. In this regard, qualitative data are especially valuable in uncovering and fostering richness of data from the participant (Cavana, Delahaye, & Sekaran, 2000; Gaya, 2016; Lee, 1999) and often require a smaller sample size than quantitative data. Our focus was to collect enough data to sufficiently understand the emergent themes and attain saturation such that additional participants does not reveal new themes or distinct information. In seeking saturation, we started with a sample size of 31 and then augmented this sample by 18. As anticipated, the additional sample of 18 showed consistency from one data collection to the next and demonstrated strong evidence of qualitative data saturation and consistency across cohorts. Our sample size of 49 is also on the upper end of recommended sample sizes among qualitative studies, with recommendations ranging from 20 to 50 participants (Creswell, 1998; Morse, 1994). The student participants were enrolled in an organizational behavior class in a public civilian university in the Mountain West. 55% of the participants were male and 76% were Caucasian, the average age was 29, and had an average of eight years of work experience. Because this course is part of the core curriculum within the leadership minor and is broadly available to students across campus, students had diverse work and academic experiences.

In a survey, we asked students to describe the experience of presenting and observing journey line presentations. Two instructors independently assessed and categorized student descriptions. Then, they collaborated and generated a consensus regarding the theme of the student description. Based on qualitative data analysis, we found that the journey line experience positively influenced the student's (1) subjective well-being, (2) empathy, and (3) learning. Subjective well-being adds value because it is positively related with mental and physical health, longevity, positive relationships, creativity, and performance (Fredrickson, 2001; Larsen & Eid, 2008). Empathy is important because it is positively associated with pro social behavior, positive affect, life satisfaction, trust, and relationship satisfaction while resulting in lower levels of depression and social anxiety (Batson et al., 1991, Gable et al., 2006; Morelli et al., 2015; and Nezlek, Feist, Wilson, & Plesko, 2001). Learning contributes to student satisfaction, productivity, and performance (Edmondson, 1999).

Subjective Well-Being

Subjective well-being refers to "a person's cognitive and affective evaluations of his or her life" (Diener, Lucas, & Oishi, 2002, p. 63). The eudaimonic component of subjective well-being (relating to flow, meaning, self-realization, and aligning with one's authentic self) is especially related to student responses. With regard to subjective well-being, students noted:

The vulnerability that I experienced while presenting my journey line was healing. It helped me reflect on where I am at now versus where I was then. I was talking about some really difficult things from my past and opening up about my anxiety and the way it affected my relationship wasn't something that I had really shared with anyone. By being vulnerable about my experiences, I was able to share more of who I was with the class. It finally brought about feelings of acceptance and an opportunity for growth.

Completing this journey line presentation was extremely beneficial for me in this area of vulnerability as it truly made me think about why I acted as I did. It was able to facilitate psychological closure for the event as I thought through the theory associated with it.

Expressing my own personal vulnerability allowed me to harness a stronger sense of self-awareness. It provided the necessary means for reflection. It is always intimidating to present and reveal your vulnerability in front of a public audience, but the assignment was facilitated in a manner that seemed to only promote a growth mindset. It was empowering.

It was very emotionally therapeutic sharing my crucibles since I don't like discussing private matters with anyone. It allowed me to face some of the struggles that I have been through and embrace my past. It has shown me that I can be more vulnerable more often.

Now I have some self-love. Sharing something so deep and personal allowed me to feel like I had gotten something off of my chest that I didn't realize hindered me. This was very therapeutic because I got to realize how far I've come in moving on from the hard parts of my life and I was able to see what I'm doing now that is different than I did before to deal with hard things that come up.

As noted above, students described the journey line as being therapeutic and providing necessary healing. The journey line enabled reflection, contemplation, and psychological closure regarding the progress they made from previous struggles. Opening up with the class and being genuinely vulnerable was not easy, but it was rewarding and helped them learn to accept their past struggles. Although daunting, this vulnerability fostered increased self-awareness, a growth mindset, and a sense of empowerment. Students who once avoided being open with others began to embrace the idea of being vulnerable. They found self-love and a sense of progress as it relates to their capacity to cope with challenges.

Empathy

Empathy refers to understanding and vicariously experiencing the emotions of others (Morelli, Lieberman, & Zaki, 2015). With regard to empathy, students noted:

When I was listening to my peers' presentations, I gained an entirely different understanding of them that I would have not gotten with just our interactions in class. I gained respect and empathy for my peers as I learned the trials and triumph's they experienced in their lives. The level of vulnerability they had in sharing their stories helped me to understand the complexities of how that event affected them on an emotional level. I learned that we all suffer in unique ways.

It's quite easy to self-diagnose what you have gone through personally and feel a sort of pity; but to capture the unknown trials of your peers and their respective journeys only elicits an appreciation for each of these experiences and for humanity as a whole. I feel an overcoming sensation of empathy with every presentation. I think the journey line assignment itself draws out compassion in its rawest state.

The biggest takeaway from the journey lines was developing empathy. I think it's easy to go into a class and silently judge people before you know them, but I learned that everyone has their own battles, failures and triumphs. To empathize is to feel with and there were a few moments where I just wanted to offer comfort to those giving their journey line. I gained a deeper respect for all of the students in my class. Reliving someone else's experience allows you to feel and embody what they may have gone through. You may not have personally experienced something of that nature; however, you feel empathy taking over, putting yourself in their shoes.

If you really listen to another's journey line, you never view them the same. It has to do with really listening, understanding, and walking in their moccasins for a way. We don't necessarily need to hear everyone's journey line, we just know it is there and extend them the same respect, courtesy and empathy as if we had just heard their journey line.

The journey lines brought us closer as a class. There is something humanizing about the journey line experience. There is something powerful to hearing stories about adversity that connects us. That is something, I can say, I am not used to seeing from college classmates—everyone was able to participate in embracing a vulnerability and sharing insights from a range of perspectives. I think the collective vulnerability allowed each of us to reveal context beneath our facades. I have never made a solid friend from a college class until this one. By encouraging us to be vulnerable and share our experiences, I made friends that I trust and know that I can talk to.

As noted above, students described the journey line as facilitating respect and empathy, especially as it relates to vulnerability and authenticity—seeing that we all struggle in different ways. The journey line also helped develop a sense of shared humanity and appreciation, taking empathy to a raw state. Some students wished they could comfort other students as they presented their struggles and began to feel comfortable talking to them outside of class and nurturing a friendship. Students were able to take a step back from judging others and learned to consider the weight of somebody else's burdens. The empathy they described seemed to be growing deeper and more personalized while

giving them increased courage to embrace advanced depths of vulnerability. In fact, the empathy component is one of the major modifications to the original journey line experience—we added in-class sharing and peer feedback. This modification seemed to have had a profound influence on students by creating a unique classroom environment that helped students feel comfortable sharing highly vulnerable experiences. As such, it appears the empathy component helped to unlock the subjective well-being and learning components as well.

Learning

Learning refers to knowledge acquisition and application—augmenting one’s capacity to understand, implement, process, reflect upon, and modify actions (Edmondson, 1999; also see Revere, Decker, & Hill, 2012). With regard to learning, students noted:

Working on my journey line and tapping into facets of my vulnerability allowed me to not only unearth the concepts of learned optimism and social cognitive theory, but reflect further on multiple experiences where concepts in class are applicable quite often, even daily. This taught me to identify and deal with issues that were traumatizing in the past that I might not have attributed to causing me trouble in the present day.

Being vulnerable and having to relate it back to theory really helped me realize a hardship that I went through and what good outcomes came from it. I am now able to look back on those moments and not feel as much sadness or anger and feel more understanding. This assignment helped me to realize that I am not so much upset by what actually happened, but rather how I reacted to what happened. I learned how to process my past by connecting it to course concepts.

Reflecting back on crucible moments in my life helped me to recognize and see things I have learned from my crucibles. Giving the presentation felt uncomfortable, but I feel the preparation was beneficial in helping me acknowledge the latent competencies I used.

The theories in my journey line not only helped me retain the knowledge of the theories by teaching them to my peers, but it also helped me find more understanding in the situations that happened. I believe that I understood both crucible events I shared in my journey line and their respective theories much more as I was willing to be vulnerable in explaining those events. I never really understood self-determination until I personalized it.

When a student gave her journey line and connected her crucible to ambivalent identity, I gained an understanding of that identity that I had not connected with prior to that class. When she gave her presentation and explained ambivalence, not with others, but within herself, I connected that theory more than I did when reading the article and with the picture illustration. Applying these concepts to real-life anecdotes allowed for better understanding of the material. Stories have a way of making concepts and lessons stick in your memory in a way that rote memorization does not.

I think vulnerability played a large role in helping me to not only learn from the failure I experienced, but also to learn the importance of learned optimism. I could not have developed learned optimism nor discussed what I learned had I not been vulnerable and willing to change.

The journey line allowed me to identify specific instances in my life and label them with a theory. Previously I would have known the experience but not the reason I had experienced it or why I was feeling what I was feeling at the time.

As mentioned above, students described the journey line as cathartic and educational—attributing this experience to an enhanced ability to process and make sense of previous events as well as course concepts. Although preparing and presenting the journey line was not an easy experience, it helped the students realize dormant strengths they possessed. Students found value in personalizing concepts (e.g., self-determination, learned optimism, and ambivalence) in order to more fully understand them. The journey line enabled students to become more observant of daily events such that they were primed to contemplate ways to resolve future predicaments and crucibles through a theoretical lens. One student noted how they connected to, and understood, a concept at a deeper level after having listened to a classmate share a traumatic experience related to the concept. In this, and other cases, it was clear that observing others’ journey lines and integrating one’s own crucibles with course concepts were more effective learning tools than reading the article or viewing an illustration during a class discussion.

CONCLUSION

The purpose of this research was to enable positive student experiences and long-term outcomes while outlining how other instructors can facilitate similar outcomes. Going forward, we recommend quantitative assessment of student experiences as a means to corroborate and extend qualitative findings. We also recommend experimenting with a follow-on graded requirement for students to assess the longevity of the positive effects and role in perpetuating increased levels of emotional intelligence, decision making, and resilience. For example, the United States Military Academy at West Point created a follow-on component for cadets in the military leadership course to draw on vulnerability and authenticity in order to develop a growth plan and leadership philosophy. We also recommend further discovery into how student crucibles benefit the instructors. In our case, the instructors often felt they had a much better understanding of their students and were able to relate with them after listening to their journey line. Additionally, as the students began to empathize with each other and deepen their understanding of the material, this enabled greater connection within the class and facilitated subsequent openness, personalized instruction, student engagement, rich examples, and satisfaction in teaching the students.

Our qualitative data offer rich, compelling, and consistent narratives across cohorts, work functions, and life circumstances. With this evidence, we have demonstrated that the journey line experience enables subjective well-being, empathy, and learning—three relevant and meaningful outcomes to individuals and organizations. We encourage other educators to consider adopting similar practices that would create opportunities for students to engage vulnerability within a controlled and psychologically safe environment. We believe similar success could be achieved in other courses and academic settings as well as private-sector and government organizations. There may be particularly high impact if the value of vulnerability is taught across the curriculum and across the organization (see Liesz & Porter, 2015), with organizational leaders taking the lead in modeling vulnerability at work.

REFERENCES

- Batson, C. D., Batson, J. G., Slingsby, J. K., Harrell, K. L., Peekna, H. M., & Todd, R. M. (1991). Empathic Joy and the Empathy-Altruism Hypothesis. *Journal of Personality and Social Psychology*, *V. 61*, pp 413.
- Bowen, P.G. (2015). Using Socratic Pedagogy to Deliver Undergraduate Business Education. *Business Education Innovation Journal*, *V. 6*, pp 48-56.
- Cavana, R. Y., Delahaye, B. L., & Sekaran, U. (2000). *Applied Business Research: Qualitative and Quantitative Methods*. Milton, QLD: John Wiley and Sons.
- Creswell, J. W. (1998). *Qualitative Inquiry and Research Design: Choosing Among Five Traditions*. Thousand Oaks, CA: Sage Publications.
- Diener, E., Lucas, R. E., & Oishi, S. (2002). Subjective Well-Being: The Science of Happiness and Life Satisfaction. In C.R. Snyder & S.J. Lopez (Ed.), *Handbook of Positive Psychology*. Oxford and New York: Oxford University Press.
- Edmondson, A. (1999). Psychological Safety and Learning Behavior in Work Teams. *Administrative Science Quarterly*, *V. 44*, pp 350-383.
- Fredrickson, B. L. (2001). The Role of Positive Emotions in Positive Psychology: The Broaden-And-Build Theory of Positive Emotions. *American Psychologist*, *V. 56*, pp 218–226.
- Gable, S. L., Gonzaga, G. C., & Strachman, A. (2006). Will You Be There For Me When Things Go Right? Supportive Responses to Positive Event Disclosures. *Journal of Personality and Social Psychology*, *V. 91*, pp 904–917.
- Gaya, H. J., & Smith, E. E. (2016). Developing a Qualitative Single Case Study in the Strategic Management Realm: An Appropriate Research Design. *International Journal of Business Management and Economic Research*, *V. 7*, pp 529-538.
- Larsen, R. J., & Eid, M. (2008). Ed Diener and the Science of Subjective Well-Being. In M. Eid & R. J. Larsen (Eds.), *The Science of Subjective Well-Being* (pp. 1–16). New York: The Guilford Press.
- Lee, T. W. (1999). *Using Qualitative Methods in Organisational Research*. Thousand Oaks, CA: Sage.
- Liesz, T., & Porter, J. (2015) Bridging The Gap: An Applied Example Of The Need To Integrate A Business Curriculum. *Business Education Innovation Journal*, *V. 7*, pp 51-61.
- Morelli, S.A., Lieberman, M.D., & Zaki, J. (2015). The Emerging Study of Positive Empathy. *Social and Personality Psychology Compass*, *V. 9*, Issue 2, pp 57-68.
- Morse, J. M. (1994). Designing Funded Qualitative Research. In Denzin, N. K. & Lincoln, Y. S., *Handbook of Qualitative Research* (2nd Ed). Thousand Oaks, CA: Sage.
- Nezlek, J. B., Feist, G. J., Wilson, F. C., & Plesko, R. M. (2001). Day-To-Day Variability in Empathy as a Function of Daily Events and Mood. *Journal of Research in Personality*, *V. 35*, pp 401–423.
- Revere, L., Decker, P., & Hill, R. (2012). Assessing Learning Outcomes Beyond Knowledge Attainment. *Business Education Innovation Journal*, *V. 4*, pp 72-79.
- Selcer, A., Goodman, G., & Decker, P. J. (2012). Fostering Transformational Leadership in Business and Health Administration Education through Appreciative Inquiry Coaching. *Business Education Innovation Journal*, *V. 4*, pp 10-19.

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Developing Trustworthy Business Leaders: Modeling and Creating Justice-driven Trust in the MBA Organizational Behavior Classroom

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ABSTRACT

Recent polls suggest that business managers and executives rank very close to the bottom of professions in terms of honesty and ethical standards. Although other contributing causes certainly exist, credible evidence suggests that increasing distrust of business leaders may in part be due to the experience students have in MBA programs. The purpose of this paper is to build on extant research examining trust as a pedagogical tool in MBA program, by proposing a pedagogical platform based on organizational justice in order to create and embed psychological trust as a means of developing ethicality in leaders, specifically via training in MBA *organizational behavior* coursework. We discuss the interrelationship between justice and trust, with organizational justice as the basis for generating trust in the classroom, and provide specific suggestions for modeling justice principles in order to do so. We suggest that such a platform has the potential to restore the trust of employees and other stakeholders by way of training future business leaders to prioritize ethical and just behavior and long-term relationships over more short-term interests.

Keywords: Trust, Trustworthiness, Organizational Justice, Trust in Leadership, Business Ethics, Organizational Behavior, Organizational Behavior Education, Masters of Business Administration Degree, Pedagogy

INTRODUCTION

Many of us remember seeing on the cover of Business 2.0 magazine, the “final last words” of Kenneth Lay, the Founder and CEO of Enron, which he emailed to all Enron employees on August 14, 2001:

“Our performance has never been stronger; our business model has never been more robust; our growth has never been more certain.”

By the time Mr. Lay sent his deceptive email, Enron’s stock value had already fallen by more than 50%, and would, within weeks, drop to nothing. A \$100 billion company, upon which tens of thousands of people staked their livelihoods and retirements, had gone from being one of the most prosperous firms in world history to being less than worthless in approximately one year.

The dramatic fall of Enron, nearly twenty years ago, still echoes as a flagship event in spurring discussions about untrustworthy leadership behavior in business, in part because within one year of Enron’s bankruptcy, twenty additional firms followed in declaring bankruptcy, many for reasons identical to or very similar to Enron’s (Patsuris, 2002). Since then, ethics problems among business leaders have only increased. In 2005, Tom Kozlowski was convicted of stealing some \$600MM from the Tyco Corporation; 2009 saw the sentencing of Bernie Madoff for his Ponzi schemes and the crash of much of the world’s economy due to widespread unethical executive behavior within America’s financial institutions; in 2016, Wells Fargo was fined \$185MM for systematic fraud - and the list continues.

Although the public’s trust in business leaders has been in a steady decline for decades, there has been a particularly sharp decline in recent years (Hernandez, 2018). In 2017, global public opinion of the trustworthiness of business leaders saw a double-digit decline; only 37% of those surveyed indicated that CEOs were credible (Harrington, 2017). This is a startling development for many reasons, but especially because of how important employee trust in leadership is to key organizational outcomes. According to the 2019 Edelman Trust Barometer, employees who trust their organizations are 39% more likely to advocate for their employer, 33% more likely to be engaged at work, 38% more likely to be loyal to their organization and 31% more committed to their organization than their mistrusting

colleagues (Edelman, 2019). As trust declines, employees' engagement with their work and their organizations will continue to erode these advantages for organizations.

This crisis of unethical leadership has caused many to inquire about causes, and there is likely a constellation of antecedents contributing to what has become a dramatic problem. Evidence suggests that certain personality traits, notably the *dark triad* of Machiavellianism, narcissism and psychopathy are associated with unethical behaviors. For example, Machiavellianism has been linked to unethical decision-making (Kish-Gephart, Harrison, & Trevino, 2010), CEO narcissism to both reductions in corporate social responsibility programs and increases in corporate irresponsibility (Tang, Qian, Chen, & Shen, 2015), and psychopathy to illegal and criminal activity (Hare & Neumann, 2009). Interestingly, a disproportionate number, twenty percent, of CEOs are psychopathic, a percentage similar to that which exists in prisons (Agerholm, 2016).

Individual characteristics notwithstanding, Ghoshal (2005) makes a strong case for an institutionalized system of business schools that "propagate ideologically-inspired amoral theories" (p. 76) such as agency theory and transactional cost economics. Ghoshal suggests that in doing so, business schools pave the way for normalizing and legitimizing unethical behavior on the part of organizational leaders. While an essential assumption behind our argument is that *amoral* does not necessarily equate to *immoral*, the stage appears to be set, and this carries with it important implications. Consider a core tenet of agency theory – the emphasis on the notion that an organization's leadership is responsible only for shareholder wealth maximization (Kochan, 2002) and a consistent focus in MBA curricula. Tang et al. (2015) found that under conditions of financial uncertainty, CEOs would shift away from corporate social responsibility programs and toward corporate irresponsibility in an effort to preserve returns. This suggests that an emphasis on agency theory may lead to unethical means to achieve the end of maximizing shareholder wealth.

We join with Ghoshal (2005), Giacalone and Promislo (2013) and others in suggesting that the training managers and executives are receiving in business schools, in this case specifically their Master of Business Administration (MBA) programs, may be a contributing factor to unethical behavior. It is even possible that unethical people are self-selecting into business schools, either explicitly or implicitly attracted to certain perspectives and practices. While it is likely that there are a host of other contributing factors, in this paper, we focus on responding to the possibility that MBA programs are contributing to the unethical behavior of managers and executives.

Master of Business Administration (MBA) programs represent an intensive socialization process for students who are, or will, lead organizations. The effect of these programs on the ethicality of graduate attitudes and behaviors has recently come into question, and rightfully so:

- McCabe, Dukerich and Dutton (1993) found evidence that MBA students are more likely to cheat on their exams than law students (another notoriously mistrusted profession, Edelman, 2019).
- Scholars have shown that MBA students graduate from their programs less ethical than when they begin them, and that the prevalence of economics-based concepts and approaches in MBA programs is a key cause of this phenomenon (Hühn, 2014; Krishnan, 2008; Wang, Malhotra, & Murnighan, 2011).
- MBA curricula reinforce paradigms of self-interest, short-term wealth maximization and shareholder primacy (e.g., Ghoshal, 2005; Giacalone & Promislo, 2013; Jones & Felps, 2013; Preble, 2005).

Despite sharp increases in ethics course offerings in MBA programs in recent years (Christensen, Peirce, Hartman, Hoffman, & Carrier, 2007), we suggest that the mere addition of ethics courses will not be enough to shift the overall perspective away from the types of attitudes and behaviors that may drive future business leaders toward unethical behavior. Returning to Ghoshal's (2005) assessment that theories taught in business schools can be considered amoral, we suggest that the natural outcome of this process need not be the development of unethical business leaders. We believe that there is an opportunity to emphasize alternative approaches to business management through pedagogical techniques, especially in classes with content unrelated to economics-based (e.g., agency theory, short-term wealth maximization and transaction cost economics) approaches. In line with and extending arguments made in recent research (see Hansen et al., in press) regarding trust-based pedagogy in MBA programs, we suggest that rather than an approach that focuses on short-term profitability and shareholder wealth

maximization, a long-term, justice-based pedagogical approach to teaching MBA coursework, specifically in organizational behavior courses, will foster a climate of trust in the classroom that will in turn, positively influence the ethical orientation of MBA students, as well as their future success as business leaders.

To accomplish this, we draw on well-established relationships between trust and organizational justice to provide a practical foundation for developing trust in the classroom. Specifically, we suggest that applying a justice-based approach to teaching organizational behavior coursework in MBA programs is potentially fruitful based on our own experience as former managers and current MBA program faculty. This paper is organized as follows:

- We first present background on the psychology of trust, including the role of trust in the field of organizational behavior and the link between trust and effective business leadership.
- We next introduce organizational justice as a key antecedent to trust and trustworthiness perceptions, providing a parsimonious, well-supported, and applied paradigm in which to foster trust.
- Finally, we draw on scholarly research as well as our own experiences enacting organizational justice in the classroom to provide specific pedagogical guidance for leveraging organizational justice as a tool for generating trust in the MBA classroom and aiding MBA students to become trustworthy executives.

TRUST'S PIVOTAL ROLE IN ORGANIZATIONAL BEHAVIOR

Organizational Behavior (OB) is an evidence-based discipline focusing on understanding the attitudes and behaviors of people in the workplace. OB researchers are particularly interested in explaining and improving these attitudes and behaviors (Colquitt, LePine, & Wesson, 2013). As such, OB coursework in MBA programs is focused on providing leaders with the tools they need to improve employee attitudes and behaviors at work. Decades of research have demonstrated that employee trust is the foundation of effective leadership (Bedi, Alpaslan, & Green, 2016; Dirks, 2000; Dirks & Ferrin, 2002). Empirical research has also made it clear that employee trust is a potent antecedent of a wide variety of important leadership outcomes, including positive attitudes, more effective communication, organizational citizenship behaviors, reduced conflict, job satisfaction, and effective recruitment of new employees, among others (Colquitt, Scott, & LePine, 2007; Dirks & Ferrin, 2000; 2001).

Trust is the "willingness to be vulnerable to others" (Zand, 1972; p. 231), and three key antecedents of trust are the trustee's (e.g., business leader's) *integrity*, *ability*, and *benevolence* (Colquitt et al., 2007; Mayer, Davis, & Schoorman, 1995; Morgan & Hunt, 1994). These three antecedents, when displayed and perceived by observers, contribute to perceptions of an individual's *trustworthiness*. In other words, when trustors (e.g., employees) perceive integrity, ability and benevolence in another, the trustee's trustworthiness is enhanced. A trustee's consistent demonstration of trustworthiness over time leads trustors to engage in trust (Colquitt & Rodell, 2011). As trust is exercised, trustors (e.g., stakeholders such as employees, who rely on business executives) continually update their impression of trustees' characteristics and use this to gauge future interactions with those trustees. Reflecting conceptual roots in social exchange theory (Blau, 1964), consistent trustee trustworthiness and trustor trust become a self-reinforcing dynamic as long as both elements are maintained. Although all three components of trustworthiness (i.e., integrity, ability, and benevolence) uniquely contribute to perceptions of trustworthiness (Colquitt et al., 2007), recent research suggests that integrity and benevolence are likely more important than ability (Finegan, 1994; Gillespie, Dietz, & Lockey, 2014; Greenwood & Van Buren III, 2010; Janowicz-Panjaitan & Krishnan, 2009). Research has also demonstrated that when and where trust is lacking, controls are typically substituted, but at a higher cost for the trustor (Alm, 2015; Das & Bing-Sheng, 1998; Mills & Ungson, 2003).

In order to better understand how trustworthiness and trust lead to the positive workplace outcomes noted above, we offer and explain the term *well-placed trust*. Beyond signaling trustworthiness through the display of integrity, ability and benevolence, well-placed trust indicates the presence of a social exchange process important to employees. Lind (1995) proposed that employees face a *fundamental social dilemma* with regard to their relationship with the organization they work for. At the center of this dilemma is the employee's recognition that organizations may either exploit their efforts for the organization's own gain or may reciprocate their efforts with outcomes, including social outcomes, that are meaningful to the employee. Well-placed trust is generated by consistent, trustworthy behaviors that indicate that the organization's leaders will act fairly and responsibly toward

employees, resolving the dilemma. In turn, employees reciprocate with positively-intended behaviors toward both the organization and its members (Colquitt et al., 2007; Dirks & Ferrin, 2000; 2001).

Insomuch as *well-placed trust* drives a wide variety of positive outcomes in organizations, MBA students learning OB from a trust perspective should understand that their effectiveness as leaders depends heavily upon their ability to build current and future employee trust. Therefore, aspiring leaders need to become familiar with known antecedents of employee trust. In addition to ability, benevolence and integrity (as discussed above), other antecedents to trust that have been explored in recent research include: ethical and inspiring leadership, organizational and supervisory support, perceptions of corporate social responsibility, participative decision-making, and as we discuss here, perceptions of *organizational justice* (Bedi et al., 2016; Colquitt & Rodell, 2011; Dirks & Ferrin, 2002; Hansen, et al., 2011). Such topics are typically covered in MBA OB coursework, but integrating trust with these topics is uncommon. As such, the value of understanding the development, maintenance and outcomes of trust represents a missed opportunity. For students in MBA programs, this value can be realized through a trust-focused approach that is repeatedly reinforced as a strategic goal of OB expertise, across course topics. We next introduce organizational justice and explicate the relationship between perceptions of justice, trustworthiness, and trust.

THE PSYCHOLOGY OF ORGANIZATIONAL JUSTICE IN ORGANIZATIONS

Organizational justice refers to perceptions of fairness experienced in organizational contexts and is one of the most widely studied phenomena in the field of organizational behavior (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Research in the domain of organizational justice is robust, and spans several decades. Over the course of developing theory about organizational justice, four dimensions of justice have emerged:

- *Distributive justice* stems from Adams' (1965) equity theory and refers to the fairness of outcomes in organizations (Deutsch, 1975). When evaluating the fairness of outcomes, justice judgments are typically based on one of three criteria – equity, equality or need (Leventhal, 1976). Outcomes are considered fair if they are earned, equally distributed, or distributed based on need respectively, and these judgments of deservingness can be context-specific. In work organizations, these outcomes may include pay, promotions, benefits and accommodations for those with disabilities; in academic settings, these outcomes may include grades and other feedback on student performance.
- *Procedural justice* refers to the processes by which outcomes are allocated in organizations (Folger & Cropanzano, 1998; Thibaut & Walker, 1975). Procedures are considered fair if they are consistent, accurate, free of bias, correctible, ethical, and allow for consideration of and input from all affected parties (voice; Leventhal, Karuza, & Fry, 1980). Organizational examples of procedural justice include transparent criteria for promotions and merit-based pay; in academic settings, examples are the use of rubrics and clearly outlined syllabi.
- *Interpersonal justice* refers to the fairness with which individuals treat each other on an interpersonal basis; that is, do people treat each other with respect and dignity, and do they refrain from improper remarks (Bies & Moag 1986)? In the classroom, this may pertain to student-student interactions, professor-student interactions, and the management of student interactions by the professor.
- *Informational justice* refers to the fairness of information provided, specifically whether or not adequate explanations are delivered in a timely manner (Greenberg, 1993). Examples of this in academic settings include the thorough explanation and exploration of course topics, addressing student questions in an immediate and thorough manner, and timely and detailed feedback on student work.

Fairness is tremendously important to people - organizational justice research is characterized by robust relationships between each of the dimensions of justice and a wide variety of outcomes. Meta-analytic studies demonstrate that justice perceptions have a positive relationship with organizational commitment, perceived organizational support, leader-member exchange, job satisfaction, task performance, organizational citizenship behaviors and counterproductive workplace behaviors (neg) (Colquitt et al., 2001; Colquitt et al., 2013). Most importantly, some of the strongest relationships found in the justice literature are those between justice and trust. In their comprehensive meta-analytic review of the justice literature, Colquitt and colleagues (2013) showed strong

corrected meta-analytic correlations between distributive justice and trust ($r_c = .45$), procedural justice and trust ($r_c = .65$), interpersonal justice and trust ($r_c = .59$), and informational justice and trust ($r_c = .65$).

THE INTERRELATIONSHIP BETWEEN JUSTICE PERCEPTIONS AND PSYCHOLOGICAL TRUST

The relationship between justice and trust is nuanced, and in some ways reciprocal. Research indicates that dimensions of justice relate to perceptions of benevolence and integrity (trustworthiness), that a combination of perceived informational justice, benevolence and integrity leads to trust, and that perceptions of integrity can lead to perceptions of justice (Colquitt & Rodell, 2011). For the purposes of understanding the relationship between justice and trust specifically as it relates to leveraging justice to create trust in the MBA classroom, it is helpful to discuss these concepts through the lens of social exchange theory, particularly as Blau (1964) argues, that the elements that are exchanged can be social elements. Indeed, most of contemporary research on organizational justice is grounded in social exchange theory (Colquitt et al., 2013; Colquitt & Rodell, 2011).

Foa and Foa (1980) build on Blau's (1964) work in elaborating on the nature of social resources that can be exchanged in the context of social exchange theory. Of particular relevance are information, services, and status as resources that can be exchanged (Foa & Foa, 1980). Inasmuch as education broadly represents a service that provides information to students, these two resources are particularly relevant. Additionally, we follow Pfeffer and Fong (2002) in recognizing that status is an important resource associated with an MBA education. Foa and Foa (1980) further make the distinction that resources may be universal or particularistic, with particularistic resources characterized by the condition that the provider of that resource is meaningful. They specifically mention that services and status are particularistic (Foa & Foa, 1980). Therefore, a professor in an MBA program may be characterized as a particularistic resource for information as part of a service that confers status. We believe this speaks to the role that MBA professors may have in influencing their students. In conjunction with MBA curricula, a professor's emphasis on shareholder wealth maximization may be a factor leading students to attend to the concepts that have been shown to promote unethical behavior, as discussed above. One of the central arguments of this paper is that this influence may also be used to develop ethical behavior, and that efforts to do so are needed.

The associations noted above (Colquitt & Rodell, 2011) and characteristics of the resources involved (Foa & Foa, 1980) uniquely describe how professor-enacted justice and subsequent perceived trustworthiness lead to trust between MBA students and their professor. By enacting procedural, interpersonal, and informational justice, students in the classroom will perceive that the professor possesses benevolence and integrity, demonstrating trustworthiness. In turn, a combination of informational justice and perceptions of professor benevolence and integrity will lead to student trust in the professor.

Interestingly, Colquitt (2001) suggests that in particular, informational justice may convey a sense of inclusion and signal in-group status, and so both information and status resources may be provided by a professor who enacts informational justice. Particularly relevant to the MBA classroom environment, Colquitt and Rodell (2011) further note the possibility that informational justice relates to trust based on a mutual sharing of ideas and a sense that people can talk freely among themselves (McAllister, 1995). Recent research demonstrates that this is indeed the case; Nelson, Hegtvædt, Haardörfer and Hayward (2019) have found that an authority's enactment of justice leads to trust through, in part, communication between organizational members.

In the following section, based on theory and our own experiences teaching MBA organizational behavior courses, we suggest specific ways for professors to enact procedural, interpersonal and informational justice, thereby creating trust in the professor. We then elaborate on the process by which that trust develops into a self-reinforcing learning context, creating a climate of trust that students internalize and take into their own careers as business leaders.

MODELING TRUST-BUILDING LEADERSHIP THROUGH FAIR MBA CLASSROOM PRACTICES

Effective leadership in modeling principles and practices recognizes that leadership is an emergent, context-specific, and dynamic process (Fairhurst & Grant, 2010). We find that the greatest opportunity for demonstrating both integrity and benevolence in enacting organizational justice does not lie within what we might consider more straightforward practices related to teaching, rather we find the most impact in opportunistically enacting justice.

Within an MBA program, organizational behavior courses provide an opportunity for rich, meaningful dialogue between students about people-related topics within business. As such, the professor has a greater degree of latitude

in enacting the forms of justice we address – procedural, interpersonal and informational justice. Below, we humbly offer three examples from our own pedagogical approach in enacting and modeling justice and creating trust in the classroom.

Example 1 – The Check-In

An example of a procedurally just action that we have found effective and even surprising to students, is to stop the lecture or discussion when student participation is low or superficial, and check in with them. In doing so, we are providing students with *voice*, allowing for input from them. We find that sometimes a little prodding is needed, but that eventually students will speak up and explain why they are not participating. Based on student responses, a wide variety of options are available in dealing with the situation.

For example, we have used this opportunity to shift the discussion to other organizational behavior topics that are relevant to what students are thinking about, such as stress management. We have asked students what they feel would be a more value-added activity and in a double dose of procedural justice, have scuttled our own plans for the class session in favor of student-driven learning activities related to the topic to be covered. We caution the reader in that it is important to be mindful of classroom management in choosing to do this, as the goal here is to maintain a productive learning environment while enacting voice; this tactic may require judicious thought under time pressure in order to maintain leadership of the class.

When engagement and learning are flagging, providing voice in this way demonstrates benevolence towards the students, and indeed, students have expressed that this is the case both anecdotally and in course evaluations. Because this in-the-moment change is often surprising to students, we also take the time to discuss what just happened from a process standpoint. In these discussions, we reinforce the idea that justice can be enacted at any time, and in situations where resources are limited. In doing so, we are able to show students that awareness and adaptability in enacting justice opportunistically can have a meaningful impact in building trust with stakeholders. They learn that at the right time, stopping, listening to stakeholders, and making adjustments is a form of opportunistic benevolence that contributes to trust in the leader’s attentiveness to employees and the situation in the moment.

Example 2 – The Unexpected Collaboration

We have found this next example surprisingly effective as a means of enacting procedural, interpersonal and informational justice as well as a high-impact learning experience for students. In our MBA organizational behavior course, we have changed the process of reviewing group research projects from a submission-written feedback-correction process to a real-time collaborative review and editing of projects. It is worth noting that while this could be implemented in any course format, we utilize this process in a hybrid course where half of the coursework is carried out online. Groups post their research papers on a platform that is accessible for all group members and the professor to work on the document (e.g., Google Docs). The professor reviews the document ahead of a scheduled meeting, making notes in the document. During the meeting, group members and the professor all work directly in the document, making changes, asking and answering questions, and exchanging ideas and comments. The professor’s contributions are formative yet placed directly in the relevant area of content; for example, the professor may provide an example of improved argument by rewording content in the document, but only to the extent needed for students to learn how a valid and logical argument should be constructed.

It is not uncommon for students to be initially uncomfortable at the level of the professor’s participation in these sessions. Some have expressed concern that their grade will be lowered as a result of professor contributions to the paper, some come to an assumption that their work is so poor that the professor has to jump in to make up for it, and others simply react to the cognitive dissonance stemming from a violation of an implicit barrier between professor and student when it comes to working on class assignments. Because of this, we recommend setting expectations about what the session will be like ahead of time, and as needed, check in with students and reassure them. We also caution the professor, as participation may drift away from guided collaboration and toward a more directive approach, which may undermine the impact of this learning experience.

Students have specifically noted both anecdotally and in course evaluations, that this is an extremely high-impact learning experience for them. They also express gratitude and surprise that the professor is willing to spend time working with each group separately to ensure they get the most out of the project. This activity has resulted in

increased perceptions of professor benevolence and integrity by working in such a personalized manner with student groups. We also discuss the experience itself with students as an example of how, as leaders, modeling justice through active participation with subordinates can quickly build trust in their leadership while at the same time improving outcomes; students learn that in working side-by-side with key stakeholders, they are not giving anything away.

Example 3 – The Mid-Course Syllabus Change

A final example involves the opportunity to benefit individual students while maintaining fairness by changing the course syllabus after the course has begun. Although many professors like to believe syllabi are best left untouched once class begins, especially in MBA programs where high levels of professionalism are expected, we have learned that some exceptions to this norm can actually demonstrate justice and benevolence, and build student trust in the professor, opening the door for students to learn how to use the psychology of justice and trust in their future careers as business leaders.

We regularly face situations in which MBA students will experience emergencies or crises in their lives or in the lives of their families during the course of a semester. Although many reasons exist, often such emergencies result from the death or illness of, or an accident involving, a loved one. It is worth noting that in our MBA program, a large majority of students are working full time, have families, and are in the “sandwich” generation, characterized by caring for both growing children and aging parents. Nevertheless, if these crises occur around the time of exams or when important assignments are due, it is natural for the professor to be skeptical of the situation presented. The norm in such situations is to take the student’s word at face value, and so the question the professor is often faced with is, “*how can I be benevolent to students experiencing crises while still being fair to the rest of the class?*” Unfortunately, and all-too-often, professors will assume that benevolence toward one student necessitates unfairness to the rest of the class and will consider the situation no further, providing little to no support for the student in crisis and effectively eliminating that student’s trust in the professor. (We also find that trust in the professor is more broadly damaged with other students and potential future students through word of mouth as a result.)

However, better options exist for professors familiar with the antecedents of trust who are willing to creatively seek ways to simultaneously exercise benevolence and fairness, thus preserving student trust. For example, if a student claims that she or he must attend a funeral and therefore will not be able to take a testing center exam during the allotted time frame, we may take the opportunity to adjust the exam timeframe to accommodate the student in crisis, but in a way that equally benefits the entire class. Shifting an exam date out an additional day or two, for example, is unlikely to undermine learning objectives; rather it may benefit not only the student in crisis but the entire class. In such a manner, the professor is able to clearly demonstrate benevolence towards the student in crisis while simultaneously enacting procedural justice for the rest of the class and maintaining professionalism. In doing so, the relationship between justice and trust can be leveraged while simultaneously demonstrating trustworthiness directly through benevolent action. (Granted, the assumption is that the extension will not somehow provide some students with opportunities to cheat or otherwise gain an unfair advantage.) When appropriate, we have also used the entire situation as an “experiential case study” with the intent to educate students on how they might use the psychology of justice and trust as future business leaders, to help them retain the trust of their key stakeholders. It has been our experience that such learning experiences are not soon forgotten by students.

CREATING A CLIMATE OF TRUST AND DEVELOPING TRUSTWORTHY LEADERS

Thus far, we have argued and provided examples for enacting organizational justice in the classroom, leading to perceptions of professor trustworthiness and providing a practical means for generating trust between MBA students and their professor. We now turn to the process by which these activities generalize to the class as a whole, creating a climate of justice and trust, and developing trustworthy leaders by modeling trustworthy leadership in the classroom.

Social information processing theory (Salancik & Pfeffer, 1978) suggests that individuals influence each other’s perceptions through their interactions with each other, the process of which can eventually lead to a shared perception of their environment (O’Reilly & Caldwell, 1985). We believe that the open, intensive peer-to-peer and student-to-professor interactions that are an integral part of an MBA education (Tootoonchi, Lyons, & Hagen, 2002) facilitates social information processing and social learning within MBA programs. Justice scholars have used social

information processing to explain the development of shared perceptions about the behavior of an authority figure (justice climate; Liao & Rupp, 2005), as well as the development of shared perceptions about how peers treat each other (peer justice climate; Li, Cropanzano & Molina, 2015).

We suggest that through social information processing of the professor's enactment of procedural, interpersonal and particularly informational justice, students will develop a shared perception of a fair justice climate with regard to the professor-as-leader (Kim, 2019). As students interact in the classroom and experience procedural and interpersonal justice from the professor, they will develop a perception of peer justice climate about the course that will positively influence their interactions with each other (Pecino et al., 2018), including the enactment of justice between themselves.

As the peer justice climate of the class develops and matures, the known empirical relationship between justice and trust predicts that a climate of trust will also develop, in which students begin to model trust and trustworthy behaviors among themselves. Recent research supports this very dynamic in an academic setting. Nelson et al. (2019) demonstrate that justice enacted by an authority figure leads to trust and respect between students in the classroom via collective responsibility and communication - characteristics of exchanges and work in MBA courses (Tootoonchi et al., 2002). These dynamics are also supported by prior work noting that the combination of justice and an environment where ideas are shared and discussed openly is linked to the development of trust (Colquitt & Rodell, 2011).

Consistent modeling of organizational justice, the subsequent creation of a peer-to-peer justice climate, and in turn a climate of trust in the classroom, also provides the opportunity for students' active participation in their own leadership development process. Current views of leadership acknowledge that it is socially constructed (Fairhurst & Grant, 2010), and that leaders learn to lead over time (Hirst, Mann, Bain, Pirola-Merlo, & Richver, 2004). Our view is that the practice of organizational justice in the classroom and the associated outcomes that students realize over the time will help MBA students internalize the value inherent in a justice-based approach to building trust, and that these experiences may inform their future behavior as business leaders (Kayes, 2002).

When an MBA professor engages in organizational justice practices, this behavior may serve as a model for MBA students as well as trigger social information processing, leading the students to view the professor as trustworthy and generating trust in the professor. Collective effort and communication among MBA students contribute to a peer justice climate and a climate of trust, both of which form the basis for a co-constructed definition of leadership that includes fair treatment, trust and trustworthiness. As students reinforce these behaviors between them and over time, they will be more likely to carry forward justice and trust principles for their own use as leaders in their organizations which will help to build the trust of the stakeholders they work with, starting with their own employees.

CONCLUSION

Trust in business executives is declining; business executives already rank near the bottom of professions in terms of honesty and ethical standards. Some evidence suggests that increasing distrust of business leaders may in part be due to the way leadership/organizational behavior is being taught in MBA programs. This paper responds to this problem by proposing a justice-based psychological trust pedagogical platform for teaching organizational behavior coursework in MBA programs. We explain our reasoning via reference to the justice and trust literatures and demonstrate via proposed experiential learning classroom modeling, that a justice-based teaching platform is capable of helping to restore the trust of employees and other stakeholders. Specifically, we argue that as MBA students experience justice-driven trust in the classroom and witness its power as a highly effective leadership tool, they will internalize such trust-based leadership in their own careers, prioritizing justice, ethics, and long-term stakeholder relationships over more short-term interests.

REFERENCES

- Adams, J. S. (1965). Inequity in Social Exchange. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology*. V. 2, pp 267-299. New York, NY: Academic Press.
- Agerholm, H. (2016). One in Five CEOs are Psychopaths According to a New Study- Here's Why. *Business Insider*, September 15th, 2016, 7:00am.
- Alm, K. (2015). Chains of Trust or Control? A Stakeholder Dilemma. *Journal of Business Ethics Education*, V. 12: pp 53-75.

- Bedi, A., Alpaslan, C. M., & Green, S. (2016). A meta-analytic review of ethical leadership outcomes and moderators. *Journal of Business Ethics*. V. 139, No. 3, pp 517-536.
- Bies, R. J. and Moag, J. F. (1986). Interactional Justice: Communication Criteria of Fairness. In R. J. Lewicki, B. H. Sheppard and M. H. Bazerman (Eds.), *Research on Negotiations in Organizations*. V. 1, pp 43-55. Greenwich, CT: JAI Press.
- Blau, P. M. (1964). *Exchange and Power in Social Life*. New York, NY: Wiley.
- Christensen, L. J., Peirce, E., Hartman, L. P., Hoffman, W. M. and Carrier, J. (2007). Ethics, CSR, and Sustainability Education in the Financial Times Top 50 Global Business Schools: Baseline Data and Future Research Directions. *Journal of Business Ethics*. V. 73, No. 4, pp 347-368.
- Colquitt, J. A. (2001). On the Dimensionality of Organizational Justice: A Construct Validation of a Measure. *Journal of Applied Psychology*. V. 86, pp 386-400. doi:10.1037/0021-9010.86.3.386
- Colquitt, J. A. and Rodell, J. B. (2011). Justice, Trust, and Trustworthiness: A Longitudinal Analysis Integrating Three Theoretical Perspectives. *Academy of Management Journal*. V. 54, No. 6, pp 1183-1206.
- Colquitt, J.A., Scott, B., and LePine, J.A. (2007). Trust, Trustworthiness, and Trust Propensity: A Meta-analytic Test of Their Unique Relationships with Risk Taking and Job Performance. *Journal of Applied Psychology*. V. 92, No. 4, pp 909-927.
- Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O. and Ng, K. Y. (2001). Justice at the Millennium: A Meta-analytic Review of 25 Years of Organizational Justice Research. *Journal of Applied Psychology*. V. 86, No. 3, p 425.
- Colquitt, J. A., Scott, B. A., Rodell, J. B., Long, D. M., Zapata, C. P., Conlon, D. E. and Wesson, M. J. (2013). Justice at the Millennium, a Decade Later: A Meta-analytic Test of Social Exchange and Affect-based Perspectives. *Journal of Applied Psychology*. V. 98, No. 2, p 199.
- Das, T.K. and Bing-Sheng, T. (1998). Between Trust and Control: Developing Confidence in Partner Cooperation in Alliances. *Academy of Management Review*. V. 23, No. 3, pp 491-512.
- Deutsch, M. (1975). Equity, Equality, and Need: What Determines Which Value Will be Used as the Basis of Distributive Justice? *Journal of Social Issues*. V. 31, No. 3, pp 137-149.
- Dirks, K. T. (2000). Trust in leadership and team performance: Evidence from NCAA basketball. *Journal of Applied Psychology*, V. 85, No. 6, pp 1004.
- Dirks, K. T. and Ferrin, D. L. (2000). The Effects of Trust in Leadership on Employee Performance, Behavior, and Attitudes: A Meta-analysis. In *Academy of Management Proceedings*. V. 2000, No. 1. Briarcliff Manor, NY 10510: Academy of Management.
- Dirks, K. T., and Ferrin, D. L. (2001). The Role of Trust in Organizational Settings. *Organization Science*. V. 12, No. 4, pp 450-467.
- Dirks, K. T., and Ferrin, D. L. (2002). Trust in Leadership: Meta-analytic Findings and Implications for Research and Practice. *Journal of Applied Psychology*. V. 87, No. 4, p 611.
- Edelman (2019). Retrieved from <https://www.edelman.com/trust-barometer>
- Fairhurst, G. T., and Grant, D. (2010). The Social Construction of Leadership: A Sailing Guide. *Management Communication Quarterly*. V. 24, No.2, pp 171-210.
- Finegan, J. (1994). The Impact of Personal Values on Judgments of Ethical Behavior in the Workplace. *Journal of Business Ethics*. V. 13, pp 747-755.
- Foa, E. and Foa, U. (1980). Resource Theory: Interpersonal Behavior as Exchange. In K. J. Gergen, M. S. Greenberg and R. H. Willis (Eds.), *Social Exchange: Advances in Theory and Research*. pp 77-94. New York, NY: Plenum Press.
- Folger, R. G. and Cropanzano, R. (1998). *Organizational Justice and Human Resource Management*. Thousand Oaks, CA: Sage.
- Ghoshal, S. (2005). Bad management theories are destroying good management practices. *Academy of Management Learning & Education*, V.4, No. 1, pp 75-91.
- Giacalone, R.A. and Promislo, M.D. (2013). Broken When Entering: The Stigmatization of Goodness and Business Ethics Education. *Academy of Management Learning and Education*. V. 12, No.1, pp 96-101.
- Gillespie, N., Dietz, G., and Lockey, S. (2014). Organizational Reintegration and Trust Repair After an Integrity Violation: A Case Study. *Business Ethics Quarterly*. V. 24, No. 3, pp 371-410.
- Greenberg, J. (1993). The Social Side of Fairness: Interpersonal and Informational Classes of Organizational Justice. In R. Cropanzano (Ed.), *Justice in the Workplace: Approaching Fairness in Human Resource Management*. pp 79-103. Hillsdale, NJ: Erlbaum.
- Greenwood, M. and Van Buren III, H. J. (2010). Trust and Stakeholder Theory: Trustworthiness in the Organization–Stakeholder Relationship. *Journal of Business Ethics*, V. 95, No. 3, pp 425-438.
- Hansen, S. D., Dunford, B. B., Boss, A. D., Boss, R. W., and Angermeier, I. (2011). CSR and the Benefits of Employee Trust: A Cross-disciplinary Perspective. *Journal of Business Ethics*, V. 73, pp 347-368.
- Hansen, S.D., King, S. and Mouritsen, M. (in press). Embedding Ethics into MBA Marketing Coursework: The Utility of a Trust Approach. *Business Education Innovation Journal*.
- Hansen, S. D., Mouritsen, M., Davis, J.H. and Noack, D. (in press). Operationalizing Stakeholder Theory and Prioritizing Ethics in MBA Coursework: The Utility of a Psychological Trust Approach. *Business & Society Review*.
- Hare, R.D., & Neumann, C.S. (2009). Psychopathy: Assessment and forensic implications. *Canadian Journal of Psychiatry*, V.54, pp 791-802.
- Harrington, M. (2017, January 16). Survey: People's Trust has Declined in Business, Media, Government and NGOs. *Harvard Business Review*. Retrieved from <https://hbr.org/2017/01/survey-peoples-trust-has-declined-in-business-media-government-and-ngos>
- Hernandez, P. (2018). America's Most and Least Trusted Professions. *CEO Magazine*. Retrieved from <http://www.ceo-na.com/business/industry/americas-most-and-least-trusted-professions/>
- Hirst, G., Mann, L., Bain, P., Pirola-Merlo, A. and Richver, A. (2004). Learning to Lead: The Development and Testing of a Model of Leadership Learning. *The Leadership Quarterly*. V. 15, No. 3, pp 311-327.
- Hühn, M. P. (2014). You Reap What You Sow: How MBA Programs Undermine Ethics. *Journal of Business Ethics*. V. 121, No. 4, pp 527-541.
- Janowicz-Panjaitan, M. and Krishnan, R. (2009). Measures for Dealing with Competence and Integrity Violations of Interorganizational Trust at the Corporate and Operating Levels of Organizational Hierarchy. *Journal of Management Studies*. V. 46, No. 2, pp 245-268.
- Jones, T. M. and Felps, W. (2013). Shareholder Wealth Maximization and Social Welfare: A Utilitarian Critique. *Business Ethics Quarterly*. V. 23, No. 2, pp 207-238.
- Kayes, D.C. (2002). Experiential learning and its critics: Preserving the role of experience in management learning and education. *Academy of Management Learning & Education*, V.1, No. 2, pp 137-149.
- Kim, S.L. (2019). Enticing high performers to stay and share their knowledge: The importance of trust in leader. *Human Resource Management*. Advance online publication. pp 1-11. doi.org/10.1002/hrm.21955

- Kish-Gephart, J.J., Harrison, D.A., & Trevino, L.K. (2010). Bad apples, bad cases, and bad barrels: Meta-analytic evidence about sources of unethical decisions at work. *Journal of Applied Psychology*, V. 95, No. 1, pp 1-31.
- Kochan, T. (2002). Addressing the crisis in confidence in corporations: Root causes, victims and strategies for reform. *Academy of Management Executive*, V.16, pp 139-141.
- Krishnan, V.R. (2008). Impact of MBA Education on Students' Values: Two Longitudinal Studies. *Journal of Business Ethics*, 83: 233-246.
- Leventhal, G. S. (1976). The Distribution of Rewards and Resources in Groups and Organizations. In L. Berkowitz & W. Walster (Eds.), *Advances in Experimental Social Psychology*. V. 9, pp 91–131. New York, NY: Academic Press. doi:10.1016/S0065-2601(08)60059-3
- Leventhal, G. S., Karuza, J. and Fry, W. R. (1980). Beyond Fairness: A Theory of Allocation Preferences. *Justice and Social Interaction*. V. 3, No. 1, pp 167-218.
- Li, A., Cropanzano, R. S., and Molina, A. (2015). Fairness at the Unit Level: Justice Climate, Justice Climate Strength, and Peer Justice. *The Oxford Handbook of Justice in the Workplace*. pp 137-164.
- Liao, H. and Rupp, D. E. (2005). The Impact of Justice Climate and Justice Orientation on Work Outcomes: A Cross-level Multifoci Framework. *Journal of Applied Psychology*. V. 90, pp 242-256. doi:10.1037/0021-9010.90.2.242
- Lind, E.A. (1995). Justice and authority relations in organizations. *Organizational politics, justice, and support: Managing the social climate of the workplace*, pp 83-96.
- Mayer, R. C., Davis, J. H. and Schoorman, F. D. (1995). An Integrative Model of Organizational Trust. *Academy of Management Review*. V. 20, pp 709-734.
- McAllister, D. J. (1995). Affect- and Cognition-based Trust as Foundations for Interpersonal Cooperation in Organizations. *Academy of Management Journal*. V. 38, pp 24-59. doi:10.2307/256727
- McCabe, D. L., Dukerich, J. M., and Dutton, J. (1993). Values and Moral Dilemmas: A Cross-cultural Comparison. *Business Ethics Quarterly*. pp 117-130.
- Mills, P. K. and Ungson, G. R. (2003). Reassessing the Limits of Structural Empowerment: Organizational Constitution and Trust as Controls. *Academy of Management Review*. V. 28, No. 1, pp 143-153.
- Morgan, R. M. and Hunt, S. D. (1994). The Commitment-trust Theory of Relationship Marketing. *Journal of Marketing*. V. 58, No. 3, pp 20-38.
- Nelson, J.L., Hegtvædt, K.A., Haardörfer, R., and Hayward, J.L. (2019). Trust and Respect at Work: Justice Antecedents and the Role of Coworker Dynamics. *Work and Occupations*. Advance online publication. <https://doi.org/10.1177/0730888419835261>
- O'Reilly III, C. A. and Caldwell, D. F. (1985). The Impact of Normative Social Influence and Cohesiveness on Task Perceptions and Attitudes: A Social Information Processing Approach. *Journal of Occupational Psychology*. V. 58, No. 3, pp 193-206.
- Patsuris, P. (2002). The corporate scandal sheet. *Forbes*, Retrieved from <http://www.forbes.com/2002/07/25/accountingtracker.html>. Retrieved on 14 March 2019.
- Pecino, V., Mañas-Rodríguez, M.Á., Díaz-Fúnez, P.A., Aguilar-Parra, J.M., Padilla-Góngora, D., López-Liria, R. (2018). Interpersonal justice climate, extra-role performance and work family balance: A multilevel mediation model of employee well-being. *PLoS ONE* V. 13, No. 11. <https://doi.org/10.1371/journal.pone.0207458>
- Pfeffer, J., & Fong, C.T. (2002). The end of business schools? Less success than meets the eye. *Academy of Management Learning & Education*, V.1, No. 1, pp 78-95.
- Preble, J. F. (2005). Toward a Comprehensive Model of Stakeholder Management. *Business and Society Review*. V. 110, No. 4, pp 407-431.
- Salancik, G. R. and Pfeffer, J. (1978). A Social Information Processing Approach to Job Attitudes and Task Design. *Administrative Science Quarterly*. pp 224-253.
- Tang, y., Qian, C., Chen, G., & Shen, R. (2015). How CEO hubris affects corporate social (ir)responsibility. *Strategic Management Journal*, V. 36, No. 9, pp 1338-1357.
- Thibaut, J. W. and Walker, L. (1975). *Procedural Justice: A Psychological Analysis*. Hillsdale, NJ: Erlbaum.
- Tootoonchi, A., Lyons, P., and Hagen, A. (2002). MBA Students' Perceptions of Effective Teaching Methodologies and Instructor Characteristics. *International Journal of Commerce and Management*. V.12, No. 1, pp 79-93.
- Wang, L., Malhotra, D., and Murnighan, J. K. (2011). Economics Education and Greed. *Academy of Management Learning & Education*. V. 10, No.4, pp 643-660.
- Zand, D. E. (1972). Trust and Managerial Problem Solving. *Administrative Science Quarterly*. V. 17, pp 229-239.

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Factors Affecting the Selection of Online Classes by Graduate Business Students

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ABSTRACT

This study examines the factors affecting the selection of class delivery mode, online vs. face-to-face classes. Using data collected from graduate business students over several years, this study documents the roles of barriers to take F2F classes, motivators of online classes, and individual characteristics. The research findings have implications for instructors, designers, and administrators of the online education.

Keywords: online learning, class delivery mode, motivators, barriers, business education.

INTRODUCTION

Over the past several decades, online learning has gained much popularity in both higher education and professional training (Allen et al., 2016; Chen, Jones, and Moreland, 2013; Richardson et al., 2016). For instance, a recent survey of online learning by Allen et al. (2016) reports that the number of students enrolled in postsecondary institutions who took at least one online class in 2014 was 3.5 times greater than those who did so in 2002. Thus, what causes such changes is the topic of empirical research interest. This provides an impetus for this study.

Accordingly, the primary object of this study is to develop a model to examine the factors related to the selection of class delivery mode, online vs. face-to-face (F2F), with a focus on comparing the magnitude of these factors. For this purpose, this study develops regression models to determine the effects of demographic variables, motivators, and barriers. Thus, this study provides an integrative view on the roles played by each factor.

The second objective of this study is to improve prior studies with a new measure of the dependent variable, the delivery mode selected by students. Previous studies measure mode based on the class taken (online vs. F2F) by students in the semester when the survey was conducted. In contrast, this study measures selection as percentage of online classes out of total classes taken by the time of survey based on observations over several semesters. Thus, this study provides empirical evidence based on much more robust statistical methods such as regression analyses.

PREVIOUS RESEARCH ON FACTORS AFFECTING ONLINE SELECTION

Extant literature has identified a number of situational and institutional barriers that prevent students from taking F2F classes (Dendir, 2016; DiRienzo and Lilly, 2014; Mann and Henneberry, 2012, 2014; Sebastianelli, Swift, and Tamimi, 2015). A list of motivators that facilitate the selection of online classes has also been suggested as the reasons why some students choose online over F2F classes (Chen, Jones, and Moreland, 2013; Fish and Snodgrass, 2015; Kuzma, Kuzma, and Thiewes, 2015).

In addition, previous studies indicate that students' individual characteristics affect students' class selection behavior. Examples of such variables are educational background, gender, age, full-time status, and language skills (Ashong and Commander, 2012; Beqiri, Chase, and Bishka, 2010; Mann and Henneberry, 2012; Pontes et al., 2010).

RESEARCH METHODOLOGY

Subjects and Data

The subjects of this study are 214 students enrolled in an accounting course, which is a required core of an MBA program offered at a state university located in the southwest US, over the years 2013 to 2018. The survey instrument assesses the students' perceptions of online learning, both motivators and barriers. It contains a total of 20 items, 8 items for barriers of F2F and 12 items measuring motivational factors that facilitate online selection. Using a survey, this study also collects data regarding students' individual characteristics such as undergraduate

major, gender, age, full-time status at work, the number of hours studied, first language, and the number of years residing in the United States.

Table 1 summarizes the distributional characteristics of the subjects. A typical student who participated in this study is younger than 40 years old, studies 4 to 6 hours per week for the course, works full time, is a native speaker of English, and has resided in US longer than ten years. However, the undergraduate degree (non-business vs. business) and the gender (male vs. female) of the students are evenly distributed.

Table 1: Distribution of Subjects (N=214): Frequencies and Percentages

Undergraduate (UMAJOR)		
Non-Business	106	49.5%
Business	108	50.5%
Age entering to MBA (AGE)		
< 30 years	97	45.3%
30-39	81	37.9%
40-49	27	12.6%
>= 50	9	4.2%
Gender (GENDER)		
Male	104	48.6%
Female	110	51.4%
Study Hours (STUDY)		
< 3 hours per week	49	22.9%
4-6 hours per week	78	36.4%
7-9 hours per week	51	23.8%
>=10 hours per week	36	16.8%
Work full-time (FULLTM)		
Not working	26	12.1%
Part time	22	10.3%
Full time	166	77.6%
Native speakers (NATIVE)		
Non-Native of English	94	43.9%
Native Speaker of English	120	56.1%
Residence in US (INUS)		
< 5 years in US	21	9.8%
5-10 years in US	33	15.4%
>= 10 years in US	160	74.8%

Dependent Variable

The dependent variable is the likelihood of selecting online classes, operationalized as the percentage of online classes out of total classes taken toward the MBA program by the time of survey. Table 2 shows the distribution of the dependent variable. One notable finding is that a significant number of students have taken 100% online courses (91 out of 214, or 42.5%), but the students who have taken 100% F2F courses was smaller (15 out of 214, or 7.0%).

Table 2: Dependent Variable: Percentage of Online Class Taken: N=214

0% - 20%	29 (15)	13.5% (7.0%)
21% - 40%	35	16.4%
41% - 60%	32	15.0%
61% - 80%	17	7.9%
81% -100%	101 (91)	47.2% (42.5%)

Note: Numbers in two parentheses are the subjects with 0% and 100%, respectively.

Independent Variables

For independent variables, this study employed composite measures of situational barriers (four items) and institutional barriers (four items) that prevent students from taking F2F class. Similarly, this study used two composite measures of the satisfying motivators of online learning (nine items) and dis-satisfying motivators of F2F (three items). Table 3 summarizes the measurements of the independent variables. The table also shows the means of each of the items used to develop composite measure of motivators and barriers.

Table 3: Independent Variables: Descriptions, Measurements, and Distribution

Variables	Descriptions	Data Range	Mean
Situational Barriers of F2F (SBAR)			
<i>WORK</i>	Cannot take F2F due to work commitments	1 (SD) to 5 (SA)	4.266
<i>FAMILY</i>	Cannot take F2F due to family commitments	1 (SD) to 5 (SA)	4.150
<i>LOCATN</i>	Cannot take F2F due to location of class	1 (SD) to 5 (SA)	3.271
<i>TRANSP</i>	Cannot take F2F due to distance to campus	1 (SD) to 5 (SA)	2.701
Institutional Barriers of F2F (IBAR)			
<i>FULL</i>	F2F not available because the class was full	1 (SD) to 5 (SA)	1.836
<i>TIME</i>	F2F not available at convenient time	1 (SD) to 5 (SA)	2.107
<i>SITE</i>	F2F not available in convenient site	1 (SD) to 5 (SA)	2.308
<i>TERM</i>	F2F not available in convenient terms	1 (SD) to 5 (SA)	2.238
Dis-satisfiers of F2F (DMOT)			
<i>S2I</i>	Interaction with instructor not important	1 (SD) to 5 (SA)	2.645
<i>S2S</i>	Interaction with students not important	1 (SD) to 5 (SA)	2.701
<i>DISCUSS</i>	Class discussion not important	1 (SD) to 5 (SA)	2.481
Satisfiers of Online (SMOT)			
<i>FDBACK</i>	Getting more detailed feedback in online	1 (SD) to 5 (SA)	2.435
<i>ORGAND</i>	More organized in online	1 (SD) to 5 (SA)	2.724
<i>PRINTED</i>	Uses printed material in online	1 (SD) to 5 (SA)	2.748
<i>WRITTEN</i>	Uses written than verbal work in online	1 (SD) to 5 (SA)	2.757
<i>LEARN</i>	Learn more in online	1 (SD) to 5 (SA)	2.678
<i>GRADE</i>	Getting a better grade in online	1 (SD) to 5 (SA)	2.762
<i>NEWWAY</i>	New way of learning	1 (SD) to 5 (SA)	2.963
<i>CONVT</i>	More convenient in online	1 (SD) to 5 (SA)	3.178
<i>RESPON</i>	Getting more responses in online	1 (SD) to 5 (SA)	2.710

Note: SD (Strongly disagree), SA (Strongly agree)

FINDINGS AND DISCUSSIONS

Effects of Individual Group Factors

Table 4 reports the results from linear regression analyses for the sample. Overall, the regression models with a single group factor (*IND*, *MOT*, and *BAR*) and multiple group factors (*ALL*) are all statistically significant.

Individual Factors (IND): The model with *IND* was statistically significant at the .01 level with a F-value of 3.09. The R^2 of this model was 0.0951. Of seven individual characteristics, only two variables (*STUDY* and *FULLTM*) are statistically significant at a .05 level, which is relatively weak. The positive sign of the *STUDY* indicates students who have longer time committed to study are likely to take “more” online classes. Similarly, the positive sign of the *FULLTM* indicates that those students who work full-time are more likely to take “more” online classes.

Motivators (MOT): The model with *MOT* was statistically significant with a F-value of 21.47. The R^2 of the model was 0.1691, which is larger than the *IND* model. With respect to the types of motivators, the results indicated that both the satisfying motivators (*SMOT*) and dis-satisfying motivators (*DMOT*) are significant, thus providing support that the motivators have had an impact on students’ decisions to take “more” online classes.

Barriers (BAR): The regression model with the *BAR* was also statistically significant with a F-value of 44.79. The R^2 of the model was 0.3899, which was much greater than the regression models with *IND* or *MOT*. Such results indicate that barriers are the most significant determinants. The composite measure of the *SBAR* was statistically significant, thus supporting the existence of situational barriers (*SBAR*). This study also found that institutional barriers (*IBAR*) is statistically significant. The negative sign of *IBAR* indicates that the higher the institutional barriers, the ‘more’ likely students would take online classes.

Relative Importance of Individual Group Factors

To summarize the results from single group factors, the best single group factor model was the M3 (or *BAR*), followed by M2 (or *MOT*) and M1 (or *IND*). The M4 (*ALL*) model that contains all group factors was statistically significant at .001 with a F-value of 11.74.

Overall, the multi-factor model performed better than the other three single group factor models (M1, M2, and M3). The R^2 of the model M4 was 0.3899. It indicates that both the barriers (*IBAR* and *SBAR*) and one motivator (*SMOT*) are significant predictors of class selection, thus, consistent with the results from single factor models. One interesting finding, however, is that two individual characteristics (*STUDY* and *FULLTM*) and the dis-satisfying motivator (*DMOT*) failed to achieve significance in the *ALL* model. One viable explanation is that these variables are somehow confounded with other variables such as *IBAR* and *SBAR*, which were the two most significant predictors of the class selection.

Table 4: Results of Linear Regression Analysis

	M1: <i>IND</i>	M2: <i>MOT</i>	M3: <i>BAR</i>	M4: <i>ALL</i>
<i>Intercept</i>	0.152	0.154	0.101	-0.376**
<i>UMAJOR</i>	0.051			-0.022
<i>GENDER</i>	0.011			0.008
<i>AGE</i>	0.021			0.041
<i>STUDY</i>	0.052*			0.020
<i>FULLTM</i>	0.075*			0.032
<i>NATIVE</i>	0.087			0.067
<i>#INUS</i>	0.048			0.030
<i>SMOT</i>		0.013***		0.008**
<i>DMOT</i>		0.025***		0.011
<i>IBAR</i>			-0.013**	-0.013***
<i>SBAR</i>			0.039***	0.030***
F Value	3.09**	21.47***	44.79***	11.74***
R²	0.0951	0.1691	0.2980	0.3899

Note: * <.05; ** <.01; *** <.001

CONCLUSIONS

This study contributes to the extant literature as it offers explanations as to the reason why some students are likely to take a greater percentage of online classes. Using data collected from 214 MBA students over a recent six-year period, this study documented the existence of the three group factors affecting students' selection of online classes. They are barriers to F2F instructions, motivators of online learning, and students' individual characteristics. For instance, this study confirmed that the barriers of F2F, both situational and institutional, still played dominant roles in students' selection. This study also found that the motivators of online are the second most significant factor in students' selection of online classes. The results confirm that the satisfying motivators (*SMOT*), but not the dissatisfying motivators of F2F (*DMOT*), have contributed to the popularity of online classes.

This study also contributes to the extant literature on the relative importance of each group of factors affecting online selection. With respect to the relative performance of the single factor models, the *BAR* model explained the most variance with R^2 of 0.2980. The model with the next highest R^2 was the *MOT* model. The R^2 of the *IND* model was the lowest, 0.1691, but was statistically significant at the .01 level. In short, the order of the relative importance was the *BAR*, followed by the *MOT* and the *IND*.

Another contribution of this study rests on the fact that this study developed and utilized the continuous scales of the dependent variable, class selection behavior, which is a robust measure relative to the widely used dichotomous measure, online vs. F2F. With the use of the new measure, this study provided empirical evidence with a robust inferential statistics from regression analysis.

One implication from this study is that it may be a good time to offer a hybrid model of class delivery as it can maximize the benefits of both F2F and online classes (Ahmed, 2010; Auster, 2016; Fadol, Aldamen, and Saadullah, 2018) as the majority of students still prefers F2F classes to online. Findings on the existence and the relative importance of the various factors affecting students' selection behavior of class delivery mode have relevance to instructors, designers, and administrators who make various important decisions regarding online learning (Richardson et al., 2016).

This study, however, has a few limitations. The most important limitation of this study is the generalizability of the findings from this study to other institutional contexts such as the discipline, degree program, geographic location, private vs. public, program goals, and target student population. In addition, it is possible that students' perceptions of online learning and their class selection behavior would have changed over the sample periods; thus, caution is required in interpreting and generalizing the empirical findings from this study.

References

- Ahmed, H. (2010). Hybrid e-learning acceptance model: Learner perceptions. *Decision Sciences Journal of Innovative Education*, 8(2), 313–346.
- Allen, I., Seaman, J., Poulin, R., & Straut, T. (2016). *Online report card: Tracking online education in the United States*. The Sloan Consortium (Sloan-C).
- Ashong, C. & Commander, N. (2012). Ethnicity, gender and perceptions of online learning in higher education. *Journal of Online Learning and Teaching*, 8(2), 98-110.
- Auster, C. (2016). Blended learning as a potentially winning combination of face-to-face and online learning an exploratory study. *Teaching Sociology*, 44(1), 39-48.
- Beqiri, M., Chase, N., & Bishka, A. (2010). Online course delivery: An empirical investigation of factors affecting student satisfaction. *Journal of Education for Business*, 85, 95-100.
- Chen, C., Jones, K., & Moreland, K. (2013). Online accounting education versus in-class delivery: Does course level matter? *Issues in Accounting Education*, 28(1), 1-16.
- Dendir, S. (2016). An online premium? Characteristics and performance of online versus face-to-face students in principles of microeconomics. *Journal of Education for Business*, 91(2), 59-68.
- Dirienzo, C. & Lilly, G. (2014). Online versus face-to-face: Does delivery method matter for undergraduate business school learning? *Business Education & Accreditation*, 6(1), 1-11.
- Fadol, Y., Aldamen, H., & Saadullah, S. (2018). A comparative analysis of flipped, online and traditional teaching: A case of female middle-eastern management students. *International Journal of Management in Education*, 16, 266–280.
- Fish, L., & Snodgrass, C. (2015). Business student perceptions of online versus face-to-face education: Student characteristics. *Business Education Innovation Journal*, 7(2), 83–96.
- Kuzma, A., Kuzma, J., & Thiewes, H. (2015). Business student attitudes, experience, and satisfaction with online courses. *American Journal of Business Education*, 8(2), 121-129.
- Mann, J., & Henneberry, S. (2012). What characteristics of college students influence their decisions to select online courses? *Online Journal of Distance Learning Administration*, 15(5).
- Mann, J.T., & Henneberry, S.R. (2014). Online versus face-to-face students' preferences for college course attributes. *Journal of Agricultural and Applied Economics*, 46(1), 1-19.

- Pontes, M., Hasit, C., Pontes, N., Lewis, P., & Siefring, K. (2010). Variables related to undergraduate students preference for distance education classes. *Online Journal of Distance Learning Administration, 13*(2).
- Richardson, J.C., Besser, E. Koehler, A., Lim, J. & Strait, M. (2016). Instructors' perceptions of instructor presence in online learning environments. *International Review of Research in Open and Distributed Learning, 17*(4), 82-104.
- Sebastianelli, R., Swift, C., & Tamimi, N. (2015). Factors affecting perceived learning, satisfaction and quality in the online MBA: A structural equation modeling approach. *The Journal of Education for Business, 90*(6), 296–305.

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Teaching R to Undergraduate Business Students

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ABSTRACT

When developing a curriculum on business analytics, along with *what* is being taught, *how* it is being taught is important, especially regarding choosing the right analytical tool. This article offers a pedagogical example of using R in a business analytics course with undergraduate students. This teaching case outlines the methods that address the steep learning curve of R and analyzes student feedback on the learning experience. Based on positive student responses, the article suggests that R is a viable option to use to teach business analytics to undergraduate students.

Keywords: R, business analytics, data analytics, business education, business pedagogy

INTRODUCTION

In recent years, business becomes a primary field that is applying a large set of data from varied sources in its practices, ranging from predictive analytics for targeting and product recommendation algorithms for cross-selling purposes, to prescriptive analytics for optimizing a supply chain (McAfee, Brynjolfsson, Davenport, Patil, and Barton, 2012). Thus, teaching the analytics of big data becomes undoubtedly an important priority when building curricula for both undergraduate and graduate business programs. However, teaching data analytics is not new in the business curriculum. Management information system, business statistics, management science, data mining, and database marketing have been courses commonly offered in many business curricula for more than several decades. These courses have taught statistical methods (e.g., t-test, regressions, and cluster analysis), which are still popular for the current data analytics, with software programs (e.g., *Excel*, *SPSS*, and *SAS*) that have been widely used by data scientists and academic researchers (Teer, Teer, and Kruck, 2007). However, innovations in processing big data, such as *MapReduce* (Dean and Ghemawat, 2008) and business demands for top-notch algorithms as in the case of the *Netflix* challenge (Bennett and Lanning, 2007), have created new needs for more powerful and suitable tools. Thus, the traditional programs have released a series of updated versions, and many of the new commercial packages, such as *RapidMiner*, *JMP*, and *IBM Watson Analytics*, have gained popularity in the community of data scientists. Another notable trend for analytics programs is the rise of free open-source programs, which include *R* and *Python*.

Considering the wide array of options, adopting the right tool to teach data analytics (how it is being taught) has become a critical component for effective teaching data analytics, as much as deciding the right topics to teach (what is being taught) (Basturk, 2005; Strasser and Ozgur, 1995). However, few studies on business education have examined the teaching methods and responses of undergraduate students to a particular computer program for precise pedagogical guidance when developing data analytics courses in the business curriculum. The present study aims to remedy this deficit as it reports on a case on the instruction of a business analytics using R. It both delineates the course design and analyzes the responses of undergraduate business students regarding their experiences learning R.

AN OVERVIEW OF R

R is an open-source programming language and software platform that specializes in statistical computing. Teaching R offers several distinctive benefits over the commercial programs frequently used for teaching business statistics. First, as shown in surveys of data scientists (Piatetsky, 2016; 2018), R has been one of the most widely used analytical software in data sciences. Thus, learning R is directly beneficial for students who are pursuing the field of data analytics. Second, unlike other commercial packages (e.g., *SAS*, *SPSS*), students can easily download R from websites and use it for free without any functional limitations. Thus, they can readily work on all types of data projects in any organization without having to purchase a commercial software program. This advantage is especially beneficial for those graduates who have a job in low-budget environments, including start-up businesses or small local companies. Third, any user of R can easily access up-to-date packages and R codes for a particular use developed and shared by other data scientists. In fact, the biggest strength of R is its free archive of R packages, the Comprehensive R Archive Network (CRAN). It has become a valuable place for data scientists to go to acquire and

share analytics packages for a variety of projects (Fox and Leanage, 2016). In 2017, CRAN sites had more than 10,000 packages of R codes developed by hundreds of active developers of those codes (Smith, 2017).

Despite all these benefits, the biggest hurdle for adopting R in undergraduate classes is that it requires students to learn computer programming—not a common task for most undergraduate students outside of computer science disciplines. Teaching command line-based programming produces significant challenges for instructors, and learning it may also create anxiety for students who feel intimidated (Chang, 2005; Connolly, Murphy, and Moore, 2009). A previous teaching case of R in an undergraduate course of business analytics also reported a steep learning curve (Hill and Kline, 2014). Considering the existence of statistics anxiety among business students, requiring programming for statistical analyses may be an overwhelming task (Hsu, Wang, and Chiu, 2009). Thus, in most business curricula, R has been used primarily in graduate classes on management science (Mamonov, Misra, and Jain, 2015). However, focusing on its distinctive benefits, a group of business professors (e.g., Bilbrey, 2017; Turner, 2017) has been teaching R in undergraduate courses on business analytics and searching for effective teaching methods to reduce student anxieties of learning R. For example, using a graphical user interface, such as *R Commander* and *R Studio*, which are friendlier when programming, can be an option to help reduce the level of student programming anxiety (Fox, 2004).

As presented above, the advantages and disadvantages of teaching R have been addressed. Still, factual knowledge on the methods of teaching R and the responses of undergraduate business students who are learning R remains sparse. As a result, despite the growing popularity and particular advantages of R, little guidance as yet exists for adopting R as the proper tool to use in business courses related to data analytics.

COURSE DESCRIPTION AND TEACHING METHOD

The course examined in the present study was titled “Big Data and Business Analytics” and offered as an elective course for all business majors at an AACSB-accredited business school located in Southeast United States. The purpose of the course was to introduce fundamental concepts of big data and to teach analytical techniques to draw meaningful information from big data for business decision-making.

Course Design

Because all students in the class were in the business program, the course content (e.g., case examples and practices) was oriented toward business contexts. Likewise, the teaching topics and statistics chosen for the course were directly relevant to business practices. Specifically, the course covered regression, decision tree, clustering, market-basket analysis, A/B testing, and text analytics. There were two guest speakers, and during the 16-week semester, the students took three tests and one final exam.

The textbook for R was selected by considering two criteria. First, it needed to be written within business contexts. Second, the level of analytics should be appropriate for undergraduate business students. Based on the author’s observations, most of the R textbooks target professional data scientists, readers with considerable computer programming experience, or graduate students in quantitative research fields. After careful examination, *Data Science and Big Data Analytics: Discovering, Analyzing, Visualizing and Presenting Data* (Dietrich, 2015) was adopted. This book presents data analytics using R and business examples and applications, and it describes the statistical concepts and R programming in an understandable manner for undergraduate business students. It also provides online resources that include R scripts for each statistical method and datasets for each case included in the textbook. In addition to the R textbook, this course also required a second textbook, *Data Science for Business: What You Need to Know about Data Mining and Data-analytic Thinking* (Provost, and Fawcett, 2013), that covered the conceptual and theoretical parts of the course.

Teaching R

On the first day of teaching R, students downloaded the latest version of R program from the R-project site to each computer. In each class, as necessary, the R packages for a particular statistical method (e.g., *rpart* for teaching decision trees) were downloaded and installed (see Table 1 for the R packages used to teach each topic). The class used the textbook datasets from the publisher’s website. In several cases, the instructor edited original datasets to make the context more relevant to business practices. For instance, the textbook dataset used student grades (i.e., English, math, and science scores) based on 100 points in presenting *k*-means clustering. In the present class, the

numbers were altered to 7-point scales and presented as brand satisfaction scores on quality, price, and service. The instructor also changed several values in some datasets to induce the statistical significance in order to lead discussions for business-related ideas. Along with the dataset, the instructor distributed a file that contained the command line of R scripts with the variables to program a particular statistical method covered in each class. For instance, the manual to demonstrate a decision tree contained the following codes including commands, symbols, and variables in the model:

```
DecisionTree1 <- rpart(subscribed ~ age + job + marital + education + default + balance + housing + loan +  
contact + poutcome, method="class", data=bank, control=rpart.control (minsplit=20))
```

```
rpart.plot(DecisionTree1, type=4, extra=106, varlen=0, faclen=6)
```

During the first half of each 75-minute class, the instructor introduced each statistical technique and overviewed the manual explaining the codes in the command line. Students then used these scripts to follow the instructor's demonstration of a statistical method. Afterwards, discussions of the results and their implications followed. In the present course, special attention was paid to reduce student anxiety about computer programming as well as overcome the steep learning curve of R as observed in a previous teaching case on an undergraduate course on business analytics (Hill and Kline, 2014). For these purposes, the present course focused on providing students with repetitive opportunities to deal with multiple tasks involving different datasets to exercise R programming for each statistical method. Therefore, in the second part of each class, the instructor distributed a document with three to five exercise questions together with a dataset that was different, but similar, to the previous one for demonstration. The questions asked students to solve business problems by using R for the statistical techniques just covered. For instance, a question about the decision tree asked students to run a decision tree model using R and identify an appropriate target group among multiple nodes. Importantly, for these exercises, two students worked together to answer the questions, and such cooperative learning was expected to facilitate the process and provide mutual benefits to both students (Johnson and Johnson, 1994). Then the instructor demonstrated the R programming to the students to answer the questions. After learning two or three statistical methods, and before taking the exam on those, there were sessions to revisit those methods and students repeated the same R programming individually to ensure competency.

Three exams during the semester provided another opportunity to run the R programming. Together with questions asking statistical concepts and knowledge (e.g., "What is the type of dependent variable in logistic regression?"), five to seven items asked to conduct specific analyses with R to answer questions (e.g., "With the given set of variables, run logistic regression with R. Then identify which factors are statistically significant."). In the class after each exam, the instructor operated R and reviewed all exam questions demonstrating statistical analyses, and students followed the demonstrations using the R program. In addition, before the final exam, a class session let students practice all the statistical methods covered during the semester. The given dataset for this session had multiple categorical and numeric variables that were applicable to each statistical analysis taught throughout the semester. Students worked individually and operated R to try multiple statistical methods to draw meaningful information from the given dataset. In the final exam, students received another dataset similar to the one in the previous session with varied types of variables. They were asked to review the variables in the dataset and generate three research questions (or hypotheses) regarding decision-making on business strategy. They then had to identify appropriate statistical methods to answer the questions, run R for the statistical methods, interpret the results, and make strategic suggestions.

In sum, students gained experience in operating R and analyzing five different datasets for each statistical method. Figure 1 illustrates this structured process for the repetitive practices of R by using the example of teaching decision trees.

Figure 1: Structure of Teaching R

R exercises	Activities	Dataset
1 st round: During a class session	<ul style="list-style-type: none"> The instructor introduced the concept of <i>decision tree</i> and statistical methods (<i>CART</i> and <i>CHAID</i>) with case examples. Students installed <i>rpart</i> and <i>rpartplot</i> packages and imported a CSV file of the dataset with the multiple variables for the decision tree. Copying the decision tree commands in the <i>R manual</i>, students followed the instructor's demonstration of the analysis and visualizations using R. The results and strategic implications were discussed. 	Dataset A
2 nd round: During the same class session	<ul style="list-style-type: none"> The instructor distributed a dataset similar to the dataset used in the 1st round but with different variables. Then, the instructor asked to run decision trees using R to answer questions regarding its results and implications. Two students worked together to edit R scripts and run decision trees to answer the questions. Afterward, the instructor presented solutions and discussed implications. 	Dataset B
3 rd round: In a class one week before an exam	<ul style="list-style-type: none"> Students were given a chance to repeat the tasks in 1st and 2nd rounds using the same datasets and R manual with scripts for the decision trees. In this round, each student worked individually to prepare the exam, which required the similar operations of R but with a different dataset. The instructor helped students troubleshoot on R and interpret the results. 	Dataset A & B
4 th round: In a class after an exam	<ul style="list-style-type: none"> The instructor ran R to present solutions for exam questions that asked to run decision trees on R to answer questions regarding marketing decision-making. Students followed the instructor's operations of R to check solutions. The instructor helped students troubleshoot on R and answer questions. 	Dataset C
5 th round: In a class before the final exam	<ul style="list-style-type: none"> A set of sample questions were distributed to help students prepare the final exam together with a dataset with multiple types of variables for different statistical methods including decision trees. The questions asked to generate research questions, identify appropriate methods, run R to answer the questions, and discuss the results. Students were given a chance to apply statistical methods covered in the course including decision trees to answer the sample questions. 	Dataset D

STUDENT FEEDBACK

In the last class, all students in the course ($N = 26$) completed an online survey. The responses remained anonymous to keep them confidential and objective. Among respondents, seventeen students were marketing majors, and there were six students in management, two in finance, and one in accounting. There were the equal number of female ($n = 13$) and male ($n = 13$) students in either their junior ($n = 5$) or senior ($n = 21$) years, ranging from 21 to 27 years old ($M = 21.7$, $SD = 1.32$). They had taken a business statistics course that covered descriptive statistics, hypothesis testing, and basic statistical methods (e.g., t-test, ANOVA, and linear regression). They had also taken a computer course that taught the basics of Excel and Access. Six students took a course on computer programming where they had a chance to learn basics of the *Java* programming language. Two of them had used *Python*. Three students had heard about R before taking the present course, but none had ever learned it.

Satisfaction with Learning R

The overall course satisfaction was positive in a measure that applied the Net Promoter Score (NPS) (Reichheld, 2003) which asked "Would you recommend this course to a friend" (ranging from 0 not at all likely to 10 extremely likely) ($M = 8.38$, $SD = 1.43$). Students also showed positive responses to the following question that asked specifically about their satisfaction with the R learning experience: "Would you recommend learning R to a friend" ($M = 7.19$, $SD = 2.14$). A strong positive correlation existed between the overall satisfaction of the course and student satisfaction with learning R ($r = .58$, $p < .01$). In particular, six students with previous programming experience (i.e., Java/JavaScript) ($M = 8.83$, $SD = 1.94$) expressed higher satisfaction with learning R than the remaining 20 students who had no previous programming experience ($M = 6.53$, $SD = 1.89$) ($t(24) = 2.47$, $p < .05$).

For further investigation of both positive and negative student experiences when learning R, the author adopted the approaches used for the NPS analysis and separated the students into three groups based on their rating of learning R: *Promoters* (9-10 rating), *Passives* (7-8 rating), and *Detractors* (0-6 rating). Eight of the 26 students were

Promoters; they were satisfied and extremely likely to recommend learning R to their friends. The six Passives were only passively satisfied. The remaining twelve students were Detractors and extremely unlikely to recommend learning R. In particular, of the six students with previous experience in programming, five were Promoters, and only one was a Detractor. The following question asked the reason for the recommendation likelihood, and the Promoters highlighted the benefits of learning R for their future careers and its relevancy to the current practices of business analytics. The Detractors were mostly skeptical about their future uses of R. Table 1 presents examples of the verbatim comments received from both the Promoters and the Detractors.

Table 1: Comments on the Likelihood of Recommending Learning R to Peer Students

Group	Verbatim Comments
Promoters (9-10 rating)	<ul style="list-style-type: none">• It is a valuable asset in today's job market.• It is a free open-source software so implementing it at work won't require heavy expenses.• I think it's a really informative tool, while we didn't get super deep into R, I felt like I am very competent with the program and will be putting it in my list of skills on my resume.• For someone entering the data analytics field, I think it helps to set me apart from other potential candidates, as well as give me an edge when completing tasks.• It is great to know as many companies want to hire marketers with some sort of background in data analytics. I recommend it because data analytics is becoming fundamental in business world.
Detractors (0-6 rating)	<ul style="list-style-type: none">• I think not many people would understand what it is unless you are in a field that directly uses it.• Other than this class, I do not image a future situation in which this program will be relevant.• I would tell my friends to learn a different language instead of R.• I would only recommend it if someone was interested in data analytics. It would also be more difficult without the codes in front of me.• A lot of companies will offer training programs in their software which may be more user friendly than R.

Experience of Learning R

In a question that asked about the difficulty of learning R (ranging from 0 extremely easy to 10 extremely difficult), the students reported an average level of difficulty (M = 5.24, SD = 2.22). It is noteworthy that this difficulty level for learning R was not significantly correlated with either overall course satisfaction or satisfaction with learning R. In addition, the differences in NPS grouping and programming experience were not significant.

In the following question, students provided three words or phrases to complete the given sentence: "Learning R was _____." The two most frequent words offered were "challenging" (9) and "interesting" (8). Then, positive words dominated the rest of the responses including "easy" (4), "helpful" (4), "useful" (4), "fun" (3), and "rewarding" (3) with a few exceptions that included "difficult" (3). Figure 2 shows the word cloud based on these word frequencies.

Figure 2: Word cloud on the Learning R Experience



Additional questions in the survey revealed that only 13 out of 26 students bought both required textbooks and five students did not purchase any of the required textbooks. Only nine students installed R and used it on their home computers.

DISCUSSION

In the undergraduate business class used for the present study, a group of students showed appreciation for learning R. They recognized the growing importance of learning tools to analyze data in many current business fields, and they understood the advantages of learning R to advance their personal career development. In particular, most students with previous experience in computer programming strongly advocated learning R. However, the other group of students retained a skeptical view toward learning R. Several of these students thought there would be only a few cases where they would need to use R in the business field.

In the present course, instructing undergraduate business students on R went smoothly, although pedagogical studies in computer science (e.g., Chang, 2005) have reported computer anxiety particularly regarding command line-based programming. The repetition method used in the present course to reduce students' anxiety seemed to positively affect the learning experience of R in that these students described that process as "interesting," "fun," and even "easy." However, the survey results showed a lack of extra student effort to learn and practice R outside the classroom. Learning computer languages requires a considerable amount of time due to iterative trials and errors, and that may be an unfamiliar learning environment for many business students. Therefore, future studies might suggest innovative methods that will encourage business students to invest their own time and further effort into learning R and other programming languages.

Several limitations should be noted when adopting the pedagogical approach in the present study to other courses. First of all, the sample size of the current study (26 students in a single section of the course) is too small to generalize the findings of the student survey. The other issue regarding the sampling involves the characteristics of the class and the student demographics. The course of the present study was an elective for juniors and seniors that could attract students with pre-existing interests in data analytics who had already taken statistics and computer courses. The level of student motivation and class environment would be different if the present course were offered as a core course or for freshmen and sophomores. Thus, additional studies with larger sample sizes as well as different student bodies are required to validate the survey findings of the present study.

Second, there was no chance in this instance of systematic follow-up to track actual learning outcomes. As a result, there exists scant information on whether the students are using R for their projects in other classes or even after graduation. However based on information obtained via personal feedback from two students revealed that upon graduation one student went on to a master program majoring in business analytics and the other started to work in data analytics. Both students reported that learning R was helpful for gaining both admission and a job offer, and they were using R frequently in their studies and projects.

Third, the majority of the present course dealt with data analysis with clean fictitious datasets that did not require the tasks of data preparation (a.k.a. data wrangling or data munging). However, in the actual practice of data science (especially with big data), data preparation and cleaning are the essential and most time-consuming parts (Lohr, 2014). Considering this weakness of the present course, it is recommended that future courses incorporate real-world raw datasets with outliers and missing values to enhance learning of actual practices of data analytics (Neumann, and Neumann, 2013).

Lastly, there exist other programming languages comparable to R with bringing similar benefits to teach. Especially, *Python*, another open-source programming language, has been gaining popularity as the general-purpose language with a simpler coding compared to R with a specific advantage of statistical analysis (Piatetsky, 2018). Future research adopting the teaching methods presented in the present paper but using Python instead of R and comparing student responses may produce information useful for business educators to select a tool to teach undergraduate courses on data analytics.

CONCLUSIONS

Teaching undergraduate business students the methods and skills they can use to draw meaningful information from a large dataset is becoming an essential aspect of business education. To teach data analytics successfully, selecting the right tool to analyze data is as important as choosing the right topics of statistical techniques. The present study preliminarily concluded that R can be a viable tool for teaching data analytics to undergraduate business students. In general, students in a data analytics course in the present study expressed positive responses toward learning and using R. They saw learning R as challenging, but also as an interesting experience. In designing the course, special attention was given to providing ample opportunities to practice R programming. The students repeated R programming for the same statistical techniques multiple times, dealing with different datasets. This structured process through repetitive exercises seems to have reduced any possible anxiety toward computer programming and indeed enabled the students to have a positive learning experience.

REFERENCES

- Basturk, R. (2005). The Effectiveness of Computer-Assisted Instruction in Teaching Introductory Statistics. *Educational Technology and Society*. V. 8, No. 2, pp 170-178.
- Bennett, J., and Lanning, S. (2007, August). The Netflix prize. *Proceedings of KDD cup and workshop*. Paper presented at SIGKDD-07, 13th ACM International Conference on Knowledge Discovery and Data Mining (3-6). San Jose, CA: ACM.
- Bilbrey, J. (2017, February). *Using R for Statistical Instruction*. Paper presented at the annual meeting of Southeast Decision Sciences Institute, Charleston, SC.
- Chang, S. E. (2005). Computer Anxiety and Perception of Task Complexity in Learning Programming-Related Skills. *Computers in Human Behavior*. V. 21, No. 5, pp 713-728.
- Connolly, C., Murphy, E., and Moore, S. (2009). Programming Anxiety Amongst Computing Students—A Key in the Retention Debate?. *IEEE Transactions on Education*. V. 52, No. 1, pp 52-56.
- Dean, J., and Ghemawat, S. (2008). MapReduce: Simplified Data Processing on Large Clusters. *Communications of the ACM*. V. 51, No. 1, pp 107-113.
- Dietrich, D. (Ed.). (2015). *Data Science and Big Data Analytics: Discovering, Analyzing, Visualizing and Presenting Data*. Indianapolis, IN: John Wiley and Sons, Inc.
- Fox, J. (2004). Getting Started With the R Commander: A Basic-Statistics Graphical User Interface to R. *Journal of Statistical Software*. V. 14, No. 9, pp 1-19.
- Fox, J., and Leange, A. (2016). R and the Journal of Statistical Software. *Journal of Statistical Software*. V. 73, No. 2, pp 1-13.
- Hill, S. E., and Kline, D. M. (2014, May). Teaching “Big Data” in a Business School: Insights from an Undergraduate Course in Big Data Analytics, *2014 Proceedings of the Information Systems Educators Conference*, (1-7). Baltimore, MD.
- Hsu, M. K., Wang, S. W., and Chiu, K. K. (2009). Computer Attitude, Statistics Anxiety and Self-Efficacy on Statistical Software Adoption Behavior: An Empirical Study of Online MBA Learners. *Computers in Human Behavior*. V. 25, No. 2, pp 412-420.
- Johnson, D. W., and Johnson, R. T. (1994). *Learning Together and Alone: Cooperative, Competitive, and Individualistic Learning*. Needham Heights, MA: Allyn and Bacon.
- Lohr, S. (2014, August 17). For Big-Data Scientists, ‘Janitor Work’ is Key Hurdle to Insights. *New York Times*, B4. Retrieved from <http://www.nytimes.com>
- Mamonov, S., Misra, R., and Jain, R. (2015). Business Analytics in Practice and in Education: A Competency-based Perspective. *Information Systems Education Journal*. V. 13, No. 1, pp 4-13.
- McAfee, A., Brynjolfsson, E., Davenport, T. H., Patil, D. J., & Barton, D. (2012). Big Data: the Management Revolution. *Harvard Business Review*. V. 90, No. 10, pp 60-68.
- Neumann, D. L., Hood, M., and Neumann, M. M. (2013). Using Real-Life Data When Teaching Statistics: Student Perceptions of This Strategy in an Introductory Statistics Course. *Statistics Education Research Journal*. V. 12, No. 2, pp 59-70.
- Piatetsky, G. (2016, June). *R, Python Duel As Top Analytics, Data Science Software – KDnuggets 2016 Software Poll Results*. Retrieved from <http://www.kdnuggets.com/2016/06/r-python-top-analytics-data-mining-data-science-software.html>
- Piatetsky, G. (2018, May). *Python eats away at R: Top Software for Analytics, Data Science, Machine Learning in 2018: Trends and Analysis*. Retrieved from <https://www.kdnuggets.com/2018/05/poll-tools-analytics-data-science-machine-learning-results.html>
- Provost, F., and Fawcett, T. (2013). *Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking*. Sebastopol, CA: O'Reilly Media, Inc.
- Reichheld, F. F. (2003). The One Number You Need to Grow. *Harvard Business Review*, 81(12), 46-55.
- Smith, D. (2017, January). *CRAN Now Has 10,000 R Packages. Here's How to Find the Ones You Need*. Retrieved from <http://blog.revolutionanalytics.com/2017/01/cran-10000.html>
- Strasser, S. E., and Ozgur, C. (1995). Undergraduate Business Statistics: A Survey of Topics and Teaching Methods. *Interfaces*. V. 25, No. 3, pp 95-103.
- Teer, H. B., Teer, F. P., and Kruck, S. E. (2007). A Study of the Database Marketing Course in AACSB–Accredited Business Schools. *Journal of Marketing Education*. V. 29, No. 3, pp 245-253.
- Turner, T. (2017, February). *Business Analytics: Lesson from an Undergraduate Introductory Course*. Paper presented at the annual meeting of Southeast Decision Sciences Institute, Charleston, SC.

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Moving to the Cloud - Integrating a Real-Life Case to Teaching QuickBooks Online

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ABSTRACT

This paper illustrates a new pedagogical approach in teaching QuickBooks Online (QBO) to undergraduate students in an Accounting Information System (AIS) course. This new approach is centered around integrating Systems Understanding Aid (SUA) into the curriculum of teaching QBO, and assists the instructor in fostering active student learning. The new pedagogical approach was compared with the traditional pedagogical approach that was employed in teaching Access and Excel in the same AIS class. The results of the comparison showed the effectiveness of the new approach.

Key words: QuickBooks Online, Systems Understanding Aid, active learning

INTRODUCTION

Courses on Accounting Information Systems (AIS) are a key component of the undergraduate accounting curriculum. Learning software packages such as QuickBooks is at the core of AIS courses but also the more challenging part for many students. The disconnection between lecture-based in-classroom instruction and student learning outcomes that gear toward mastering the functions of software packages calls for new teaching methods and new student learning activities. The recent migration of QuickBooks Desktop to QuickBooks Online (QBO) only amplifies the disconnection.

This disconnection is challenging to most accounting students with various cognitive learning styles. For example, most students could benefit from using real-life cases and examples in their attempts to learn to record various accounting transactions, but few such materials are available to instructors and students. This paper introduces the pedagogical approach of integrating Systems Understanding Aid (SUA) (Arens and Ward, 2016) into teaching QBO. This paper also compares the student learning results of two different instructional approaches: teaching QBO with integrated SUA and teaching Excel and Access with traditional lectures and exercises. The rest of the paper is organized as the following parts: literature review, research design, how to integrate SUA into QBO, and results and discussions.

LITERATURE REVIEW

The importance of accounting students' skills and competencies in AIS has long been recognized by educators and practitioners. Both the American Institute of Certified Public Accountants (AICPA) competency framework and the Association to Advance Collegiate Schools of Business (AACSB) accreditation standards emphasize information technology skills of accounting students. The *AICPA Pre-Certification Core Competency Framework* (AICPA, 2018) promotes a skills-based curriculum that teaches accounting competencies, professional competencies, and business competencies. Technology and tools are identified as one of the accounting competencies. AACSB 2018 standards for accounting accreditation (AACSB, 2018) identifies A5 'information technology skills, agility and knowledge for accounting graduates.' A5 in the 2018 accounting standards is a continuation and update to A7 'information technology skills and knowledge for accounting graduates' in the 2013 accounting standard. In the 2018 accounting standards, AACSB suggests part of the basis for judgment of meeting A5 as 'student experiences integrate real-world business strategies... information systems and processes, and data management and data analytics tools' (AACSB, 2018, P.27).

Difficulties in teaching and learning in AIS courses at the undergraduate level include the following. First, the AIS course is relatively independent from other accounting courses, especially financial accounting courses. Second, the content and delivery methods of AIS course vary significantly across institutions and instructors, which hinders the

accumulation and formation of knowledge and experience in teaching AIS. This point is echoed by Behn et al. (2012) in their call for more developing and sharing of accounting curriculum and learning resources. Third, the AIS course is a hybrid of traditional accounting content and information technology, which requires a broad base of course readiness of students.

The difficulties of teaching AIS courses are aggravated by insufficient research in this area. Apostolou, Dorminey, Hassell, and Rebele (2014) identified 29 empirical research papers on AIS in accounting education journals from 1983 to 2013. Only five empirical articles were identified in six accounting education journals in the twenty-year period of 1997 through 2016, as reviewed by Apostolou, Dorminey, Hassell, and Rebele (2017), except for the special issue on AIS education in the *Journal of Accounting Education* in 2014.

The topic of teaching AIS content deserves more attention from accounting education researchers. The pathways Commission on Accounting Higher Education was created and entrusted by the American Accounting Association (AAA) and the AICPA to develop recommendations for improving accounting higher education (Behn et al., 2012). Recommendation 4 calls for developing and sharing curriculum models and learning resources to sustain a robust curriculum.

QuickBooks is the most used accounting software package by small and medium-sized businesses in the U.S. (Premuroso and Kirkham, 2013). QuickBooks textbooks are used by many colleges and universities to teach AIS (Lambert and Bee, 2015). Intuit, the developer and marketer of QuickBooks, is swiftly moving QuickBooks Desktop (QuickBooks Pro/Premier) to QBO. According to Intuit, 3 out of 4 customers get more work done with QBO vs QuickBooks Pro (Intuit, n.d.). AIS curriculum must evolve as the industry is moving to the cloud. There is, however, no existing textbook on QBO and teaching materials are very limited.

RESEARCH DESIGN

This research was based on a quasi-experimental research design. Three major content areas were taught in an AIS course: QBO, Excel and Access. Student self-reported learning results were compared on two pedagogical approaches: the new approach of integrating SUA into QBO (the experiment group) and the traditional approach of teaching Excel and Access (the control group). Students' pre (before learning the content) and post (after learning the content) attitudes and perceptions were also reported and analyzed.

Learning context and student characteristics

The AIS course is a 300-level undergraduate course taught at a private doctoral university in the mid-Atlantic region. The university has a student population of about 5,000. The AIS course is a required course for accounting major students, and open to all business majors. For the spring 2018 semester, the course had two sections of 60 students enrolled, with 30% females and 70% males. Among the 60 students, 83% were accounting majors and 17% were other business majors. The instructor spent half of the semester on QBO, a quarter on Excel, and a quarter on Access. The parts of Excel and Access were taught using traditional pedagogical methods of lecturing and practicing. The pedagogical approach towards QBO was summarized in the next section.

Integrating SUA into QBO

Three options of using real-life data in QBO are: 1) using QBO test drive (<https://qbo.intuit.com/redirect/testdrive>); 2) using the setting of a new start-up business; 3) using SUA as the setting of a currently running business. From the perspective of teaching and learning QBO, QBO test drive and the setting of a new start-up business have significant inherent flaws; using SUA is the most suitable option but does require the instructor's extra work in preparation and execution.

Data already exists in QBO test drive and does not need to be re-invented. The QBO test drive, however, is not intended for the purpose of classroom teaching. Instead, QBO test drive is designed for prospective users to get familiar with the new cloud environment with demonstration files without making a mess in the client's real account. The unsurmountable drawback is that QBO test drive cleans all modified data every few minutes. This feature makes the topics such as finishing a year-end adjustment or an annual report impossible.

Using the mock data of a start-up business in teaching QBO is not an optimal option, because it does not provide sufficient data with the same breadth and depth of a data set of a currently running business as in SUA.

From a practical perspective, accounting students are less likely to work in a start-up company than in an on-going existing operation after graduation. Similarly, accounting graduates working in accounting firms will help more existing business than start-ups. If accounting graduates work for a company or a client who is undergoing the transformation from paper-based accounting system or a traditional computer-based accounting system to a cloud-based accounting system such as QBO, most likely the transformation is for an existing company.

To move SUA data into the cloud and to teach QBO by using SUA data are the better way to teach QBO in an AIS class. SUA is a widely used tool kit in accounting education. It provides realistic hands-on learning experience to students. To integrate the SUA data into QBO teaching requires the instructor to make innovative arrangements and solve some practical issues, because SUA traditionally is based on manual accounting and QBO is based on a pure online environment. The following steps were taken to join the two parts together.

First, the instructor created a Pro-Advisor advanced account for herself in QBO so that she could have access to students' QBO accounts. QBO provided one-year free trial to students; and the free trial was sufficient for students' learning purposes. The free trial account, however, was not adequate for the instructor because it does not carry the privilege to access other users' accounts. The instructor finished the QBO training and received the QBO Certification as a Pro-Advisor of QBO. After the students set up their own accounts on QBO, they sent an invitation link to the instructor. As a Pro-Advisor, the instructor accepted students' invitation and took the students as her clients. Now the instructor can access students' QBO account as a remote accountant.

Second, the instructor worked with her students to set up the chart of accounts correctly in QBO. In QBO, users needed to choose Category Type and Detail Type. For the most part, it was a straight forward transplantation from SUA to QBO. The students were required to use their judgement and accounting knowledge. In the Warrant Sports Supply case in SUA, for example, students needed to fill in the correct path for each account. There were also special cases that required the instructor's attention. One such example was *30500 Purchases* in SUA. The students might treat it as an asset account, but in fact it was used as an expense account in QBO. Since it was also related to inventory, students had to choose "Supplies & Materials" in detail type. This was one example that QBO was linked to financial accounting knowledge, and students had the opportunity to make decisions in a real-life accounting setting.

Third, the instructor helped the students put the dollar numbers of the accounts from SUA into QBO. Although the number inputting was mostly mechanical, two types of accounts deserved special attention. The first was the beginning balance/balance forward provided by the general ledgers in SUA for all the accounts on 10/01/201X. To input balance forward numbers for the cash account in QBO, the key was the credit entry, which balanced off the debit entry. The ending credit entry of "Opening Balance Equity" should always be zero. The receivables/payables accounts were another type of accounts requiring special treatment. QBO required customers' name when a user inputted balance forward amounts for receivable accounts. In this case, general ledger of accounts receivable alone was not sufficient. The instructor needed to retrieve more information from SUA's subsidiary accounts receivable list.

After the initial setup of accounts and account numbers in QBO (10/01/201X), the instructor helped students with the ongoing operations of the following months after October 201X. SUA did not provide details of cash transactions in October, so cash transactions in October were treated as balance forward in QBO. After the input, the ending balance could be checked in trial balance to make sure it was the same as in SUA. Accounts Receivable (A/R) account was another special case worthy of mentioning. The instructor helped identify which vendor was related to the change of accounts receivable balance, because October transactions in Sales or Cash Receipts Journal were not available. One way to do it was to put all the previous A/R transactions on Oct. 31 in QBO to simplify the data retrieve. For the journal entries of the accounts of Purchases, Cash Reimbursement, Sales, and Cash Receipts in November and December, more data were retrieved from SUA.

Teaching and Learning QBO with SUA

At the beginning of the semester, the instructor did a questionnaire survey of the students to understand students' background, perceptions of the course, and their self-assessed abilities and difficulties in related topics. Although 83% of the students were accounting majors, only 45% students had any experience in real-life accounting process from jobs or internships. About 38% students claimed to know how to use some accounting software, and among

those students, the average of their self-assessed ability of using accounting software was 2.56 on a 1-5 Likert-type scale with 1=not good at all and 5=extremely good. When asked how good they were at learning a new accounting software package, the average responses from the students were 3.71(1-5 Likert-type scale, 1= not good at all and 5=extremely good). Students regarded learning accounting software as very important. The average of responses to the question “how important it is to learn to use accounting software in an AIS course” was 4.36 on a 1-5 Likert-type scale with 1=not important at all and 5=extremely important. When asked how important they thought it was to learn to use accounting software in an AIS course, students responded with a mean score of 4.30.

Part of the pre-test questionnaire was comprised of open-ended questions. The answers were analyzed by the IBM SPSS Text Analytics for Surveys software package. The main themes of the answers were extracted and summarized. When asked what the challenges and difficulties in this course would be, 29% of the students were concerned about learning a new software package and 40% of the students were concerned that they were not good at financial accounting. About 45% students indicated that the biggest help they expected to get from the instructor was the availability of the instructor to assist them.

Based on the results of the pre-test, the instructor designed two approaches toward teaching the different content areas. When teaching Access and Excel, the instructor employed the traditional pedagogical approach. The instructor used classroom lectures, assisted with PowerPoint slides and example demonstrations. The students then had the opportunity to work on examples and exercise questions. The student learning outcomes were tested by quizzes and exams. This approach served as the control group.

When teaching QBO, the instructor integrated SUA to the teaching and learning and transferred students’ learning experience through a non-traditional pedagogical approach. This approach served as the experiment group. Three main characteristics distinguished the experiment group from the control group. First, the non-traditional pedagogical approach connected financial accounting knowledge with learning QBO throughout the whole section. This approach jointed learned knowledge with learning new knowledge. Second, the instructor acted more as a facilitator than a teacher in students’ learning process (Major and Palmer, 2006). Because the instructor was a Pro-Advisor of QBO and took the students as her clients, she had real-time access to all students’ activities. This mechanism made the instructor always available to help the students and avoided the situation where the students had to wait to show their work to the instructor. Students were co-learners with the instructor, and they assumed more responsibility for their learning. Third, part of the approach was to pair students up and let them check and assess each other’s work. One student acted as the “auditor” to check another student’s homework and gave feedback. If there were discrepancies, the audited student reworked the homework until both sides agreed. Student peer assessment encouraged higher order thinking (Bostock, 2006), promoted student autonomy, and boosted collaboration and corporation between students. To address concerns about the potential downsides of student peer assessment (Liu and Carless, 2006), the instructor graded the homework after both the auditor and audited student agreed that the homework was ready for submission. The auditor student also received a grade for his or her performance in checking the other student’s work.

RESULTS AND DISCUSSIONS

At the end of the semester, a post-test was administrated with the same students. Student attitudes were consistent in the pre-test and the post-test, with no statistically significant change. When asked how important they thought AIS was in the accounting curriculum, students responded with a mean score of 3.83 in the post-test. Students responded with a mean score of 4.15 to the question of how important it was to learn to use accounting software in an AIS course.

The non-traditional pedagogical approach was more effective than the traditional pedagogical approach. Student learning outcomes were summarized as follows. Student self-reported abilities on using QBO increased from a mean score of 2.04 to 4.30. Student self-reported abilities on using Excel increased from a mean score of 3.52 to 3.88. Student self-reported abilities on using Access increased from 2.40 to 3.98. All three increases were statistically significant. The results are summarized in Table 1.

Table 1: T-Test of Pre-Test and Post-Test Student Abilities of QBO, Access and Excel

Subject	Mean Score Pre-Test	Mean Score Post-Test	T-Test	Significance
QBO	2.04	4.30	-19.84	<0.01
Access	2.04	3.98	-11.89	<0.01
Excel	3.52	3.88	-2.59	=0.01

A one-way ANOVA analysis of students' abilities on QBO, Access and Excel in the pre-test indicated that there was significant difference among the three areas (Table 2). A post hoc analysis of multiple comparisons showed that there was significant difference between QBO and Excel, but not between QBO and Access (Table 3).

Table 2: One-Way ANOVA of Student Abilities of QBO, Access and Excel in the Pre-Test

	Sum of Squares	Degree of freedom	Mean Square	F-value	Significance
Between groups	77.77	2	9.48	66.00	<0.01
Within groups	99.56	169	0.48		
Total	177.32	171			

Table 3: Post Hoc Analysis of Multiple Comparisons of Pre-Test Student Abilities

	Mean Difference	Standard Error	Significance
QBO-Excel	-1.37	0.14	<0.01
QBO-Access	0.07	0.14	Not significant

A second one-way ANOVA analysis of students' abilities on QBO, Access and Excel in the post-test indicated that there was significant difference among the three areas (Table 4). A post hoc analysis of multiple comparisons showed that there was significant difference between QBO and Excel, and between QBO and Access (Table 5). Students' abilities in QBO were significantly higher than those in Excel and in Access.

Table 4: One-Way ANOVA of Post-Test Student Abilities of QBO, Access and Excel

	Sum of Squares	Degree of freedom	Mean Square	F-value	Significance
Between groups	4.81	2	2.41	4.86	<0.01
Within groups	72.76	147	0.50		
Total		149			

Table 5: Post Hoc Analysis of Multiple Comparisons of Post-Test Student Abilities

	Mean Difference	Standard Error	Significance
QBO-Excel	0.42	0.14	<0.01
QBO-Access	0.32	0.14	0.05

Student's self-assessment of their abilities of using QBO reported greater improvement than those of Access and Excel. This result provided support for the effectiveness of the non-traditional pedagogical approach. Students' comments showed evidence of higher-level learning in the QBO section. Students' comments in open-ended questions in the post-test were analyzed by the IBM SPSS Text Analytics for Surveys software package. About 30% of the students suggested that the connection between SUA and QBO was the most challenging part of the class. Most of the students stated that they successfully surmounted the difficulty by hands-on learning and extensive help from the instructor.

Engaging students in active learning activities is generally more effective in teaching complicated subject content to students. We propose the strategy of integrating the SUA module as a real-life case with a non-traditional pedagogical approach. Compared with the traditional pedagogical approach that was applied to teach Excel and

Access, the proposed new approach was more effective.

To teach QBO by integrating SUA in a non-traditional pedagogical approach requires three unique sets of competencies and commit from the instructor, which could limit the application of the approach. First, the instructor needs to master the subject area, obtaining and maintaining the Pro-Advisor status of QBO. Second, the instructor needs to possess the pedagogical content knowledge to implement the alternative approach. For example, in the areas of student-centered teaching, and student peer assessment. Third, this approach requires the instructor to spend more time on communicating with students. The cloud environment makes real-time communication possible, and demands more prompt and in-depth responses from the instructor.

REFERENCES

- Association of International Certified Professional Accountants (2018). AICPA Pre-certification Core Competency Framework
- Association to Advance Collegiate Schools of Business (AACSB) (2018). 2018 Eligibility Procedures and Accreditation Standards for Accounting Accreditation Retrieved on July 31, 2018 from <https://www.aacsb.edu/accreditation/standards/accounting/download>
- Apostolou, B., Dorminey, J. W., Hassell, J. M., and Rebele, J. E. (2014). A summary and analysis of education research in accounting information systems (AIS). *Journal of Accounting Education*, V. 32, No. 2, pp 99-112.
- Apostolou, B., Dorminey, J. W., Hassell, J. M., and Rebele, J. E. (2017). Analysis of trends in the accounting education literature (1997–2016). *Journal of Accounting Education*, V. 41, pp 1-14.
- Arens, A. A. and Ward, D. D. (2016) *Systems Understanding Aid*. Armond Dalton.
- Behn, B. K., Ezzell, W. F., Murphy, L. A., Rayburn, J. D., Stith, M. T., and Strawser, J. R. (2012). The Pathways Commission on Accounting Higher Education: Charting a national strategy for the next generation of accountants. *Issues in Accounting Education*, V. 27, No. 3, pp 595–600.
- Bostock, S. (2000). Student peer assessment. *Learning Technology*, pp 5.
- Gujarathi, M. (2005). Use of ERP software in accounting: A teaching note. *Advances in Accounting Education*, V. 7, pp 207–220.
- Intuit (n.d.). Freedom to run the day, the way you want. Retrieved August 1, 2018 from <https://quickbooks.intuit.com/move-to-online/>.
- Lambert, S. L. and Bee, S. (2015). Assembly FG: an education case study using QuickBooks as the AIS for a small manufacturing business. *AIS Educator Journal*, 10(1), 26-31.
- Liu, N. F. and Carless, D. (2006). Peer feedback: the learning element of peer assessment. *Teaching in Higher education*, V. 11, No. 3, pp 279-290.
- Major, C. H and Palmer, B. (2006). Reshaping teaching and learning: The transformation of faculty pedagogical content knowledge. *Higher Education*, V. 51, No. 4, pp 619-647.
- Newqbo.com (n.d.). Retrieved on May 11, 2018 from <http://newqbo.com/test-drive/>.
- Premuroso, R. F. and Kirkham, T. (2013). Offering a ‘Menu’ of Software and Case Study Options for the Group Project for Students Enrolled in the Introductory AIS Course: An Experimental Application Study. *AIS Educator Journal*, V. 8, No. 1, pp 1-23.
- Ramsay, A., Hanlon, D., and Smith, D. (2000). The association between cognitive style and accounting students’ preference for cooperative learning: an empirical investigation. *Journal of Accounting Education*, V. 18, pp 215-228.
- American Institute of CPAs (AICPA) (n.d.) AICPA Pre-Certification Core Competency Framework. Retrieved July 30, 2018 from <https://www.aicpa.org/interestareas/accountingeducation/resources/corecompetency.html>.

Mind the Gap: Approaches to Gaining Important Job Skills

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ABSTRACT

Prospective employers were asked to rate skills they considered most important for job candidates to possess. Students were asked to identify the skills employers thought were most important. This study found a gap between the employers' and students' responses. A number of activities were suggested to minimize this gap so that students understand the skills employers perceive as important and better prepare them for the job market.

Keywords: job skills, co-curricular activities, curriculum design

INTRODUCTION

The hiring process is basically a matchmaking process. On the one end, employers are looking for certain skills; on the other end, prospective employees possess certain skills – one objective of successful hiring is to match these two sets of skills. Although specific technical skills vary from one job to another, some skills are desirable regardless of the job. Students cannot prepare themselves for the job market without a good understanding of these skills. Several attempts have been made over the years to understand skills employers want in their job candidates. Yet, a survey by the American Association of Colleges and Universities found that nine out of ten employers assessed recent college graduates as poorly prepared in areas such as critical thinking, communication, and problem solving (Belkin, 2015). There is probably no better time to learn about and hone these skills than during college. In this paper, we attempt to understand the gaps that exist between the importance of these skills as perceived by employers and students. Next, we identify activities that students can undertake to reduce this gap and improve on the skills the market demands.

LITERATURE REVIEW

Researchers have attempted to understand important skills needed in the workplace for a long time. Some of these skills are technical in nature and very job specific. Others are skills expected or needed regardless of the type of job, such as soft skills. Soft skills are people skills and personal attributes that one possesses (Robles, 2012). Posner (1981) had recruiters rate the importance of a list of applicant characteristics. Subsequently, students and faculty were asked to rate how important they felt these characteristics would be to recruiters. The applicant characteristics were then categorized into three groups according to importance: most important, intermediate importance, and least important. All three respondents (recruiters, students, and faculty) agreed that communication ability was the most important applicant characteristic. Kaplan (1985) surveyed human resource managers and senior level business students about the importance of different characteristics for college graduates seeking entry-level positions. There were some general agreements about factors such as academic major and work experience. However, the students had a very limited understanding of what human resource managers considered to be important and failed to realize the importance of basic qualities such as initiative, emotional maturity, and high personal standards. Carnevale et al. (1990) grouped the essential skills employers want into seven categories: (a) foundational—learning to learn; (b) basic competency—reading, writing, and computation; (c) communication; (d) adaptability; (e) developmental; (f) group effectiveness; and (g) influencing skills. The authors alluded to the lack of rigor in the American educational system as the root cause for entry level employees not having some of these essential skills. Based on a survey of employers, Harun et al. (2017) listed important employability skills for engineering and technology graduates, including teamwork, critical thinking, oral and written communication skills, and interpersonal skills among other skills.

Based on feedback from business executives, Robles (2012) identified the top ten soft skills employers want. They included integrity, communication, courtesy, responsibility, social skills, positive attitude, professionalism, flexibility, teamwork, and work ethic. The author observed that business executives considered soft skills to be important attributes in job applicants and noted that efforts to develop soft skills should be viewed as an investment. In the context of a knowledge economy and high-performance work systems, Carnevale et al. (2013) listed skills and abilities desired by employers which include: (1) Basic skills (reading, writing, and mathematics); (2) Foundation skills (knowing how to learn); (3) Communication skills (listening and oral communication); (4) Adaptability (problem solving and creative thinking); (5) Group effectiveness (interpersonal skills, negotiation, and teamwork);

(6) Influence (organizational effectiveness and leadership); (7) Personal management (self-esteem and motivation/goal setting); (8) Attitude (cognitive style) and (9) Applied skills (occupational and professional competencies). The authors point out that these competencies are multi-dimensional and interact with each other, and the authors emphasize the need for infrastructure at the public and private levels to make citizens career ready.

In this brief review of literature, it is evident that both academics and practitioners have made many attempts to understand important skills job candidates need. A number of studies compared the importance of these skills as perceived by the employers and the students to highlight the gap that exists. A few studies indicate how students may be able to reduce this gap. However, the literature provides little direction as to how to quantify this gap and relate it to activities students can participate in to help them close this gap and be better prepared for the job market. The present study attempts to fill in this void in the literature.

DATA COLLECTION

The National Association of Colleges and Employers (NACE) has conducted an annual survey to understand what employers and job candidates want from each other since the early 1990s. St. Cloud State University (SCSU) conducts the Minnesota College Job Outlook Survey to understand what employers who participate in the campus job fairs want from job candidates. Although this survey is patterned after the NACE survey, over the years it has been changed to reflect issues considered most important for the Midwest employers. The data collected by the Minnesota College Job Outlook Survey in 2015 are used for the present research. After eliminating surveys with missing values, 86 employer responses were found to be useful. These respondents represented a diverse assortment of public and private sector organizations including business services, retail, healthcare, education, financial services, telecommunications, government, technology, the military, manufacturing, non-profit/human services, and restaurant/hospitality.

In the Minnesota College Job Outlook Survey, the employers are asked to rate the skills that are most important for entry level job candidates to possess. For the present research, that question was modified and students (mostly juniors and seniors) were asked what skills they thought employers felt were most important for job candidates to possess (Table 1 lists survey items/skills). The student survey was conducted during the academic year 2015-2016 in upper division courses in the SCSU Herberger Business school. Participation was voluntary and anonymous. Useable student responses were 218 after eliminating incomplete surveys. About 89% of the respondents were juniors or seniors. The students were 53% female (a few students did not identify gender). Self-reported GPAs ranged from 2.2 to 4.0 with a mean of 3.12. Students could select multiple identity categories and about 84% selected Caucasian, 4% Asian, 2% Black, 2% Hispanic, and the rest either selected Other or did not respond. The instructions on both surveys (employers and students) were to rate each skill on a 1-to-5 "Not at all important" to "Extremely important" scale.

METHODOLOGY, DATA ANALYSIS, AND RESULTS

The Independent Samples t-test was used to compare the means of employers' and the students' responses. This test requires the assumption of homogeneity of variance. Levene's test for equality of variances was performed for this purpose before comparing the differences in mean responses between students and employers. The pooled sample standard deviation was used to calculate the t-test statistic if Levene's test indicated that the variances were equal. On the other hand, the Welch t-test statistic was used if Levene's test indicated that the variances were not equal. Table 1 shows the results of the Independent Samples t-test where skills are listed in descending order of employers' mean responses. The top five skills as rated by the employers were Honesty/integrity, Communication (verbal and written), Strong work ethic, Interpersonal skills (relates well to others), and Motivation/initiative. The mean of employers' and students' responses differed significantly ($p \leq 0.01$) for four of these five skills, as indicated in Table 1. (Note: The nonparametric Mann-Whitney U Test is suggested to ensure robustness of the results when the dependent variable is not continuous. Therefore, this test was run; the results were consistent with those shown in Table 1. This serves as sensitivity analysis of the results reported in Table 1.) The mean response for Flexibility/adaptability was significantly different at $p \leq 0.05$ level but did not make the top five list. Three differences in mean responses namely, Strong work ethic, Interpersonal skills (relates well to others), and Motivation/initiative, were found to be significant even after using a Bonferroni correction to guard against an increased likelihood of Type I error associated with multiple comparisons.

It is interesting to note that although Honesty/integrity was rated second highest by the students, the employers' mean response was significantly different; employers rated this skill as even more important than students thought. The result of Communication (verbal and written) skill was surprising. For a long time we, the faculty members, have been hearing from prospective employers that our graduates lack in both verbal and written communication skills, yet mean responses of students and employers did not differ significantly. In fact, students rated this skill the highest, and students' ratings were very close to employers' ratings, as depicted by the mean difference. Perhaps attempts by faculty and career center announcements/activities emphasizing the importance of communication skills is paying off and word is finally getting to students.

Table 1: Skills Most Important for Job Candidates to Possess
(Variables are listed in descending order of the mean value of employers' response)

What skills do you think <u>employers feel</u> are most important for [job] candidates to possess? Please rate each on a scale of 1 to 5, with 1 = Not at all important and 5 = Extremely important.					
Skill	Student		Employer		Mean Difference
	Mean	sd	Mean	sd	
Honesty/integrity	4.69	0.61	4.85	0.42	-0.16**
Communication (verbal and written)	4.77	0.46	4.79	0.44	-0.02
Strong work ethic	4.50	0.63	4.76	0.51	-0.26**
Interpersonal skills (relates well to others)	4.34	0.70	4.59	0.56	-0.25**
Motivation/initiative	4.30	0.75	4.57	0.60	-0.27**
Teamwork skills (works well with others)	4.53	0.65	4.47	0.68	0.07
Professionalism/etiquette	4.26	0.71	4.36	0.80	-0.10
Ability to acquire learning	4.34	0.68	4.29	0.84	0.05
Flexibility/adaptability	4.04	0.77	4.26	0.72	-0.21*
Organizational skills	3.97	0.78	4.03	0.74	-0.07
Leadership skills	4.17	0.77	4.00	0.87	0.17
Think analytically	3.82	0.75	3.90	0.83	-0.07
Utilize technology	3.93	0.71	3.77	0.82	0.16
** $p \leq 0.01$; * $p \leq 0.05$					

Next, this study focuses on understanding how students can mitigate the gap between their understandings of skill importance and those of the employers. This is achieved in the following steps:

- (1) Quantifying the gap.
- (2) Identifying activities students can perform to close the gap.
- (3) Assessing efficacy of these activities on closing the gap.

(1) Quantifying the gap

Taking the means of employers' responses as ideal levels of importance for the skills, an ideal profile of top five skills was constructed with the following levels/ratings: Honesty/integrity = 4.85, Communication (verbal and written) = 4.79, Strong work ethic = 4.76, Interpersonal skills (relates well to others) = 4.59, and Motivation/initiative = 4.57. Following Venkatraman (1989) and Venkatraman and Prescott (1990), the gap (which the cited authors call 'misfit') in rating difference (RATINGDIFF) between the employers and the students was calculated as follows:

$$\text{RATINGDIFF}_i = \sum_{k=1}^n (X_k - X_{ik})^2$$

where,

RATINGDIFF_{*i*} = the gap between mean rating of the employers and the rating of a student *i* across top five skills

X_{*k*} = mean employers' rating of skill *k*

X_{*ik*} = rating of skill *k* by student *i*

For this study, *k* varies from 1 to 5 (i.e., *n* = 5; top five skills) and *i* varies from 1 to 218 (number of students)

More specifically, for this study, $RATINGDIFF_i$ is calculated as follows:

$$RATINGDIFF_i = (4.85 - HONINT_i)^2 + (4.79 - COMM_i)^2 + (4.76 - WKETH_i)^2 + (4.59 - INTERP_i)^2 + (4.57 - MOTIN_i)^2$$

Where,

$HONINT_i$ = rating of the 'Honesty/integrity' skill by student i

$COMM_i$ = rating of the 'Communication (verbal and written)' skill by student i

$WKETH_i$ = rating of the 'Strong work ethic' skill by student i

$INTERP_i$ = rating of the 'Interpersonal skills (relates well to others)' skill by student i

$MOTIN_i$ = rating of the 'Motivation/initiative' skill by student i

The higher the value of $RATINGDIFF_i$, the higher the cumulative gap between a student's ratings and the means of employers' ratings across the top five skills. In other words, a higher value of $RATINGDIFF_i$ indicates that a student i lacks understanding of the importance of the top five skills as perceived by employers. But, understanding which skills are deemed to be most important by the employers is essential to making a job candidate marketable. Therefore, some approaches to reduce the gap are discussed next.

(2) Identifying activities students can perform to close the gap

Students can close the gap ($RATINGDIFF$) by understanding which skills employers value most. Hence, an attempt was made to identify activities where students get the opportunity to learn these skills during their time in college. These activities are listed below.

Internships

Internships are probably one of the best ways to learn the skills employers want as students try to make sense of different stakeholders' expectations in a professional work environment. While interning, students may hone many skills through their everyday interactions with the employers. Thus, internships give students opportunities to learn and nurture important job-related skills employers desire as well as norms, values, and cultural expectations in business environments. Many times, students keep in touch with the mentors they worked with long after the internship has ended. This gives students people from whom to seek advice when confronted with difficult career related situations. The following question was posed to the students surveyed: Have you completed an internship with an organization for at least a semester (Fall/Spring/Summer) and received at least three credits towards your degree program? Yes/No. The variable was coded as $INTERN = 1$ indicating 'No' and $INTERN = 2$ indicating 'Yes.'

Although internships are one of the best ways to gain work experience and to get to know what employers want, they are not readily available to many students for many reasons. Some factors are a limited number of internship opportunities, difficulty fitting in an internship during junior or senior years, payment offered by employers not being competitive, and adding a regular or a summer semester for an internship, which extends the time in college. Many universities, including ours, require that a student return to campus for one full semester after completing an internship. That is, internships cannot be completed in the semester that a student is graduating. All of these, and many other factors, make it difficult for students avail themselves of internship opportunities. So, an attempt was made to identify activities available in or around the university campus that are not as time consuming or demanding as an internship, yet give students opportunities to learn skills that employers consider important. These activities are organized into four sets as follows:

1. Work experiences

Many students work in different capacities on or off campus throughout their college years. This not only provides financial support for their educational cost but also lets students learn valuable skills and responsibilities. The following question was posed to the students surveyed: Have you worked for at least 16 or more hours per week (2 days a week) on average for two semesters? Yes/No. The variable was coded as $WORKEXP = 1$ indicating 'No' and $WORKEXP = 2$ indicating 'Yes.'

2. Community engagement

These activities involve engagement with non-profit organizations or for-profit businesses in the community for a limited time period. Students get the opportunity to work under the supervision of an employee of an organization/business and thereby can learn some of the same skills that their future employers would expect from them. The following question was posed to the students surveyed: Have you worked for 40 or more hours in the past in at least one of the following situations? (a) Took an active role as a leading member in a community service learning project, (b) Completed job shadowing in an organization/business, or (c) Volunteered your time for a non-profit organization where you were responsible for managing a project (or a part) and reporting the progress to a permanent staff holding a leading position. Yes/No. The variable was coded as COMMENG = 1 indicating 'No' and COMMENG = 2 indicating 'Yes.'

3. Professional association/chapter

Professional associations and their affiliated student chapters provide excellent opportunities for students to understand employers' expectations and develop professional relationships with them. Professional associations and societies such as the Society for Advancement of Management (SAM), the American Marketing Association (AMA), the Society for Human Resource Management (SHRM), the Association for Supply Chain Management (ASCM/APICS) and others have been serving this purpose for a long time. Although students are encouraged and sometimes incentivized to get involved in activities of these organizations, students' participation in these organizations is not uniform. While some take active roles in one or more of these associations/societies, others merely show up to one or two meetings; still others do not bother to get to know about these organizations at all. To understand students' level of involvement, the following question was posed to the students surveyed: Have you served in a leadership position (e.g., as an officer and not just as a general member) for one or more professional society/organization/student chapter with at least 40 hours spent on performing responsibilities (in addition to the activities performed by general members) of the organization (e.g., arranging/coordinating/chaperoning guest speakers, resident executive for a day, plant/facility tours, and others) in the past? Yes/No. The variable was coded as PROFSOC = 1 indicating 'No' and PROFSOC = 2 indicating 'Yes.'

4. Placement services

University campuses offer many opportunities to match students with prospective employers. Career and placement centers hold several events/activities throughout the year to foster connections between students and prospective employers. These events allow students to learn about employers' skills expectations and to develop these skills while learning from their own mistakes. These activities are held often and delivered in short duration and, hence, students can participate in them relatively easily. Students can make themselves aware of the skills employers' desire by participating in these events/activities. To gauge students' level of participation in these activities, the following question was posed to the students surveyed: Have you participated in at least four of the following (or similar) activities: Mock interview, resume writing, job fair prep, Huskies job and internship fair, Career day, Minnesota education job fair, Diversity job fair, Government and non-profit career fair? Yes/No. The variable was coded as CARCTR = 1 indicating 'No' and CARCTR = 2 indicating 'Yes.' Obviously, the above four sets of activities do not represent an exhaustive list, but they are the most common activities our students have access to.

(3) Assessing efficacy of these activities on closing the gap (RATINGDIFF)

The efficacy of the activities on closing the gap (RATINGDIFF) was assessed by regression analysis. Internship and four activity sets were regressed on RATINGDIFF in Model 1 as shown below:

$$\text{RATINGDIFF}_i = \beta_0 + \beta_1 \text{INTERN}_i + \beta_2 \text{WORKEXP}_i + \beta_3 \text{COMMENG}_i + \beta_4 \text{PROFSOC}_i + \beta_5 \text{CARCTR}_i + \varepsilon_i \quad (1)$$

The results of Model 1 are shown in Table 2. INTERN was negatively related to RATINGDIFF and was highly significant ($p \leq 0.01$). All four activity sets were negatively related to RATINGDIFF, but none of those relationships was statistically significant (note: PROFSOC had a p -value was 0.074).

Next, all four activity sets were combined by adding them. That is, activity sets 1-4 combined = ACTCOMD = WORKEXP + COMMENG + PROFSOC + CARCTR. Internship and activity sets 1-4 combined (ACTCOMD) were then regressed on RATINGDIFF in Model 2 as shown below:

$$\text{RATINGDIFF}_i = \beta_0 + \beta_1 \text{INTERN}_i + \beta_2 \text{ACTCOMD}_i + \varepsilon_i \quad (2)$$

The results of Model 2 are shown in Table 2. INTERN was negatively related to RATINGDIFF and was still highly significant ($p \leq 0.01$). The activity sets 1-4 combined variable (ACTCOMD) was negatively related to RATINGDIFF, and this relationship was highly statistically significant ($p \leq 0.01$). It is important to note that previously (Model 1) none of the individual activity sets was statistically significant. Results from Model 1 and Model 2 suggest that an internship is the best way to close the gap (RATINGDIFF) between students' understanding of important skills and those of the employers'. Additionally, the results suggest that although an individual activity set is not significantly related to the gap, when combined, these four activity sets together have a synergistic effect which improves students' understanding about which skills are most important (as employers perceived) for job candidates to possess.

Table 2: Estimation of the Regression Models (Dependent variable: RATINGDIFF)

	Model 1: Test for Effect of Internship and individual activity set	Model 2: Test for Effect of Internship and four activity set combined
Intercept	6.65**	6.65**
INTERN	- 1.58**	- 1.56**
WORKEXP	- 0.37	
COMMENG	- 0.53	
PROFSOC	- 0.63	
CARCTR	- 0.57	
ACTCOMD		- 0.54**
	$F=6.51^{**}$ $Adj. R^2=0.11$	$F=16.37^{**}$ $Adj. R^2=0.12$
** $p \leq 0.01$		

DISCUSSION AND CONCLUSION

Table 1 shows which skills employers consider most important for job candidates to possess and to what extent students can identify these skills accurately. Knowing which skills employers desire is important for students, but they also need to know which skills employers think students need to improve upon. In order to understand this issue better, employers were asked: What skills do you think new college graduates most need to improve upon? Please rate each on a scale of 1 to 5, with 1 = Not at all important and 5 = Extremely important. Table 3 shows the top five rated responses where skills are listed in descending order of employers' mean responses (the mean rating for the fifth and the sixth top rated skills were the same and, hence, six skills are listed).

Table 3: Skills New College Graduates Most Need to Improve Upon
(Variables are listed in descending order of the mean value of employers' response)

What skills do you think new college graduates most need to improve upon? Please rate each on a scale of 1 to 5, with 1 = Not at all important and 5 = Extremely important.		
Skill	Mean	sd
Strong work ethic	4.28	0.84
Communication (verbal and written)	4.15	0.83
Motivation/initiative	4.00	0.95
Professionalism/etiquette	3.83	0.96
Flexibility/adaptability	3.66	1.04
Interpersonal skills (relates well to others)	3.66	0.97

The following observations are made by taking together the results of Table 1 and Table 3. The student rating on possessing 'Professionalism/etiquette' skill was similar to that of the employer rating, which implies that employers

and students did not differ on the importance of this skill, but employers thought that new college graduates needed to improve upon this skill. Both employers and students perceived possessing ‘Communication (verbal and written)’ skill as highly important, but new college graduates need to improve upon this skill, according to the employers. More interestingly, for four skills (Strong work ethic, Interpersonal skills (relates well to others), Motivation/initiative, and Flexibility/adaptability), students rated these skills to be less important than employers rated these skills, and these differences in ratings were statistically significant. That is, students failed to realize how important the employers considered these skills to be. Moreover, the employers also thought that new college graduates needed to improve upon all four of these skills.

Findings from this study can provide valuable inputs to prepare students for the job market. The skills, for which the mean employers’ ratings differed significantly from the students’ ratings, need to be communicated to the students so they are aware of the gap. Next, students need to be encouraged to intern in their field of interest as internships have been shown to reduce the gap. According to the Chronicle of Higher Education (2012) survey, employers considered internship experience as the most important attribute in evaluating graduates for hire. The result of this study provides support for this practice. Academia needs to reexamine curriculum in light of how degree programs are preparing students for the demands of the workplace (Ritter et al., 2018). College curriculum may require students to intern for a semester or a summer, ideally during their junior or senior years. College career/placement centers can play a vital role in setting up internship programs with for-profit businesses and non-profit organizations. Increasingly, universities have to work with limited resources and, as a result, career/placement centers, in many educational institutions, have reduced services they provide. If colleges intend to provide opportunities for students to help them grow professionally and secure jobs they aspire to, then investments in building student-employer relationships are worth making. It takes a lot of effort from all parties involved (student, faculty, company, the university career center, and others) to set-up an internship arrangement, and many colleges may not have enough resources to make internships a requirement in the curriculum. The results of this study indicate that activities included in four activity sets, when combined, can play an important synergistic role to reduce the gap if internships are not something that students can avail. Thus, the best course of action on students’ part would be to intern with companies if possible, but the activities discussed in this study should not be ignored, and students should be encouraged to avail themselves of as many of these activities as possible throughout their college years.

ACKNOWLEDGEMENT

The author is indebted to Dr. Larry Roth for generously providing the data collected from the employers.

REFERENCES

- Belkin, D. (2015, January 17). U.S. News: Skills Gap Found in College Students. *The Wall Street Journal*. Eastern edition, A.5.
- Carnevale, A. P., Gainer, L. J. and Meltzer A. S. (1990). *Workplace Basics: The Essential Skills Employers Want*. San Francisco: Jossey-Bass.
- Carnevale, A. P. and Smith, N. (2013). Workplace Basics: The Skills Employees Need and Employers Want. *Human Resource Development International*. V. 16, No. 5, pp 491-501.
- Chronicle of Higher Education. (2012). The Role of Higher Education in Career Development: Employer Perceptions. Survey. Accessed at <https://chronicle.com/items/biz/pdf/EmployersSurvey.pdf>.
- Harun, H., Salleh, R., Baharom, M. N. R. and Memon, M. A. (2017). Employability Skills and Attributes of Engineering and Technology Graduates from Employers’ Perspective: Important vs. Satisfaction. *Global Business and Management Research: An International Journal*. V. 9, No. 1, pp 572-580.
- Kaplan, E. (1985). College Recruitment: The View from Both Sides. *Personnel*, V. 62, Issue 11, pp 44-49.
- Posner, B. Z. (1981). Comparing Recruiter, Students, and Faculty Perceptions of Important Applicant and Job Characteristics. *Personnel Psychology*. V. 34, pp 329-339.
- Ritter, B. A., Small, E. E., Mortimer, J. W. and Doll, J. L. (2018). Designing Management Curriculum for Workplace Readiness: Developing Students’ Soft Skills. *Journal of Management Education*. V. 42, No. 1, pp 80-103.
- Robles, M. M. (2012). Executive Perceptions of the Top 10 Soft Skills Needed in Today’s Workplace. *Business Communication Quarterly*. V. 75, Issue 4, pp 453-465.
- Venkatraman, N. (1989). The Concept of Fit in Strategy Research: Toward Verbal and Statistical Correspondence. *Academy of Management Review*. V. 14, pp 423-444.
- Venkatraman, N. and Prescott, J. E. (1990). Environment-Strategy Coalignment: An Empirical Test of Its Performance Implications. *Strategic Management Journal*. V. 11, pp 1-23.

Employability Skills Needed by Business Education Graduates as Perceived by Business Teachers and Employers of Labour in Two Southwestern Nigerian States

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ABSTRACT

The national crisis of graduate unemployment has brought the issue of employability skill acquisition to the front burner of national discourse, with employers of labor insisting that most graduates are unemployable. The study therefore sought to identify employability skills needed by business education graduates as perceived by employers of labor and business education teachers in two southern Nigerian states. The researcher employed descriptive survey design. The study population consisted of 81 business educators, 46 human resources managers of public limited liability companies and 46 human resource managers of government-owned corporations or statutory companies with headquarters or major offices in the study states. No sample was drawn as the entire population was studied. Three research questions and one hypothesis guided the study. The instrument for data collection was a two-section researcher-designed questionnaire. The first section sought demographic information on the respondents; these were used for the test of hypothesis. The second section, structured on the 4-point rating scale pattern, consisted of 36 questions designed to elicit responses on the formulated research questions. The instrument was validated by three experts while the reliability test, using the test-retest method, yielded a reliability coefficient of 0.83. The research questions were analyzed with mean ratings and standard deviation while the null hypothesis was tested at 0.05 level of significance with One-Way ANOVA. The results showed that the listed technical, interpersonal and communication skills were either strongly needed or needed. The test of hypothesis showed significant difference in the mean ratings of business educators and employers of labor in the private sector on the employability skills needed by business education students for gainful employment. The study therefore concluded that in addition to technical skills, interpersonal and communication skills are indispensable for employability. The study subsequently recommended the injection of employability skill items into all contents of business education curriculum. The study further recommended the involvement of the private sector in the development of business education program curriculums.

Key words: Employability skills, business educators employers of labor, Southwestern Nigeria.

INTRODUCTION

The abiding crisis of graduate unemployment has brought the twin issues of employment and employability to the front burner of national discourse in recent years. Universities and polytechnics in Nigeria and much of the developing world continue to churn out millions of fresh graduates annually even as old ones wander the length and breadth of their countries searching for non-existing jobs. In spite of the dearth of vacancies and glut of applicants, multinational corporations continually complain that they have been unable to fill some vacancies with Nigerian graduates because, they claim, many Nigerian graduates are unemployable. Michael Omolayole, a foremost Nigerian Human Resource Management expert painted the scenario graphically::

The Nigerian unemployment situation is a paradox which should be of concern to the tertiary institutions. The universities are training students for unavailable jobs. There is no synergy between the need of the public service and industry and the training interest of the institutions. Admission seems to be based on the institutions' financial needs rather than on the national manpower demand. That, however, is only one half of the problem. Even those graduates studying courses needed by the industry and multi-national organizations often turn out to be misfits. Graduates with good classes of degree often speak atrocious English and cannot communicate effectively in any language. Then, there is the problem of attitude. Right from the floor of the interview, many graduates present themselves as potential menace to the organization. There are many things Nigerian graduates need to learn but are not learning. Institutions should Begin to teach employability skills (Omolayole, 2014:3).

What are employability skills and why are they so important?

PREVIOUS RESEARCH

Employability has been described as the relative chances of gaining and maintaining different types of employment (Imeokpana & Ediagbonya, 2012). It covers the need for individuals to obtain credentials, knowledge and social status (Olaleye, 2010, Toland, 2011). Employability depends on whether an applicant is able to fulfill requirements for specific jobs and also how one stands relative to others within the hierarchy of job seekers (Brown & Hasketh, 2012). Imeokparia and Ediagbonya (2012) perceives employability from the angle of the labor market and opine that the labor market is an arrangement which brings employers of labor and job seekers together. In his opinion, a job seeker needs certain skills which will determine his relative standing in the labor market. Employability therefore incorporates the dual aspects of demand and supply of labor. Employability skills refer to a group of important skills instilled in each individual in order to be a member of a productive workforce. It refers to a person's capacity for gaining and maintaining employment. This implies that for individuals, employability depends on the knowledge, skills and ability they possess; the way they present these assets to employers and the context - for instance, personal circumstances and the labor market environment within which they seek to work (Kazilan, Hamzah & Baker, 2011). Employability skills can therefore be seen as those set of skills required of an individual to gain and maintain employment, and to function effectively in the world of work as an employee.

In Nigeria, Business education is perceived as an aspect of education which prepares an individual for educational engagement in fields like accounting, office technology and management, business administration and business teacher education (Ademiluyi, 2007). To Robinson and Garton (2008), it also refers to those business programs and courses taught ordinarily at secondary school levels. Osuala (1992) perceives business education as an essential part of the preparation of youths for life and living. Njoku (2006) describes Business Education as an educational program that equips an individual with functional and suitable skills, knowledge, attitudes and values that would enable him/her to operate in the environment in which he/she finds herself. The Njoku definition suggests that employability is built into the Business Education offering.

Agumuo and Agboola (2017) believe that employability skills include those skills and actions that enable workers to get along with their fellow workers and superiors and to make sound critical decisions. The American Secretary Commission for Achieving Necessary skills (SCANS) identified fundamental skills and workplace competencies needed for employability and effective functioning in the workplace. These include basic skills, thinking, personal qualities, resources, interpersonal information and system technology skills (SCANS, 2001).

The skills stated above are very relevant to business education, which according to Imeokparia and Ediagbonya (2012) is concerned with the development of appropriate knowledge, attitudes, skills and understanding required to fit into a chosen occupation. Some skills are particularly germane to business education graduates. These include secretarial, accounting and marketing skills. These technical skills, among others, determine the business educator's relevance in the world of work. However, interpersonal skills and communication skills may be equally important for the business graduate to thrive in the contemporary world of work.

In the context of this study, the term 'employers of labor' refers to human resources managers, who are often tasked with the functions of recruitment, selection, training and personnel management in both public and private organizations. 'Business education graduates' refers only to holders of university degrees or polytechnic Higher National Diploma in business education who are registered with the Association of Business Educators of Nigeria (ABEN). Southwestern Nigeria consists of six states located in south-western part of the Nigerian federation.

Statement of the Problem

The intractability of global unemployment crisis demands that greater attention be paid to the quality and content of the training being given to the Nigerian undergraduate. For business courses especially, the pervasiveness of graduate unemployment is particularly embarrassing because business graduates are expected to have all the knowledge and skills needed not only for paid employment, but also for self employment, entrepreneurship and corporate leadership. The fact that thousands of business graduates continue to wallow in unemployment and underemployment suggests that the quality and content of the programs should be continually reviewed.

Employers of labor consistently complain that Nigerian graduates are unemployable. Nigeria-based multinational organizations, especially, habitually source certain categories of personnel from neighboring African countries on the ground that Nigerian graduates lack certain skills which are indispensable to corporate health and growth. Even the government-owned Nigerian National Petroleum Company recently reported that nearly 90 percent of applicants failed its employment tests. What are those employability skills which Nigerian graduates lack? The concern of this study is to identify skills needed by Nigerian graduates of business education, as perceived by employers of labor in Oyo and Osun states of Southwestern Nigeria.

Objective of the Study

The objective of the study was to identify employability skills needed by business education graduates as perceived by employers of labor in Oyo and Osun States.

Specifically, the study sought to determine:

1. The technical skills needed for employability by business education graduates as perceived by employers of labour in Oyo and Osun States.
2. The communication skills needed by business education graduates as perceived by employers of labour in Oyo and Osun States.
3. The interpersonal skills and attitudes needed by business education graduates as perceived by employers of labor in Oyo and Osun States.

Research Questions

The following research questions guided the study: In the opinion of employers of labor in Oyo and Osun states of southwestern Nigeria, what employability skills are needed by employers of labor in the areas of

1. Technical skills
2. Communication skills
3. Interpersonal relationships skills

Hypothesis

There is no significant difference in the mean ratings of business educators, private sector and public sector employers of labor on employability skills needed by business education graduates in southwestern Nigeria..

RESEARCH DESIGN

The researcher adopted the descriptive survey research design. Descriptive survey is ideal whenever opinions, perceptions and attitudes are being sought (Agboola, 2016). The study was conducted in Oyo and Osun States located in South-western Nigeria. The study population consisted of business educators in universities and other tertiary institutions in both states, registered with the Association of Business Educators of Nigeria and the and human resources managers of public limited liability companies and government owned corporations with headquarters or regional offices in either Oyo or Osun State. The business educators numbered 81, while private and public sector human resource managers numbered 46 each. Since the population was neither too large nor too dispersed, the entire population was studied; no sample was drawn, in consonance with the opinion of Agboola that whenever possible, it is ideal to study the entire population.

Data Collection

The instrument for data collection was a two-section researcher-designed questionnaire. The first section sought demographic information on the respondents; these were used for the test of hypothesis. The second section, structured on the 4-point rating scale pattern, consisted of 36 questions designed to elicit responses on the formulated research questions. The items were placed on the 4-point rating scale of Strongly needed (SN) = 4, Needed (N) = 3, Barely Needed (BN) = 2, and Not Needed (NN) = 1. The instrument was validated by three experts while the reliability test, using the test-retest method, yielded a reliability coefficient of 0.83.

The instrument was administered with the assistance of three research assistants. The instrument was administered on 81 business educators, 46 public sector and 46 private sector HRMs, totaling 173. One hundred and fifty five questionnaire copies, completed by 40 public-sector, 43 private-sector HRMs and 72 business educators, were returned correctly completed and usable for analysis. For the analysis of data collected, mean ratings and standard

deviation were used to answer the research questions, while the null hypothesis was tested at 0.05 level of significance with One Way Analysis of Variance. For the research questions, items with scores ranging between 0.00 and 1.49 were rated as not needed, items with scores between 1.50 and 2.49 were rated as barely needed, those with scores ranging from 2.50 and 3.49 were regarded as needed, while items with scores above 3.49 were rated as Strongly needed. For the test of hypotheses, if the probability value was less than or equal to the fixed probability value (0.05), the null hypothesis was to be rejected, but if otherwise, the hypothesis was to be accepted.

Results

Research Question 1: In the opinion of employers of labor in Oyo and Osun state what employability skills are needed by employers of labour in the area of Technical skills

Table 1: **Respondents' Ratings of Technical, Interpersonal and Communication Skills Needed for Employability by Business Education Graduates**

Serial No.	Item (Skill)	Classification	Mean	SD	Remarks
1.	Reliability	IP	3.88	0.54	Strongly Needed
2.	Customer satisfaction	IP	3.85	0.61	Strongly Needed
3.	Integrity	IP	3.85	0.64	Strongly Needed
4.	Business Management	Tech	3.84	0.56	Strongly Needed
5.	Marketing	IP	3.84	0.56	Strongly Needed
6.	Negotiation	IP	3.83	0.66	Strongly Needed
7.	Speaking	Comm	3.81	0.88	Strongly Needed
8.	Listening	Comm	3.78	0.68	Strongly Needed
9.	Accounting	Tech	3.77	0.75	Strongly Needed
10.	Information technology	Tech	3.77	0.66	Strongly Needed
11.	Self confidence	IP	3.74	0.67	Strongly Needed
12.	Decision making	IP	3.73	0.55	Strongly Needed
13.	Group membership	IP	3.73	0.55	Strongly Needed
14.	Leadership	Tech	3.71	0.73	Strongly Needed
15.	Information sourcing	Comm	3.71	0.63	Strongly Needed
16.	Friendliness	IP	3.68	0.68	Strongly Needed
17.	Electronic Communication	Comm	3.66	0.84	Strongly Needed
18.	Research	Comm	3.63	0.71	Strongly Needed
19.	Willingness to learn	IP	3.63	0.85	Strongly Needed
20.	Text messaging	Comm	3.61	0.81	Strongly Needed
21.	Presentation	Tech	3.58	0.73	Strongly Needed
22.	Time management	IP	3.55	0.73	Strongly Needed
23.	Empathy	IP	3.55	0.73	Strongly Needed
24.	E-mailing	Comm	3.55	0.76	Strongly Needed
25.	Writing	Comm	3.55	0.76	Strongly Needed
26.	Auditing	Tech	3.53	0.81	Strongly Needed
27.	Reception	Comm	3.52	0.79	Strongly Needed
28.	Entrepreneurship	Tech	3.51	0.82	Strongly Needed
29.	Numeracy	Tech	3.51	0.81	Strongly Needed
30.	Organisational communication	Comm	3.44	0.87	Needed
31.	Office Management	Tech	3.44	0.56	Needed
32.	Non verbal communication	Comm	3.42	0.79	Needed
33.	Teaching	Tech	3.38	0.93	Needed
34.	Self criticism	IP	3.37	0.91	Needed
35.	Meeting management	Tech	3.33	0.78	Needed
36.	Electronic Group chat	Comm	3.33	0.81	Needed

Table 1 shows that out of the 36 items listed, 12 each are classified under technical skills (Tech), Interpersonal skills (IP) and Communication skills (Comm). The table also shows at a glance that 29 of the listed items were rated as strongly needed while only seven were rated as Needed.. No item was rated below the Needed category. The skills and attributes with the highest ratings include reliability, integrity, customer satisfaction and business management. Others include marketing, negotiation, negotiation, listening and speaking skills. Out of the technical skills rated as needed by business education graduates for employability, marketing and business management skills are rated highest (Mean: 3.84), followed by accounting and ICT skills (Mean: 3.77), leadership skill (Mean: 3.71), presentation (Mean: 3.58), auditing (Mean: 3.53), numeracy (Mean: 3.51), entrepreneurship (Mean: 3.51) among others. Nine out of the 12 items were rated as strongly needed while three were rated as needed.

Out of the 12 items in the interpersonal skills cluster, 11 were rated as strongly needed while only one was rated as needed. The strongly needed attributes and skills include reliability (Mean: 3.88), integrity and customer satisfaction skill (Mean: 3.85), negotiation (Mean: 3.83) and decision making skills (Mean: 3.73), group membership skills (Mean: 3.73), self confidence (Mean: 3.74) friendliness (Mean: 3.68), willingness to learn (Mean: 3.63), time management skill (Mean: 3.55) and empathy (Mean: 3.55). Only self criticism was not rated as strongly needed.

Out of the items in the communication cluster, nine were assessed as strongly needed while only three were rated as needed. No item was rated below the Needed category. Speaking, listening and information sourcing skills were the most highly rated communication skills with mean scores of 3.81, 3.78 and 3.71 respectively. Other highly rated communication skills include electronic communication, text messaging, emailing, research, writing and reception skills with mean ratings ranging from 3.52 to 3.61. The communication skills rated as Needed are organizational communication, non verbal communication and group chat skills which rated 3.44, 3.42 and 3.33 respectively.

Overall, the standard deviation scores ranged from 0.54 to 0.91 which shows that the responses clustered around the mean.

Test of hypothesis

There is no significant difference in the mean ratings of business educators, private sector and public sector employers of labor on employability skills needed by business education graduates in southwestern Nigeria..

Table 2: One-Way Analysis of Variance on Respondents’ Ratings of Employability skills needed by business education graduates

Source	DF	Sum of Squares	Mean squares	F-cal	p-value	Decision
Between Groups	2	13496.594	6748.296	30.221	0.000	Significant
Within Groups	153	114065.68	223.221			
Total	155	127562.27				

Source: Field Study, 2017

Significant (p<0.05)

The result on table 4 shows the ANOVA statistical analysis of the responses of business subject teachers, and employers of labor (human resources managers) in public and private sectors on employability skills needed by business graduates in two states in southwestern Nigeria. The result shows the following values: Fcal: 30.221; DF: 2/155; P-value: 0.000. As the p-value of 0.000 is less than the significant level of 0.05, (i.e. 0.000 < 0.05 confidence level), the null hypothesis of no significant difference was rejected. This implies that a significant difference was found in the mean ratings of respondents on employability skills needed by business educators. The Scheffe test statistic was further employed to locate the point of difference. All the mean scores of the three groups were compared to locate the point of significant difference. There was a significant difference between business

educators and private sector employers of labor on employability skills needed by business education graduates in Oyo and Osun states of Nigeria. The areas of differences are highlighted below

Table 3: Analysis of Items Showing Significant Differences among the Three Respondent Groups on Employability Skills Needed by Business Education Graduates

No	Items	GROUP MEANS			Difference (B-A)
		Business Educators (A)	HRMs Private (B)	HRMs Public (C)	
1	Information technology	3.58	4.00	3.88	0.42
2	Group membership	3.64	3.90	3.64	0.26
3	Friendliness	3.61	3.88	3.61	0.27
4	Electronic Communication	3.53	3.86	3.64	0.33
5	Willingness to learn	3.32	3.82	3.53	0.5
6	Presentation	3.33	3.95	3.67	0.62
7	Time management	3.41	3.87	3.56	0.46
8	E-mailing	3.41	3.87	3.56	0.46
9	Auditing	3.36	3.83	3.66	0.47
10	Reception	3.35	3.82	3.66	0.47
11	Entrepreneurship	3.14	3.74	3.30	0.6
12	Numeracy	3.32	3.88	3.51	0.56
13	Organisational communication	3.36	3.71	3.32	0.35
14	Office Management	3.27	3.87	3.46	0.6
15	Non verbal communication	3.30	3.58	3.46	0.23
16	Self criticism	3.23	3.70	3.33	0.47
17	Meeting management	3.14	3.74	3.30	0.6
18	Electronic Group chat	3.14	3.74	3.30	0.6
	Average Difference				0.459

Table 3 shows more detailed analysis of the skills showing significant differences among the groups, especially between Business educators and private sector human resources managers. The 18 items have mean differences ranging from 0.23 and 0.62. These include presentation skill (Mean: 0.62), Entrepreneurship, Office Management, Meeting management and electronic group chat (Mean difference: 0.6), numeracy (Mean difference: 0.56); auditing, reception and self criticism skills; (Mean difference: 0.47) among others. Seven of the items with perceptible differences are technical skills, five are interpersonal skills, while six are communication skills. The average mean difference between the two groups (Business educators and private sector human resources managers) is 0.459. Private sector human resources managers consistently have higher mean ratings for the listed skills than either business educators or public sector human resources managers. A closer look at the table shows that the mean ratings of business educators are close to those of public sector human resources managers, while the ratings of private sector human resources managers are similarly fairly close to those of public sector human resources managers. The major disparities exist - and only on 18 items - between business educators and private sector employers of labor.

DISCUSSION

The result of the first research question shows the technical skills which, in the respondents' ratings, are needed by business education graduates to achieve, maintain and thrive in paid employment. Necessary technical skills include marketing, management, ICT skills. Leadership, accounting, numeracy and entrepreneurship skills were also highly rated by the respondents. These skills are traditional business competencies; the very essence of business knowledge and skills. Balogun (2016) listed essential business skills as including, marketing, accounting, management, leadership and numeracy skills. It, therefore, is not surprising that business educators and employers of labor alike rated these skills as very important. However, while private sector human resource managers rated *all* technical

skills as highly needed, public sector human resources managers and business educators did not achieve that uniformity of opinion. The inclusion of ICT skills among germane employability skills attest to the increasing importance of information and communication technology in contemporary management activities in Nigeria.

The result of the second research question shows that interpersonal skills are indispensable in acquiring, sustaining and achieving self actualization in paid employment. Important interpersonal skills include reliability, capacity to satisfy customers, negotiation skills, self confidence, friendliness, timeliness, willingness to learn, among others. This finding supports Imeokparia and Ediogbonya (2012) who posited that while technical skill can get one a job, one cannot rise too high unless one has relevant interpersonal skills. Okoli and Azih (2015) opined that interpersonal skills or soft skills are very important for employability especially in the Nigerian context. Okoro (2015) stated that Nigerian employers are easily put off by dishonesty, lack of respect, lack of courtesy, undue aggression, arrogance, diffidence among others. Ademiluyi (2014) asserted that interpersonal or soft skills should be embedded in the training of business students because they may be even more important to employability and entrepreneurship success than technical skills.

The findings in respect of the third research question show respondents' ratings of the importance of communication skills to employability of business education graduates. Speaking, listening, information sourcing and electronic communication skills are among the skills highly valued by business educators and employers of labor.. The finding supports those of Ohiweri (2009), Udofia, Ekpo, Nsa and Akpan (2012) who claimed that for the greatest success in employment and business, communication skills must be acquired and mastered as indispensable complements to other skills.

The problem, apparently, is not that these other skills are not being taught, but they are not being emphasized. The emphasis in Nigerian academia has consistently been on the acquisition of technical skills. "Seek first expertise in your profession and all other things shall be added onto it" has been the silent mantra of teachers and professionals. Only a few teachers and academics have directly connected professional success with the acquisition of soft skills like communication and interpersonal skills. As a result the nation is inundated with technically competent graduates with limited interpersonal and communication skills.

Ademiluyi (2014) has asserted that soft skills should be coupled and taught with technical skills. Teachers of management, accounting and ICT should teach as embedded portions of the technical curriculum, the importance of integrity; for instance, using ICT skills for legitimate purposes only; the importance of courtesy, culture and integrity. The current system of treating each of these as separate, barely related items has succeeded in decoupling employability skills from technical skills.

The result of the test of hypothesis shows that teachers differ perceptibly from employers of labor, especially those in the private sector, on employability skills needed by graduates of business education. The result in Table 3 highlights the areas of difference. While private sector employers of labor rated all 36 items listed in Table 1 as highly needed, public sector employers of labor believe that seven items are *needed* (not highly needed) while business educators believe that 14 of the items are only *needed*. This difference, albeit only between *needed* and *highly needed* illustrates an important nuance in emphasis between the academia and the labor market. The Nigerian private sector is forever complaining about the quality of business graduates produced by Nigerian academia (Omolayole, 2014). The results suggest that private sector employers of labor remain dissatisfied with the level of emphasis being laid on the impartation of certain skills and attitudes by Nigerian business education faculties. Many of those competencies and qualities which educators hitherto presumed to be peripheral to the demand of industry may actually have to be listed with core employability skills. The result of the study shows that private sector employers want business faculties to emphatically impart all requisite employability skills and qualities. They seem to be saying: "Don't leave out anything; teach them everything. All employability skills are highly needed."

The result further established that there is inadequate synergy between the academia and industry on business education curriculum design and implementation. It shows the academia has not laid the right emphasis on the acquisition of employability skills by students of business education. Agomuo and Agboola (2017) complained about Nigerian universities' penchant to draw business programmes' curriculums without adequately involving business and industry. This explains the apparent disconnect between business educators and employers of labour on employability skills.

CONCLUSIONS

The study identified technical, interpersonal and communication skills needed for employability in Oyo and Osun states of southwestern Nigeria. To achieve long-term success in paid employment, business education graduates must master all the relevant business skills like marketing, accounting, auditing, management, marketing, leadership and numeracy. In addition they must prove themselves to be reliable, capable of satisfying customers, friendly, willing to learn among others. Finally, business graduates should be competent in communication skills. They must have capacity to discuss, argue, negotiate, listen and use information technology. In the southwestern Nigeria environment, employees are expected to be respectful, honest, courteous, devoid of undue aggression, arrogance. And guile. Yet they are expected to be competent and confident. Any business graduate who lacks these sublime skills and personality attributes is unlikely to last and thrive in the most profitable employment situations.

RECOMMENDATIONS

1. Business schools and faculties should begin to emphasize the impartation of employability skills. In teaching every business subject or course, teachers must go beyond the impartation of the technical aspects to emphasize employability skills as the culmination of professional competence.
2. Business subjects curriculum designers should enrich business education curricula with large doses of interpersonal skill offerings, emphasizing integrity, courtesy, and confident projection of competence. In southwestern Nigeria, these are highly valued attributes which can enhance the value of technical competencies.
3. Attention should be paid to the importance of communication skills, right from elementary school level. Communication, especially in English has reportedly been the bane of Nigerian graduates. Attention should be continually paid to all aspects of communication, including non verbal communication. Inability to project or communicate competence is potentially a fatal limitation to employability prospects.
4. Business faculties should more closely involve employers of labor and captain of industry in the design of course curricular. This would enable curriculum to reflect, in content and depth, the true need of industry.

REFERENCES

- Ademiluyi, L.F. (2007). Business competencies needed for successful entrepreneurship. *Business Education Journal* 1(2), 134-143.
- Ademiluyi, L. F. & Odunaike, K.O. (2016). Soft Skills Needed for Career Progression by Business Graduates: Implications for Teaching and Learning. *Delta Business Education Journal*, 6(1), 143-148.
- Agboola, J.O. (2015). Research Techniques. Ibadan: Newdeal Publications Ltd..
- Agomuo, A.S. & Agboola, A. J. (2017). Identification of skill needs of Office Technology and Management Students of Osun State Colleges of Education. *Osun Journal of Business Education*, 5(2), 156-158
- Balogun, W. O. (2016). Management Education and Practice; Osogbo: Lamourr Press.
- Brown, P & Hesketh, A (2012). The mismanagement of talent: Employability and jobs in the in the knowledge economy. Oxford: Oxford University Press.
- Imeokporia, P.O. & Edigbonya, K. (2012). Employability of Business Education Graduates. *Instructional Research Journal*, 3(8), 645-651.
- Kazilzn, Y., Hamzah, W. & Baker, I. (2011). Methods of Teaching, Oxford: OUP.
- Njoku, C.O. (2013). Relevance of quality standard performance in technology education in Nigeria. *Knowledge Review*, 7(1), 106-123,
- Ohiwerei, F.O. (2009). Job prospects for business educator undergraduates in Nigeria.. *Current Research Journal of Sciences*, 1(3), 70-73.
- Okoli, B.E. & Azih, N. (2015). Re-engineering the Business education program in universities for enhance human resources development in Nigeria. *Journal of Education and Practice*, 6(17), 93-96.
- Okoro, J (2015). Strategies for enhancing quality assurance in business teacher education in Nigerian universities. *Journal of Education and Practice*, 6(12), 202-208.
- Olaleye, F.O. (2010). Entrepreneurship education in tertiary education in Nigeria: Implications for Millennium Development Goals. *Journal of Education and Leadership Development*, 2, 29-33.
- Omolayole, M.S. (2014). Management Education in Nigeria needs to be reinvented. Unpublished speech at Lagos Lions Club Forum, 15th November.

- Osuala, E. C. (1992). Computer in vocational teacher education: A perspective on key issues and Problems. *Nigerian Journal of Vocational Education*, 7(2) 33-45.
- SCANS (2001). What work requires of schools: A secretary's Commission on achieving necessary skills. Report of US Department of Labor. About SCANS. Baltimore, Maryland:SCANS 2000 Centre, John Hopkins University.
- Robinson, J.S. & Garton, B. I. (2008), An assessment of the employability skills needed by graduates of College of Agriculture, Food and Natural Resources at the University of Missouri. *Journal of Agricultural Education*, 49(4), 96-105. <http://dx.doi.org/10.5032/jae.2008.04094>.
- Toland, A. (2011).The STEM Employability skill Review. The National HE Stem Programme, The University of Birmingham, Edgbaston, Birmingham.
- Udofia, A.E. & Ekpo, B.E., Nsa, E.O. & Akpan, E.O. (2012).. Instructional variables and students' acquisition of employable skills in vocational education in Nigerian technical colleges. *Scholarly Journal of Education*, 1(2), 56-68.

Teaching Personal Resilience in the College or University Classroom

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ABSTRACT

College or university classrooms have the potential to produce valuable outcomes beyond those specified in the learning objectives for a particular course. For example, personal resilience is one such outcome that has achieved significant attention in the literature. Personal resilience is the ability to bounce back, learn from, and move forward after negative experiences. This article explores the experiential interventions that two university instructors use with undergraduate business students to increase the students' resilience. The classroom interventions are grounded in a proposed teleological process model of resilience development that includes six causal processes that help students to reframe challenges they face, become more inured to individual and team failure, give and receive rich feedback, provide peer feedback, seek the attention of valued, high-reputation others, and accept increasingly difficult challenges throughout the semester.

Keywords: resilience, higher education, experiential, teleological process model, college or university students, faculty support, classroom resilience interventions

INTRODUCTION

Personal resilience has been defined as “an individual’s ability to bounce back [and] learn from, and move forward after[,] a failure or setback (Walker, Luechtefeld, & Long Walker, 2019, p. 215). There is significant unappreciated potential for students to develop personal resilience in the college or university classroom. This potential may be revealed through careful attention to the educational interventions that intersect with students’ capacity to handle stress, setbacks, and other life challenges. Specific educational interventions may contribute to the development of personal resilience college or university students by presenting situations and experiences that trigger growth in students’ self-perceptions of their abilities, as well as other outcomes. These outcomes include increases in well-being (Hamilton, 2006), thriving (Carver, 1998), reaching potential (Alva, 1991), and flourishing (Seligman, 2011).

This article explores interventions in two different undergraduate business management classrooms in a medium-sized Midwestern university that led to increased resilience among most students in those classrooms. The authors first offer a summary of the literature supporting interventions to build resilience among students in college or university classrooms. The authors then discuss six causal processes that underlie the pursuit of resilience in this context. Next, the authors ground the causal processes in a preliminary teleological process model for developing course criteria designed to increase student resilience in the college or university classroom. Last, the authors share specific interventions based on the teleological process model that they have used to help students to develop resilience.

THE BASES OF CLASSROOM INTERVENTIONS TO BUILD STUDENT RESILIENCE

During the past decade, the study of resilience has emerged as a favorite topic among business and research leaders (Walker et al., 2019). In the 1970s, the formal study of resilience sought to “understand and prevent the development of psychopathology” (Masten, 2011, p. 493). After that, behavioral scientists identified high-risk populations that had experienced trauma and found that some people readily maintained their mental health, while others quickly succumbed to mental illness (Masten, 2011). In the late 1980s, researchers learned that certain social and contextual factors enabled some individuals to “inoculate” themselves against the adverse effects of trauma (Rutter, 1987). In recent years, scholars have studied the combined effects of culture, family, community, and other factors in the development of personal resilience (Masten, 2014). The current focus is on ways to stimulate the development of resilience, in both at-risk and general populations (Walker et al., 2019, p. 216).

As the authors have noted previously, “[t]he literature suggests that resilience can be learned” (Walker et al., 2019, p. 222). There are no *haves* or *have-nots* when it comes to the presence or development of resilience (Masten, 2001). The research also reveals that specific college or university classroom interventions may enhance students’ resilience (Walker et al., 2019).

For example, the college or university experience comes at a time of significant change in students’ lives, when they are likely to be more open to new experiences than other periods of their lives (Walker et al., 2019, p. 217). Demands for change and intensive learning such as those that are present during college or university years represent prime opportunities for resilience growth (Toth & Cicchetti, 1999). Likewise, emerging adulthood (including years spent pursuing higher education) provides a window for developmental growth (Masten, Obradovic, & Burt, 2006; Schulenberg, Sameroff, & Cicchetti, 2004).

Students in colleges and universities experience “the need to think in new ways to solve novel problems” (Walker et al., 2019, p. 223). They are facing new situations that are outside their range of previous experience (Yeager & Dweck, 2012). College or university classrooms can be places where students “find meaningful challenges and opportunities that will foster growth in substantive knowledge and wisdom, as well as personal resilience” (Walker et al., 2019, p. 223). This includes “personal change resilience” (Walker, 2015, p. 3) or “the ability to bounce back, to step forward, [and] to ‘embrace the energy of change and turn it to the benefit’ of self and others” (Walker et al., 2019, p. 223, citing Walker, 2015, p. 3).

SIX CAUSAL PROCESSES TO ENHANCE RESILIENCE THROUGH CLASSROOM EXPERIENTIAL ACTIVITIES

In Walker et al. (2019), the authors describe six causal processes that they used as part of two undergraduate Management department courses, which are grounded in a preliminary teleological model (Van de Ven & Poole, 1995) of resilience development. The model contemplates the students’ movement from young adulthood and higher education to full adulthood, careers, and family life (Walker et al., 2019, p. 216). The causal processes are outlined below, followed by a detailed explanation of the teleological model.

First Causal Process: Providing Scaffolding Reflection to Enable Students to Reframe and Create New Personal Narratives

This causal process entails providing students with a framework for developing reflective insights about incidents in their lives, particularly about challenging and ambiguous circumstances. It is designed to “promote reframing and the development of new narratives of those events and one’s own locus of control and efficacy” (Walker et al., 2019, p. 229).

Seligman (1972) posited that scaffolding metacognitions could support the development of personal resilience. He noted that uncontrollable negative life challenges could “produce passivity in the face of trauma, inability to learn that responding is effective, and emotional stress in animals and possibly depression in [people]” (Seligman, 1972, p. 407). Researchers later termed this set of outcomes learned helplessness (Nolen-Hoeksema, Girgus, & Seligman, 1986). The use of scaffolding reflections may aid in the prevention or mitigation of learned helplessness and other forms of passivity in the face of difficult trials.

As Walker et al. (2019) observed,

Scaffolding is a well-respected educational process that requires student-instructor interaction, working at the edges of student skills, and the removal of instructional supports as students gain skills (Wood & Wood, 1996). Scaffolding promotes resilience by providing a process so that students can engage in cognitive reflections, examining and rethinking how an event can be interpreted. Activities included in scaffolding provide support to the student via documentation that will assist the novice with the completion of the task or goal, guidance such as hints or observations that the learner is off track, psychological support such as encouragement or feedback on students’ performance. (p. 217)

Thus, the use of scaffolding in the college or university classroom may enable students to develop resilience by enhancing their ability to efficiently and positively influence classroom (and eventually, real-life) outcomes. Scaffolding often is provided by discussions that explore how students may overcome challenges they have faced (or will face) during a classroom exercise. For example, when scaffolding is in use, the instructor may advise students “that other students (‘just like them’) have successfully completed the [exercise] and that they have the opportunity to repeat the [exercise] to learn to be more effective when facing future challenges” (Walker et al., 2019, p. 218).

Second Causal Process: Designing Classroom Failures to Inoculate Students and Desensitize Them to Future Failures

This causal process entails building designed opportunities for failure into classroom activities. Instructors “create intentional failures that serve to ‘inoculate’ [students] with ‘mental toughness’ so that they know how to manage the trauma of [challenging future] experiences” (Walker et al., 2019, p. 229).

Classroom activities that include built-in failures often are beyond the students’ abilities or experiences and frequently “lead students to experience a vacuum of competence” (Walker et al., 2019, p. 219). These activities encourage students to persist in the face of failure, and to bounce back—and move forward—from temporary setbacks. In these settings, “[f]ailures become steppingstones to increased resilience. Students develop mental toughness and become ready for the next ‘failure’” (Walker et al., 2019, p. 219).

Third Causal Process: Providing Rich Feedback to Enhance Student Learning and Growth

The third causal process requires instructors to create a feedback-rich environment that allows students to learn from their mistakes *and* successes and to accelerate their personal growth (Walker et al., 2019, p. 219). At its core, this causal process is about students learning and growing from their classroom experiences.

Repetitive classroom exercises are ideal because students make choices numerous times, and instructors help students learn what did and did not work during each exercise. In this setting, the timing and quality of feedback are critical. Timely and high-quality feedback promote faster student learning (Walker et al., 2019, p. 219). One way to structure rich feedback is to engage students in a rapid cycle of studying the exercise, generating ideas, choosing a course of action, and accepting feedback, thereby helping students to learn and grow incrementally (Walker et al., 2019, p. 219).

Providing personalized and balanced feedback to students also is essential, because they “are pushed to realize where their weaknesses are, which skills they need to develop[, and] also what aspects of their professional practice they have mastered appropriately” (Sahakian et al., 2015, p. 9). One approach to this form of feedback is “‘in-briefing’, which combines the best of debriefing, including setting ground rules and allowing the expression of emotions (Sahakian et al., 2015), ‘with the elements of providing feedback in the moment, just in time, and personalizing the input for each team or individual’” (Walker et al., 2019, p. 220).

Fourth Causal Process: Providing Peer Support to Increase Students’ Motivation to Act

This causal process involves students providing peer support to each other, under the watchful eye of the instructor. Peer support may take the form of offering encouragement, embracing accountability, and sharing ideas, information, or knowledge resources (Solomon, 2004). Classroom peer-support activities aim to motivate, encourage, guide, reassure, and educate students, and to clarify personal and team goals and decisions through dialogue (Solomon, 2004; Walker et al., 2019, p. 230).

Peer feedback in the college or university classroom should be adapted to each students’ emotional, social, and intellectual development and general well-being (Walker et al., 2019, p. 220). In other words, instructors help students on how to provide useful, relevant feedback that is tailored to the capacities and temperament of each individual or team. To provide effective peer feedback, students should know and understand each other and their relative strengths and weaknesses. To assist in the peer feedback process, instructors (and others) teach students about how to provide advice, encouragement, information, and support (Solomon, 2004) to each other. In turn, these

actions help to strengthen the students' school-related social support systems and may increase their resilience in the face of classroom-based and other challenges (Walker et al., 2019, p. 220).

Fifth Causal Process: Directing Attention by High-Reputation Mentors to Build Students' Capacity for Effective Action

The fifth causal process involves the use of guides or mentors to provide direct attention to students at crucial times during a classroom exercise (Walker et al., 2019, p. 221; Bandura, 1973, 1977, 1986). In this valued, high-reputation role, the instructor (or other individuals) engages in social modeling that helps students to learn a variety of useful skills (Bandura & Walters, 1963). According to Rosenthal and Zimmerman (1978), the four steps of this process are: first, attention by "an individual who is valued by the observer" (Walker et al., 2019, p. 221); second, supporting an individual's retention of what they "have seen the model doing in the form of, mental images or verbal descriptions" (Walker et al., 2019, p. 221); third, providing practice opportunities for the individual to "imitate the action . . . , even if it is only imagined practice" (Walker et al., 2019, p. 221); and last, sustaining an individual's motivation. "If outcomes based on following the model are also perceived as valuable, [the individual] will be more likely to repeat that behavior because it has personal relevance" (Walker et al., 2019, p. 221, citing Rosenthal & Zimmerman, 1978).

Bandura's (1973, 1977, 1986) theory predicts that students will pay attention to the advice, coaching, and behaviors of their valued, high-reputation guides or mentors because the students believe those persons will help them to be productive and successful in their classroom activities (Walker et al., 2019, p. 221). The net result is that, through use of advice, coaching, and behavioral modeling, the guides or mentors help students to succeed in their classroom exercises and set students up for success in their later work lives (Walker et al., 2019, p. 221).

Sixth Causal Process: Using Increasingly Difficult Challenges to Enable Students to Acquire New Knowledge and Skills

The last causal process in the authors' preliminary teleological resilience model envisions that instructors will provide students with successively more challenging experiences in the classroom (Walker et al., 2019, p. 221). In turn, these experiences "ensure that the students are gaining new knowledge and developing new skills" (Walker et al., 2019, p. 217).

This causal process envisions instructors providing increasingly difficult challenges to students throughout their courses. The goal of this causal process is to encourage "students [to] see challenges as 'desirable difficulties', not as unwanted obstacles but as things that produce growth" (Walker et al., 2019, p., 221, citing N. Voge, personal communication, November 19, 2018). By supplying students with a surplus of information and a wide range of decision possibilities, instructors encourage students to "work harder for their knowledge and thus retain it better. [In the process,] students . . . discover that they are capable of learning at a higher level than they may have thought possible, with better retention" (Walker et al., 2019, p. 221, citing Bjork & Bjork, 2015).

In this causal process, instructors require students to engage individually and as teams with the classroom interventions, in an atmosphere that expects students to be highly engaged in all aspects of each intervention. Instructors are then free "to look over students' shoulders (Gadsby, 2012), and give just-in-time support to help them solve the current difficulty, move ahead in their learning, and gain the confidence to tackle even more difficult tasks" (Walker et al., 2019, p. 221).

As classroom interventions proceed, students encounter more ambiguity as the instructor introduces increasingly multifaceted components and relationships among individuals and peers on teams become more complex (Walker et al., 2019, p. 222). Together, these causal processes integrate to help students to learn and grow in ways that prepare them to be resilient in the face of a challenging, ever-changing, and unpredictable future, regardless of their career and life choices.

RESILIENCE DEVELOPMENT IN THE COLLEGE OR UNIVERSITY CLASSROOM: A PRELIMINARY TELEOLOGICAL PROCESS MODEL

Recently, the authors proposed a teleological process model of resilience development in the context of two university classroom simulations (Walker et al., 2019). As they have noted:

A teleological process model “views development as a cycle of goal formulation, implementation, evaluation, and modification of goals . . . based on what was learned by the entity” (Van de Ven & Poole, 1995, p. 520). During this process, individuals formulate goals, implement actions to achieve them, evaluate outcomes and discover sources of dissatisfaction, and then make modifications based on the search for solutions and interactions with others. (Walker et al., 2019, p. 224)

The authors’ personal resilience teleological process model is grounded in four basic elements and the six causal relationships described above. The basic teleological model involves the students’ formulation of individual and team goals, followed by their implementation and evaluation of the goals (the latter of which may include a certain degree of dissatisfaction on the part of the students). Last, students modify their goals as they search for understanding and interact with other students and teams. This basic process is cyclical and continues throughout any given classroom intervention (Walker et al., 2019). See Figure 1 below, which depicts the authors’ Teleological Process Model of Resilience Development.

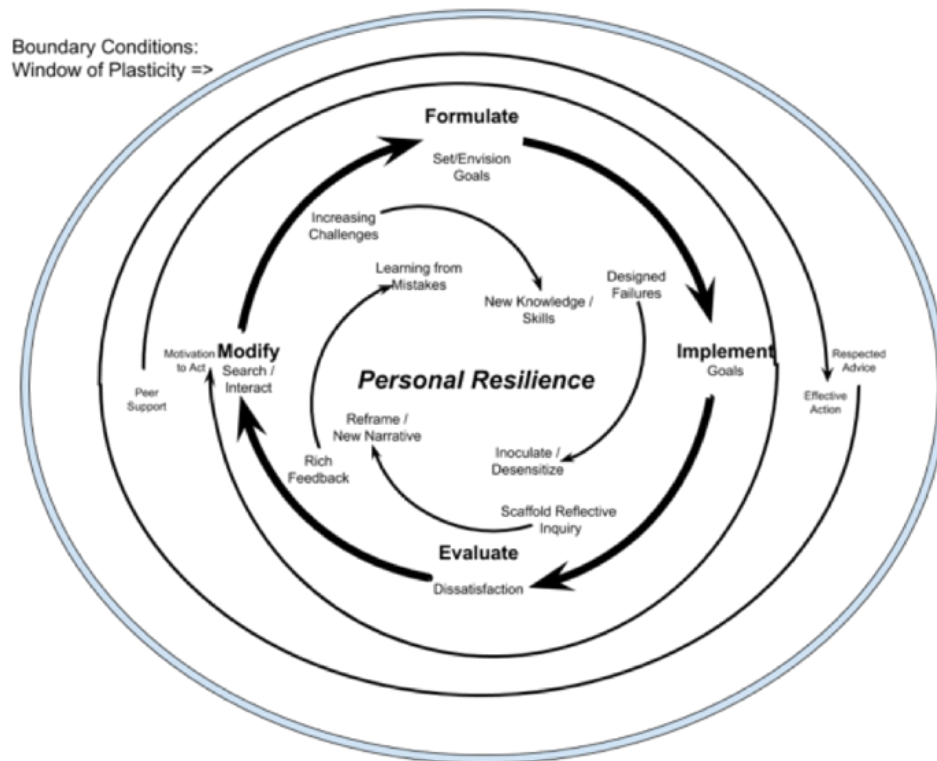


Figure 1: Teleological Process Model of Resilience Development. Reprinted from “Creating Pathways to Personal Resilience Through Classroom Simulations,” by L. R. Walker, R. Luechtefeld, and J. A. Long Walker, 2019, *Simulation & Gaming*, 50(2), 225. Copyright 2019 by Authors. Reprinted with permission.

Next, the elements of the basic teleological model interact with, and are influenced by, the six causal processes that the authors outlined above. The authors have posited that

four of these causal [processes] (scaffolding reflection, designed failures, feedback-rich environment, and increasing challenges) are each more active during a specific part of the process, while two other causal relationships (peer support and directed attention by a valued [guide or mentor] . . . are generally active during the entire process. (Walker et al., 2019, p. 224)

The teleological process model assumes that all of the basic elements and causal processes occur within certain boundary conditions, which the authors have named “windows of plasticity” (Walker et al., 2019, p. 222). This concept is grounded in evidence that “there are times when individuals are more open to intervention and positive change than at other times” (Walker et al., 2019, p. 222, citing Karatsoreos & McEwen, 2013, and McEwen, Gray & Nasca, 2015)). Other researchers have referred to this concept as “windows of opportunity for intervention” (Masten, 2015, p. 189).

Walker et al. (2019) have opined that the years during which college or university students engage in rigorous courses of study are times

when so-called “developmental windows” (Karatsoreos & McEwen, 2013, p. 344) are more likely to be present, wherein one is more open to influence, intervention or redirection. Such a window of plasticity is likely a part of the self-selected period of learning and application of new concepts that is inherent in the college or university experience. (p. 222)

In this context, the phrase “windows of plasticity” means the relative flexibility of the beliefs, attitudes, and behaviors, and openness to learning, among college and university students (Walker et al., 2019, p. 222). This situation creates a unique opportunity for instructors to design and deliver courses that aim to teach students to become more resilient.

The authors’ preliminary Teleological Process Model of Resilience Development includes the four basic elements, the six causal processes, and the boundary conditions, is illustrated in Figure 1 above (Walker et al., 2019). Van de Ven and Poole (1995) have stated that “teleological models incorporate the systems theory assumption of equifinality (i.e., there are several equally effective ways to achieve a goal)” (p. 516). The broad array of resilience-related classroom interventions the authors used appear to be equally effective ways to increase resilience in their students. This is a prime example of the system theory of equifinality in the college or university classroom context (Walker et al., 2019, p. 223).

Walker et al. (2019) have provided some evidence that supports the efficacy of this teleological view of resilience development among college or university students. In their study, the authors used a series of classroom interventions aligned with the above teleological model. The authors used the validated Connor-Davidson Resilience Scale (CD-RISC) 10 (Campbell-Sills & Stein, 2007) pre-test and post-test instrument to measure students’ resilience scores at the beginning and end of each course.

The authors hypothesized that: one, students’ resilience would increase between the beginning and end of their *eXperience-Based* (XB) and Capstone courses (described below); and two, that the cumulative effects of the XB and Capstone courses would yield higher end resilience scores in the Capstone course as compared to the end resilience scores in the XB course. The study results partially supported the first hypothesis but did not support the second hypothesis to a statistically significant degree. Specifically, the resilience scores of all Capstone and female XB students increased significantly, while the XB male students’ resilience scores decreased slightly (but not to a statistically significant degree) (Walker et al., 2019).

In the remainder of this article, the authors outline their classroom settings and course descriptions. Then they elaborate on the specific interventions that they used to produce an increase in resilience in their students.

CLASSROOM SETTINGS AND COURSE DESCRIPTIONS

Using the teleological process model outlined in Figure 1 and the causal processes described above, the authors designed and executed classroom interventions that aim to increase their students’ resilience. The setting for these interventions is a Management department of a moderately sized university in the Midwestern United States. The Management department faculty members in this university are deeply committed to experiential education that produces “graduates who take [the] initiative and are able to independently make informed choices about aspects of their jobs” (Walker et al., 2019, p. 225).

Management department faculty encourage students to take two courses in the following sequence: Students first complete an *eXperience-Based* (XB) course (Walker et al., 2019, p. 226, 228, citing Putzel, 2007). Next, the students complete a strategic management Capstone course, which includes the completion of the Capstone strategic management simulation developed by the Capsim corporation. In these courses, instructors focus on “real-world dynamics, where processes to achieve outcomes are not well defined at the beginning of the course” (Walker et al., 2019, p. 226).

The XB course is “an open management simulation in which students direct their own *Classroom as Organization* by setting learning goals, and managing and evaluating one another” (Walker et al., 2019, p. 226). In the XB course, students create a classroom-as-organization using a handbook that describes how the organization should function. The students lead and manage the organization and themselves, after “the instructor delegates key organizational and course responsibilities to students in differentiated roles” (Walker et al., 2019, p. 228). The instructor is not directly involved in the leadership or management of the organization; instead, the instructor observes the students and, when needed, acts as a coach and senior manager (in other words, a valued, high-reputation mentor) (Walker et al., 2019, p. 226).

The Capstone course includes a six-week online Capsim Capstone simulation. During the simulation, students are placed in groups to act as executive management teams and compete with other teams and individuals in the class (Walker et al., 2019, p. 226). The teams (and individuals) complete a series of rounds that require a wide range of business decisions. Business outcomes and simulation (and course) grades are based, in part, on the decisions that students make individually and as teams during the simulation. The simulation environment is very ambiguous, dynamic, challenging, and competitive (Walker et al., 2019, p. 226). During the simulation, students keep track of their intended business strategies, their actual decisions, and the impact of those decisions on their competitive market position; in turn, they use this information to guide their future decisions and business strategies (Walker et al., 2019, p. 226).

Both courses involve periodic in-briefing, “which combines the best of debriefing, including setting ground rules and allowing the expression of emotions (Sahakian et al., 2015), with the elements of providing feedback in the moment, just in time, and personalizing the input for each team or individual” (Walker et al., 2019, p. 220). In both courses, the instructor offers coaching, encouragement, and behavioral modeling. The instructor often asks Socratic questions and directs students to knowledge and other resources to prompt them to make better decisions (Walker et al., 2019, p. 226).

INTERVENTIONS TO ENHANCE STUDENT RESILIENCE IN THE COLLEGE OR UNIVERSITY CLASSROOM

Following is an elaboration of key interventions (experiential activities) to enhance student resilience that the authors have used their XB and Capstone courses. These interventions are addressed in less detail in Walker et al. (2019). The interventions outlined in this article are aligned with the six causal processes in the authors' preliminary Teleological Process Model of Resilience Development, set forth above and in Walker et al. (2019).

Causal Process 1. Provide Scaffolding Reflection Opportunities to help students to gain insights through reflection about events in the course. Focus on alternative ways of seeing challenging and ambiguous circumstances “to promote reframing and the development of new narratives and more positive views of one’s locus of control [and] self-efficacy” (Walker et al., 2019, p. 229).

Intervention one

Teaching students to consider mistakes as desirable is an essential component of scaffolding their reflective insights on the course. Instructors advise students that the most important outcomes of the course relate to the mistakes students make and how they respond to those mistakes. Instructors encourage students “to make as many mistakes as possible in the course as early as they can” (Walker et al., 2019, p. 229). Students learn that “[t]hey will only fail by making mistakes that they do not correct” (Walker et al., 2019, p. 229). They also learn “that the most common mistake is to do nothing and continue to do nothing and that the second most common mistake is to do only what they are told to do (and to continue to do so)” (Walker et al., 2019, p. 229).

Intervention two

In a business leadership simulation, the instructor provides students (individually and in teams) unlimited opportunities to pursue self-chosen strategies and to process their decisions to see results immediately. The instructor also provides students guidelines to measure the success of their efforts. Students compare their actions and results to those of other students and teams. Ancillary materials and videos provide instruction on correct business principles and provide comparative tools to guide student decisions. The instructor requires students periodically to present their reasoning and approach to the class and to describe the impact and how they will apply what they have experienced to consequent learning. The instructor also requires students to think through their decision-making processes and to describe how the challenges and actions apply to personal success principles in their intended careers. Last, the completion of this intervention invites students to reflect on their decisions and results throughout the course. This reflection exercise is designed to help students form better approaches for interactions with their future managers, peers, and customers, which will help them become more effective and confident professionals before and after graduation.

Intervention three

The instructor requires students to write a reflective paragraph on the reasoning they used to plan action in what turned out to be a problematic situation where they received a negative evaluation from other members of their team. As a follow-on assignment, the instructor requires students to develop an alternative perspective on the situation, which interprets the situation in a more charitable light. For example, students may initially interpret their team member as lazy, but their second assignment might help the evaluator to interpret their team member as facing challenges of which the rest of the team is unaware. In this exercise, students then describe what their actions would have been using the more charitable interpretation and evaluate the potential for different outcomes between the two lines of reasoning.

Causal Process 2. Design Opportunities for Failure as part of the learning process. When students realize that they can survive these small failures, they can be “inoculated” with “mental toughness” (Walker et al., 2019, p. 229). In turn, they will “become desensitized to lower level challenges and grow in capacity to manage the trauma of future setbacks” (Walker et al., 2019, p. 229).

Intervention one

In this example, students grapple with leadership cases of such complexity and ambiguity that most students fail with their initial efforts (Walker et al., 2019, p. 229). Even when the students begin to master the tasks, the leadership case exercises are designed so that there is only one winner for each case (that is, all the others fail) (Walker et al., 2019, p. 229). The tasks also increase in difficulty and complexity as the cases unfold, thereby increasing the likelihood of student failure. The instructor reassures students that failure is typical at this stage of their development and that they will eventually succeed if they persist. Students are thus encouraged to continue their efforts even in the face of failure and eventually to learn to meet expectations. In some cases, the instructor provides students with other tasks wherein they will succeed.

Intervention two

The course is designed so that required evaluations use forced-choice peer-ranking of fellow team or class members with no ties allowed (Walker et al., 2019, p. 229). This approach means that some individuals or groups will be at the bottom of the ranking (that is, they will experience failure) (Walker et al., 2019, p. 229). A discussion of the relative nature of evaluations (for example, even the best sports team in the world has a worst player) and tying final grades to overall team or individual performance helps students to learn that a perceived failure is merely an opportunity to learn. Students also learn that long-term success is still possible even if they are the worst student in a particular classroom exercise.

Causal Process 3. Create a Feedback-rich Environment that enables students to learn from their successes and mistakes (Walker et al., 2019, p. 230).

Intervention one

Team leaders, instructors, and peers share feedback with students as close to immediately after the evaluated behavior as possible. Feedback is expected to be detailed and rooted in observable data (for example, “not being a good team player” is not observable, whereas “being fifteen minutes late to every meeting” is observable). Every student in the class receives formal feedback each week through the evaluation process. The results of faculty, team

leader, and peer evaluations and rankings are posted publicly so that students can ask evaluators about reasons behind their evaluations. Thus, the feedback is two-way and is based on the principle that evaluators need feedback on the evaluations they make of others, to ensure that the evaluations are accurate and meaningful. Additional feedback on presentations and other activities also occurs, both in writing and orally. Students involved in group activities “spend at least an hour each week preparing and delivering feedback to other students” (Walker et al., 2019, p. 230). The reasons, and underlying rationale, for this feedback are available to all students in the course and are open for challenge and critique.

Intervention two

Individual and team results in competitive activities are displayed immediately and universally in a way that all students see the feedback simultaneously. Teams also fill out formal evaluations after each major team deliverable (minimum every five weeks) based on established criteria for each team member’s qualitative (things such as teamwork, dependability, and communication) and quantitative (things such as profit, margin, and customer satisfaction) contributions. Feedback is both formal (a team composite using instruments that are filled out confidentially) and informal (undocumented team required and optional feedback that occurs inside and outside the classroom). Final scores for grading purposes are an amalgamation of instructor and peer assessments. Results are analyzed using over two dozen objective business measures (Walker et al., 2019, p. 230). Students can assess decision impact and progress multiple times (as often as they desire) during the process of the experiential interventions. They receive frequent feedback from many sources, including student leaders and peers, instructors, computer models, and worldwide competitors.

Causal Process 4. Provide Venues for Peer Support “via information [and] knowledge resources, encouragement, [and] a sense of belonging and accountability . . . so that students look to their student team as a support group” (Walker et al., 2019, p. 230). Peer support helps to sustain student “motivation to act by providing drivers (hope, fear, and a sense of duty) and enablers (increasing abilities gained from peers), [and] clarifying goals and the path to those goals through dialogue” (Walker et al., 2019, p. 230).

Intervention one

Peer support expectations, skills, and opportunities are designed into the class process that requires students to work in teams that stay intact for the entire semester. The instructor also follows seven steps in forming teams to foster students’ commitment to their peers:

1. The instructor assigns students to teams providing as broad a mix of skills and experience as possible so that each student is needed and can make a meaningful contribution.
2. Team members are allowed to switch teams during a short (nine-day) time window at the beginning of the semester after defined “due diligence” criteria are met. This tactic encourages voluntary student participation as opposed to students feeling “stuck” with their assigned teammates.
3. The instructor limits team size to two to five individuals so that each student has a visible role in influencing decisions and performing meaningful work.
4. The instructor guides students to create and share personal expectations when working in teams based on past negative and positive team experiences.
5. Students decide on the priority criteria that they will use in guiding their team process.
6. Students commit to communication norms, especially how to resolve conflicts or lack of performance (such as meeting deadlines or quality standards) and are trained as needed.
7. The instructor requires teams to periodically check in with each other to assess how they are achieving their communication, decision-making, and work quality goals and objectives.

Last, the instructor actively observes team functioning and recommends improvements where needed *after* students learn the principles of high-performing business teams.

Intervention two

Students directly evaluate their peers on the extent that their peers have helped other individuals and teams in the course (Walker et al., 2019, p. 230). Also, designing differentiated roles, where each student needs to do a part of a job to make the whole class function, means that there are functional dependencies that encourage peer support. These differentiated roles can include tasks specifically designed to improve peer relations. These roles also may include having some students be accountable for evaluating and maintaining a positive team climate by scheduling

informal team-building activities into the team calendar or noticing when other team members are struggling and providing them with compassionate assistance.

Causal Process 5. Have a Valued, “High-Reputation” Mentor (i.e., trained instructor, professor, student, or another person) **Direct Attention** to critical aspects of the expected class performance to guide individuals and teams toward more effective actions and outcomes.

Intervention one

In this example, the instructor identifies emergent student experts in particular skill and knowledge areas and has them coach other students. The instructor also institutes a formal structure of expectations and trains individuals to fulfill the demands of their roles. Students may volunteer or are elected by the team to different positions and receive real-world titles such as CEO, VP of Marketing, or HR Director. They participate in brief informal training about their classroom tasks and are instructed to go back to their team and train other students. New elections or stepping down from one’s position are allowed. The instructor, serving as a valued, high-reputation mentor, ensures that teams are self-directing by giving clear instructions on expected deliverables and by providing ample information and role modeling about how to do each job. Team leaders, in turn, hold their classmates accountable to perform their parts of individual and team tasks, by providing direction and role modeling on how to successfully achieve their assigned tasks.

Intervention two

The instructor has weekly out-of-class meetings with students who elect or choose to act as “course leaders” (or “department heads”) to discuss problems and issues raised by both the instructor and the students (Walker et al., 2019, p. 231). Students are willing to do this because they are working to make the whole class succeed, not just themselves (see Causal Process 2, Intervention two, above), and helping other students means that their grades will improve. During these meetings, the instructor raises issues and suggests potential solutions. The focus is on improving student learning in the course as a whole, through focused attention by both the instructor and student course leaders who have the respect of other students.

Causal Process 6. Provide Increasingly Difficult Challenges “at the edge of student capabilities, to propel [them] to gain new knowledge and develop new skills” (Walker et al., 2019, p. 231). The more options students have in the classroom as they face increasingly difficult classroom interventions, the more likely they will choose to work diligently to enhance and grow their current knowledge, understanding, skills, and abilities.

Intervention one

In this scenario, the instructor closely monitors how students are performing and challenges them to greater and greater efforts. The instructor provides students with increasingly difficult and ambiguous tasks as the students master earlier levels of difficulty and ambiguity. The coursework is designed so one classroom experience builds upon another and becomes more complex, unpredictable, and challenging as the semester progresses (Walker et al., 2019, p. 231). The instructor rewards superior efforts *and* results, while introducing new concepts and activities that are just beyond the students’ current abilities. The instructor also provides examples from more experienced students that are calibrated to display quality work product that is at or just beyond the students’ current capabilities.

Intervention two

The instructor sequences course activities so that students can begin by implementing basic or routine tasks (e.g., memorizing foundational information, and scheduling and selecting topics) and then moving to more intellectually, psychologically, or socially challenging tasks (e.g., providing candid constructive feedback to peers, or developing systems, processes, or procedures that incorporate course learning) (Walker et al., 2019, p. 231). A tightly scheduled progression through these tasks means that some students will be left behind while others will feel the course is moving too slowly. This process challenges students who are behind to catch up, either on their own, or with instructor, team leader, or peer support. It also challenges students who complete their work quickly to offer to help their slower classmates.

DISCUSSION

As the authors have noted above, the preliminary Teleological Process Model of Resilience Development invokes the systems theory assumption of equifinality, meaning that there are many paths to the same end (Walker et al., 2019, p. 223, citing Van de Ven & Poole, 1995). Hence, the classroom interventions outlined in this article are only representative and are not exhaustive. Rather, the interventions describe potential paths that college and university instructors could use to guide their students toward greater personal resilience. The authors intend that the interventions be adapted or reworked for different classrooms that aim to increase the personal resilience of students in those classrooms. Further, the authors encourage instructors who are not familiar with the specific interventions outlined in this article to consult with their peers, obtain training in specific techniques (e.g., embedding classroom scaffolding or coaching into course design), and conduct their own review of the resilience literature to determine which, if any, of these interventions might be useful in their particular classrooms and institutions.

While still more research is required to validate the authors' teleological process model, the theoretical basis is well rooted in the literature, and there is emerging empirical evidence that courses incorporating the six causal processes can increase student resilience (Walker et al., 2019). Although it may be more problematic to implement some of the described interventions in some situations (e.g., differentiating roles and having the performance of the class as a whole contribute to individual student grades is reasonable only when students can significantly impact overall class performance), it seems likely that attention to even some of the causal processes has the potential to increase student resilience in the college or university classroom.

There is also the potential that, without adequate groundwork and meaning-management, some implementations of the causal process-related interventions could have negative repercussions. For example, in one author's experience, forced-choice ranking, with no ties allowed, as a means of peer evaluation was strongly resisted at one institution by students with no experience with such a system, while it was accepted as *de rigueur* at another institution, where it was part of the organizational culture. Thoughtfully designed and well-executed implementation of the causal processes and their associated interventions in college or university classrooms, combined with an explanation to the students (and others) of the reasons for specific course attributes relating to personal resilience, can go a long way to promoting the acceptance and use of these concepts and to ensuring success in increasing student resilience.

CONCLUSION

Designing and delivering courses that leverage the causal processes embedded in the authors' preliminary Teleological Process Model for Resilience Development could produce outcomes that go well beyond the traditional learning objectives in a particular area of study in a college or university. By carefully designing course interventions, educators can work to meet the growth and career needs of the "whole student", thus helping students to develop the capabilities, skills, and character traits that they will need in abundance throughout their lives. Personal resilience is one such outcome. Although it is rarely addressed as a college or university course outcome, interventions grounded in personal resilience could contribute to student success long after most students have forgotten traditional course outcomes. Educators rightly are concerned about the long-term success of their students. To increase the likelihood of that success, the authors advocate including in college or university courses content and interventions that help students to develop the "ability to bounce back, learn . . . , and move forward" (Walker et al., 2019, p. 215) when they encounter life's inevitable challenges, disappointments, and setbacks. Using thoughtful and repetitive college or university classroom interventions to assess and enhance student resilience is one way that college and university faculty can prepare their students for lifelong success.

REFERENCES

- Alva, S. A. (1991). Academic invulnerability among Mexican American students: The importance of protective resources and appraisals. *Hispanic Journal of Behavioral Sciences*, 13, 18–34. doi:10.1177/07399863910131002
- Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Bandura, A., & Walters, R., H. (1963). *Social learning and personality development*. New York, NY: Holt, Rinehart and Winston, Inc.
- Bjork, E. L. & Bjork, R. (2015). Making things hard on yourself, but in a good way: Creating desirable difficulties to enhance learning. In M. A. Gernsbacher & J. R. Pomerantz (Eds.), *Psychology and the real world: Essays illustrating fundamental contributions to society* (2nd ed., pp. 60-68). New York, NY: Worth Publishers.
- Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the Connor-Davidson Resilience Scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress*, 20(6), 1019-1028. doi:10.1002/jts.20271
- Carver, C. S. (1998). Resilience and thriving: Issues, models, and linkages. *Journal of Social Issues*, 54, 245–266.

- Gadsby, C. (2012). *Perfect assessment for learning*. J. Beere (Ed.). Wales, UK: Independent Thinking Press.
- Hamilton, C. (2006). What's left? The death of social democracy. *Quarterly Essay*, 21. Melbourne, AU: Quarterly Essay.
- Karatsoreos, I. N. & McEwen, B. S. (2013). Annual research review: The neurobiology and physiology of resilience and adaptation across the life course. *Journal of Child Psychology and Psychiatry*, 54(4), 337–347. <http://dx.doi.org/10.1111/jcpp.12054>
- Masten, A. S. (2001). Ordinary magic. *American Psychologist*, 56 (3), 227–238.
- Masten, A. S. (2011). Resilience in children threatened by extreme adversity: Frameworks for research, practice, and translational synergy. *Development and Psychopathology* 23, 493–506. <http://dx.doi.org/10.1017/S0954579411000198>
- Masten, A. S. (2014). *Ordinary magic: Resilience in development*. New York, NY: Guilford.
- Masten, A. S. (2015). Pathways to integrated resilience science. *Psychological Inquiry*, 26, 187–196. doi:10.1080/1047840x.2015.1012041
- Masten, A. S., Obradovic, J., & Burt, K. (2006). Resilience in emerging adulthood: Developmental perspectives on continuity and transformation. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in America: Coming of age in the 21st century* (pp. 173–190). Washington, DC: American Psychological Association Press.
- Nolen-Hoeksema, S., Girgus, J. S., & Seligman, M. E. (1986). Learned helplessness in children: A longitudinal study of depression, achievement, and explanatory style. *Journal of Personality and Social Psychology*. 51(2), 435–442. <http://dx.doi.org/10.1037//0022-3514.51.2.435>
- Putzel, R. (2007). XB: New-paradigm management of the classroom as a complex organization. *Journal of Business and Leadership: Research, Practice, and Teaching*, 3(1), 136–143. <http://dx.doi.org/10.1177/105256299201600206>
- Rosenthal, T., L., & Zimmerman, B., J., (1978). *Social learning and cognition*. New York, NY: Academic Press
- Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, 57(3), 316–331. <http://dx.doi.org/10.1111/j.1939-0025.1987.tb03541.x>
- Sahakian, G. D., Alinier, G., Savoldelli, G., Oriot, D., Jaffrelot, M., & Lecomte, F. (2015). Setting conditions for productive debriefing. *Simulation & Gaming*, 46(2), 197–208. <http://dx.doi.org/10.1177/1046878115576105>
- Schulenberg, J. E., Sameroff, A. J., & Cicchetti, D. (2004). The transition to adulthood as a critical juncture in the course of psychopathology and mental health. *Development and Psychopathology*, 16, 799–806.
- Seligman, M. E. P. (1972). Learned helplessness in children: A longitudinal study of depression, achievement, and explanatory style. *Annual Review of Medicine*, 23(1), 407–412. <http://dx.doi.org/10.1037//0022-3514.51.2.435>
- Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. New York: Simon & Schuster.
- Solomon, P. (2004). Peer support/peer provided services: Underlying processes, benefits, and critical ingredients. *Psychiatric Rehabilitation Journal*, 27(4), 392–401.
- Toth, S. L., & Cicchetti, D. (1999). Developmental psychopathology and child psychotherapy. In S. Russ & T. Ollendick (Eds.), *Handbook of psychotherapies with children and families* (pp. 15–44). New York: Plenum Press.
- Van de Ven A. H. & Poole M. S. (1995), Explaining development and change in organizations, *Academy of Management Review*, 20(3), 510–540. <http://dx.doi.org/10.2307/258786>
- Walker, L. R. (2015). *The Wilderness of Change: A Guidebook to Light your Way Along the Path of Change*. (n.p.): Author.
- Walker, L.R., Luechtefeld, R., & Long Walker, J. A. (2019). Creating pathways to personal resilience through classroom simulations. *Simulations & Gaming*, 50(2), 214–242. <https://doi.org/10.1177/1046878119838002>
- Wood, D., & Wood, H. (1996). Vygotsky, tutoring and learning. *Oxford Review of Education*, 22(1), 5–16. <http://dx.doi.org/10.1080/0305498960220101>
- Yeager, D. S. & Dweck C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist*, 47(4), 302–314. <http://dx.doi.org/10.1080/00461520.2012.722805>

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Soft Skill Development in a Total Enterprise Simulation

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ABSTRACT

Many undergraduate business programs contain a capstone course that is built around a total enterprise simulation that makes use of the “hard skills” learned in coursework. Although these simulations always involve group teamwork, they rarely purposely build into the semester design an appreciation of the “soft skills” that are also necessary to become effective managers. This paper describes a set of organizational behavior activities that were “piggy-backed” onto a simulation. Aspects of group performance, group dynamics, and member satisfaction, as well as personal growth activities were some of the target areas this enrichment package covered.

Keywords: Simulation, capstone course, soft skills organizational behavior, group dynamics

INTRODUCTION

Many undergraduate business programs contain a capstone course which is built around a total enterprise simulation. Its purpose is to integrate students’ knowledge from the individual courses that make up the required business core, so the interdependence of functional decisions becomes more evident. Most of the decision-making in these simulations depend upon a quantitative analysis of the business variables, making use of the “hard skills” learned in students’ coursework.

In their seminal study back in 1988, Porter and McKibben stated the need for more emphasis in the curriculum on the development of students' "soft" skills” (i.e., leadership /interpersonal skills). This has been an issue for a long time, and yet Schools of Business have not made soft skills inclusion a priority. This is in spite of the fact real-world managers are more interested in soft skills. In fact, they think soft skills to be more important to the business organization (Hulsart, 2002).

The phrase “soft skills” refers to the skills which characterize relationships with other people, or which are about how an individual approaches life and work. Other phrases that are commonly used are: people skills, interpersonal skills, social skills, or transferable skills (Skills You Need, 2017). The problem is there is less training in soft skills because they are often undervalued. Organizations assume that everyone has developed these skills as something to be picked up in daily life.

Although these simulations always involve group teamwork, they rarely purposely build into the semester design an appreciation of the soft skills that are also necessary to become effective managers.

..... management programs are criticized for being unable to develop competent managers. We argued that today's business is very complex and requires managers with sophisticated skills. Experience-based learning is a very fruitful method for teaching management students. Strategy simulations are probably the best tools for giving students the opportunity to experience the learned material through practice. Yet simulations have shortcomings in developing certain managerial skills, especially soft skills. We believe that if human and societal skill elements are added to simulation's decision making, students will have the chance to practice these skills. (Poisson-de Haro & Turgut, 2012)

This paper addresses this issue by describing a set of group process, personal development, and decision-analysis activities that were run simultaneously (piggy-backed) in an undergraduate total enterprise simulation course to promote more awareness of the soft skills. Although two faculty members were involved in this initial trial of the teaching methodology (the strategy/simulation administrator and an organizational behavior professor), a single faculty member could run most of these examples. Much of the organizational behavior (OB) data were collected online, with periodic visits to the classroom to provide feedback to the entire class regarding their group dynamics, and when necessary work with an individual group. Essentially, the OB professor served as a process-consultant.

The curriculum enrichment activities described are not dependent on a specific simulation. Rather, the paper suggests some of the ways a purposefully planned organizational behavior dimension can be added to any total business simulation experience where groups of students work together for the entire semester, and decisions are made weekly.

SUGGESTED ACTIVITIES

Many of the activities described below are group process-oriented. They require the teams to analyze their group dynamics, and the way decisions were being made in a systematic fashion. The learning objective is to illustrate to students that taking periodic time-outs from daily decision-making in order to act like process consultants -- examining and discussing what was going on among themselves -- would likely improve group effectiveness and increase member satisfaction. This supplementary work for students took about 15-30 minutes per week.

Decision-making

After three rounds of decisions were made, each company completed a form that listed all the game variables that have required decisions, up to that point. Teams were asked to rank order these decisions based on: 1) the difficulty in making the decision and; 2) how critical was the decision to successful company performance. An in-class discussion with the game's administrator dealt with the following questions: 1) Why are these decisions difficult? 2) Are the difficult decisions necessarily the high impact ones? 3) How was the group's time managed relative to the high impact vs difficult decisions?

Another group questionnaire that was completed after four rounds of decisions focused on the multivariate nature of the groups' information processing. Teams were asked to indicate the percentage weighting given to environmental and business factors in the decision-making process. Responses were recorded in a matrix format where a listing of the available data and major simulation decisions formed a grid. The pattern of entries would allow teams to easily discern which information they were relying upon the most, or if they had been uniformly ignoring other pertinent data.

Examining the Team

Team behavior was examined at the individual level by asking students to rate every two weeks: 1) their level of agreement with their groups' decisions; 2) their level of satisfaction with the group's functioning, and; 3) the extent they felt responsible for their company's performance. This activity took just a couple of minutes with the three questions presented online. If one or more students in a team still indicated a level of dissatisfaction after the first six weeks, they were emailed and asked what were their concerns. Often, it was that their input to the decision-making seemed to be ignored by the emergent leader. Or that someone was not doing their share of the work.

Twice during the semester there was a more in-depth reading of participants' satisfaction with their groups. The online questions focused on how well they perceived their company performing in the simulation, how well they thought the group was working together in terms of interpersonal relations, time management issues, handling of conflicts, timeliness of communications, etc. and most importantly what they would like to change in terms of their company's operation.

The O.B. faculty member met with each group within class time to discuss noted problems, and what the team could do to alleviate them going forward. Adopting this type of course intervention offers the organizational behavior faculty a new type of professional activity: consultant vs instructor. This is especially advantageous for young faculty who have had no business experience, so acting as a "process consultant" and working face-to-face with work-groups to improve their performance is an excellent faculty development activity.

Organizational Structure

After making decisions for two weeks, teams were asked to report on their organizational structure, i.e. how responsibilities were divided among team members. Half-way through the semester, individual team members were asked within one of the online surveys to describe how well their company's structure was facilitating company performance. One issue that arose was how conflicts between functional areas were being handled. The cooperation/coordination/ integration situation was discussed during an in-class visit. The entire class bounced ideas

how to deal with this problem. The same questions were asked at the end of the simulation and compared to the earlier responses to help students realize how the power structures in organizations tend to evolve over time.

Simulation Participation

Three times during the semester students were asked to give peer ratings. This entailed a \$5000 bonus to be divided among the members of the team based on their contribution to the company. The rater included him/herself in the allocation. This was to identify early on students who are not making the most of the learning experience. The same peer evaluation was done at midterm and at the end of the semester. These evaluations were considered when deciding final grades.

Management Development

Obviously, there are many personal management development instruments one could choose to administer during the semester. It was decided that the easiest way to provide this extra opportunity for personal feedback was with online assessment instruments that are easy to understand, self-scoring, and include an explanation on how to interpret scores.

For this trial semester, “oldies but goodies” were used. The 54-item *FIRO-B* assessment measures interpersonal needs on three scales: Inclusion, Control, and Affection (Introduction, 2011). It is of particular value because it reveals how interpersonal needs drive people's behavior. These may also shape people's ability to build trust, influence others, and create productive relationships. Personal experience had shown the *FIRO-B* to be easy to complete and for students to understand. Conceptually, they “get” the yin-yang of the results, and how a group will be more harmonious if the members have complementary needs. The results of this scale could be used to explain members' satisfaction with the group and also help explain any of the clashes between team members.

Under the assumption that students' management growth would be enhanced if they had a better understanding of their own leadership style, Hersey and Blanchard's Situational Leadership Self-Assessment was picked to be part of the O.B. package. Once again, it was easy to use, easy to score and students could understand the quadrant dimensions of High and Low Task, and High and Low Relations. It is easy to explain in the scoring instructions how a zero in a quadrant indicates they never consider using that particular style (Hersey-Blanchard, 2016).

Although not used in this run of the simulation, a self-scoring personality assessment is another instrument that might be useful to students. The choice of this activity might depend on what, if anything, is being used in the required O.B. classes. Some assessments, like the Briggs Meyers personality test, are often used as an exercise in the basic O.B. class.

There are many different directions that this aspect of the soft skills can take when providing students with individual feedback. How many instruments to use throughout the semester obviously will be a factor of the time available, the number of students involved, and the faculty members' familiarity with a particular instrument.

Cross-Company Relations

Total enterprise simulations usually allow teams to interact in order to make deals with other companies. Depending on the game, there also could be opportunities for illegal price fixing, reneging on agreements, or attempts to be cutthroat in their decisions. A set of questions early in the semester before any of this happens can be useful. Teams were asked to describe each of the other companies, as well as their own, and to predict how the other companies would describe them. The answers were returned to each company without comment in an email. This established an initial reading of inter-team relationships which admittedly, was very limited at this point of the semester. At the end of the simulation the same questions were asked. By this time there is specific information on how companies “behaved themselves.” The debriefing can make for a good discussion of management ethics, and the public relations/image consequences of practicing questionable, competitive tactics.

FINAL COMMENTS

Admittedly, the course described had two faculty members involved. But it was clear that once all the materials were developed, most of the same feedback could have been handled by one faculty member who was committed to both students' hard and soft skill development.

The activities described here are simply illustrations of the type of activities that can be piggy-backed onto the total enterprise simulation course. It was not the author's intention to propose a given set of activities. Rather, it is to encourage faculty who run the simulation course to think about how to provide their students with improved soft

skills by superimposing some type of O.B. process to examine the human dynamics during the simulation, rather than just concentrating on market share and bottom-line-results. Your regional employers will certainly appreciate this added emphasis.

REFERENCES

- Hersey-Blanchard Situational Leadership Theory. 2016. Retrieved from <http://www.leadership-central.com/situational-leadership-theory.html#axzz41yx0Ws3W>.
- Hulsart, R. W., (2002). *The MBA degree: Does it do the job?* Retrieved from HTTP:0search.proquest.com www.consuls.org/docview/251615408?accountid=13743
- Introduction to the FIRO Assessments. 2011. CPP, Retrieved from https://www.cpp.com/pdfs/Intro_to_FIRO_Assessments.pdf.
- Poisson-de Haro, S., & Turgut, G. (2012). Expanded strategy simulations: Developing better managers. *The Journal of Management Development*, 31(3), 209-220. doi:<http://0-dx.doi.org/www.consuls.org/10.1108/02621711211208844>
- Porter, L. W., & McKibbin, L. E. (1988). *Management education and development: Drift or Thrust into the 21st century?* New York: McGraw-Hill.
- Santandreu, J., & Smith, S. C. (2001). The Secrets and Power Of Business Simulations: The Educational And Business Experience. *Allied Academies International Conference. Academy of Educational Leadership Proceedings*, 6(1), 133-137.
- Soft Skills. (2017). Skills You Need. Retrieved from <http://www.skillsyouneed.com/general/soft-skills.html>.

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A Tale of Two Courses: Applying Sustainability Principles to the Intermediate Financial Accounting and Auditing Courses

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ABSTRACT

More and more accounting programs are looking for ways to incorporate sustainability topics into their curriculum as a result of an increasing demand for accounting graduates with an understanding of sustainability reporting coupled with new AACSB International accreditation standards that require coverage of such topics. This paper describes use of a case which incorporates economic, environmental, and social sustainability in the intermediate financial accounting and auditing classes via an experiential learning activity that offers an opportunity for team work and role playing. The intermediate accounting version begins with analytics where students evaluate how a proposed new hydro-electric company's debt and equity mix impacts the financials, and then they reevaluate it in light of a potential environmental contingency. In both the audit and intermediate versions, students learn about sustainability reporting and weigh the benefits of a new hydro-electric power plant against the risk of an endangered species going extinct.

Keywords: Analytics, Assurance, Experiential Learning, Financial Reporting, Integrated Reporting, Sustainability.

INTRODUCTION

The majority of publicly traded and Fortune 500 corporations now produce some type of corporate social responsibility report (CSR) or sustainability report, with the percentage of S&P companies issuing sustainability reports increasing from 20% in 2011 to 85% in 2017 (Brown and Kohlbeck, 2017; Governance and Accountability Institute, Inc., 2018; Hart, 2018; Pippin, Weber, Wong, and Bergner, 2016). Many investors consider CSR and sustainability reports in making investing decisions, and that number has been increasing substantially in recent years (EY, 2015; Pippin, Weber, Wong, and Bergner, 2016). As a result, companies are now seeking out assurance and auditing services related to these reports, and employers have started to look for accounting graduates with some familiarity with the topic (Brown and Kohlbeck, 2017; Hart, 2018; Pippin et al., 2016).

Incorporating sustainability into the business school curriculum by weaving it into classes across the curriculum is favored by most business school deans and the AACSB International (AACSB) (Lee, Birkey and Patten, 2017; Painter-Morland et al., 2016; Sisaye, 2013). In fact, the accounting accreditation standards of the AACSB now call for accounting programs to “demonstrate a commitment to address, engage, and respond to current and emerging corporate social responsibility issues (e.g., diversity, sustainable development, environmental sustainability, globalization of economic activity across cultures, global prosperity) through its policies, procedures, curricula, research, and/or outreach activities.” (AACSB, 2018, p. 8). Despite the current demand, most colleges and universities have yet to incorporate sustainability into the accounting curriculum (Brown and Kohlbeck, 2017; Hart, 2018; Lee, Birkey and Patten, 2017; Painter-Morland et al., 2016; Pippin et al., 2016). Time and resource constraints make it difficult to build and offer a stand-alone accounting course in sustainability, and a lack of instructional resources on accounting sustainability create an additional challenge (Pippin, Weber, Wong, and Bergner, 2016; Sisaye, 2013). Further, although instructional resources have been growing and sustainability can be incorporated into the accounting curriculum using simple exercises, textbook supplements, and case materials that relate to and build upon material already covered in accounting courses (e.g., Bouten and Hoozée, 2015; Brown and Kohlbeck, 2017; Brown and Veenstra, 2018; Haskin and Burke, 2016; Kraten, 2015; McGuigan, Sin and Kern, 2017; Saravanamuthu, 2015), there still exists a need for more creative and engaging sustainability learning activities.

This paper provides an example of a tool (case) which can help fill the need for course materials that incorporate sustainability into the accounting curriculum. The case features a global multi-national energy corporation that is awarded a massive contract to construct a hydro-electric power plant over a waterfall in an undeveloped area of an

African nation. Although the promise of inexpensive and reliable “green” energy is initially welcomed by the local society, issues such as potential bribery in order to secure the contract and the possible extinction of an endangered species known as the Blue Frog on the construction site provides the context for a role-playing negotiation activity among students. Students must decide if they agree to proceed with the project. If so, will they seek to restrict operations in a manner that upholds the principles of sustainability but that curtails the profitability of the power plant? Furthermore, how will the students’ decisions affect the financial statements of the energy corporation? How would students’ consideration of sustainability issues impact their risk assessment procedures as an auditor? These are the types of questions that must be addressed in any financial accounting, or auditing course. The remainder of this paper describes the case, provides implementation guidance for instructors along with suggested solutions, and describes evidence of teaching effectiveness. We note that this case represents an extension of the “Save The Blue Frog” case that was featured in a previous issue of the Business Education Innovation Journal (Kraten, 2015). More specifically, this case extends the learning activities of the Kraten (2015) case by featuring customized learning outcomes for two different accounting courses.

THE CASE

Intermediate Accounting II Case

Part I Background

Imagine a Western energy company called World Of Water (WOW). This company has secured a contract to develop a hydro-electric power generation plant over a pristine jungle waterfall in an impoverished African nation named Vastaria. WOW plans to create a new energy company to manage the power plant. In exchange for providing its expertise and management of the company, WOW will be granted an initial ownership interest consisting of 75,000 shares of no par common stock. The estimated cost of the new power plant is approximately \$50,700,000. WOW hires you as a consultant to recommend the best way to fund this project. The primary funding options WOW is currently considering include a 10 year installment loan, the issuance of common stock to outside investors, or some combination of the loan and stock issuance. WOW asks you to recommend an optimal mix of debt and/or equity financing. The projected financial statements for WOW are provided below (for use in both Part 1 and Part 2).

Part I Requirements (Completed individually by each student)

The financial projections spreadsheet utilized to support WOW’s decision to proceed with the Vastaria project has been provided to you below (the financial statements are listed first with the assumptions and ratios below the financial statements). Review the spreadsheet and answer the questions that follow. You can review the impact of changing the debt versus equity mix by inputting amounts into the two shaded boxes at the top of the spreadsheet labeled “No Par Common Stock Issued to Outside Investors” and “10 Year Note Payable to Bank” (in the assumptions section). Be sure the sum of the amounts you enter into the two boxes equals \$50,700,000. You will see the financial statement numbers and ratios change as you change what you enter in those two boxes. Enter zero in the shaded boxes labeled “Legal Expense” and “Contingent Liabilities.”

1. Briefly explain/list the advantages and disadvantages of each of the following alternative financing options from the perspective of WOW: common stock, preferred stock, 10 year installment note, 10 year bond, 10 year zero interest bond and 10 year convertible bond (convertible into common stock).
2. Briefly discuss how the balance sheet, income statement, and cash flow statement are each affected by increasing debt financing (i.e., leverage) and reducing equity financing.
3. Document how and why each of the following ratios are affected by increasing debt financing (i.e., the installment loan) and reducing equity financing (i.e., common stock issued to new investors). Liquidity Ratios: Current ratio, Quick (Acid-test) ratio, Current cash debt coverage. Activity Ratios: Accounts receivable turnover, Asset turnover. Profitability Ratios: Profit margin on sales, Return on assets (ROA), Return on common stockholders’ equity (ROE), Basic Earnings per common share (EPS). Coverage Ratios: Debt to total assets, Times interest earned, Cash debt coverage, Book value per share.
4. (a) Indicate what you believe is the optimal mix of equity versus debt financing for WOW. Each can range from \$0 to \$50,700,000. The total amount cannot exceed \$50,700,000 for both alternatives combined.
(b) Explain below why you believe the mix of financing you indicated above is the optimal mix, citing its impact on the various financial statement accounts, ratios, and other important factors.

BALANCE SHEET						
ASSETS						
Current Assets						
Cash	\$ (43,422,083)	\$ (34,903,333)	\$ (27,634,583)	\$ (20,115,833)	\$ (12,347,083)	
Accounts Receivable	1,312,500	1,343,750	1,375,000	1,406,250	1,437,500	
Inventory	141,667	141,667	141,667	141,667	141,667	
Total Current Assets	\$ (41,967,917)	\$ (33,417,917)	\$ (26,117,917)	\$ (18,567,917)	\$ (10,767,917)	
Property, Plant and Equipment (Cost)	50,000,000	50,500,000	51,000,000	51,500,000	52,000,000	
Accumulated Depreciation	(2,500,000)	(5,025,000)	(7,575,000)	(10,150,000)	(12,750,000)	
Total Assets	\$ 5,532,083	\$ 12,057,083	\$ 17,307,083	\$ 22,782,083	\$ 28,482,083	
LIABILITIES & STOCKHOLDERS' EQUITY						
LIABILITIES						
Current Liabilities						
Accounts Payable	\$ 177,083	\$ 177,083	\$ 177,083	\$ 177,083	\$ 177,083	
Current portion of long-term debt	-	-	-	-	-	
Total Current Liabilities	\$ 177,083	\$ 177,083	\$ 177,083	\$ 177,083	\$ 177,083	
Contingent Liabilities	-	-	-	-	-	
Long Term Debt	-	-	-	-	-	
Total Liabilities	\$ 177,083	\$ 177,083	\$ 177,083	\$ 177,083	\$ 177,083	
STOCKHOLDERS' EQUITY						
Common Stock	\$ -	\$ -	\$ -	\$ -	\$ -	
Retained Earnings	5,355,000	11,880,000	17,130,000	22,605,000	28,305,000	
Total Stockholders' Equity	\$ 5,355,000	\$ 11,880,000	\$ 17,130,000	\$ 22,605,000	\$ 28,305,000	
Total Liabilities & Stockholders' Equity	\$ 5,532,083	\$ 12,057,083	\$ 17,307,083	\$ 22,782,083	\$ 28,482,083	

INCOME STATEMENT						
Revenue	\$ 10,500,000	\$ 10,750,000	\$ 11,000,000	\$ 11,250,000	\$ 11,500,000	
Operating Expenses (other than depreciation and legal)	(1,700,000)	(1,700,000)	(1,700,000)	(1,700,000)	(1,700,000)	
Depreciation Expense	(2,500,000)	(2,525,000)	(2,550,000)	(2,575,000)	(2,600,000)	
Legal Expense	-	-	-	-	-	
Interest Expense	-	-	-	-	-	
Income before taxes	\$ 6,300,000	\$ 6,525,000	\$ 6,750,000	\$ 6,975,000	\$ 7,200,000	
Income tax expense	(945,000)	(978,750)	(1,012,500)	(1,046,250)	(1,080,000)	
Net Income	\$ 5,355,000	\$ 6,525,000	\$ 6,750,000	\$ 6,975,000	\$ 7,200,000	

STATEMENT OF CASH FLOWS						
Cash Flows From Operating Activities						
Net Income	\$ 5,355,000	\$ 6,525,000	\$ 6,750,000	\$ 6,975,000	\$ 7,200,000	
Adjustments to Reconcile Net Income to Net Cash Provided by Operating Activities:						
Depreciation Expense	2,500,000	2,525,000	2,550,000	2,575,000	2,600,000	
Change in Accounts Receivable	(1,312,500)	(31,250)	(31,250)	(31,250)	(31,250)	
Change in Inventory	(141,667)	-	-	-	-	
Change in Accounts Payable	177,083	-	-	-	-	
Change in Contingent Liability	-	-	-	-	-	
Net Cash Provided by (Used by) Operating Activities	\$ 6,577,917	\$ 9,018,750	\$ 9,268,750	\$ 9,518,750	\$ 9,768,750	
Cash Flows From Investing Activities						
Capital Expenditures	\$ (50,000,000)	\$ (500,000)	\$ (500,000)	\$ (500,000)	\$ (500,000)	
Net Cash Provided by (Used by) Investing Activities	\$ (50,000,000)	\$ (500,000)	\$ (500,000)	\$ (500,000)	\$ (500,000)	
Cash Flows From Financing Activities						
Change in Debt	\$ -	\$ -	\$ -	\$ -	\$ -	
Payment of Cash Dividends	\$ -	\$ -	\$ (1,500,000)	\$ (1,500,000)	\$ (1,500,000)	
Issuance of Common Stock	-	-	-	-	-	
Net Cash Provided by (Used by) Financing Activities	\$ -	\$ -	\$ (1,500,000)	\$ (1,500,000)	\$ (1,500,000)	
Net Increase (Decrease) in Cash	\$ (43,422,083)	\$ 8,518,750	\$ 7,268,750	\$ 7,518,750	\$ 7,768,750	
Plus Beginning Cash	-	(43,422,083)	(34,903,333)	(27,634,583)	(20,115,833)	
Equals Ending Cash	\$ (43,422,083)	\$ (34,903,333)	\$ (27,634,583)	\$ (20,115,833)	\$ (12,347,083)	

ASSUMPTIONS						
<i>Financing Of PP&E</i>						
	<u>Dollar Amount</u>	<u>Price Per Share</u>	<u>Number of Shares</u>	<u>% Ownership</u>	<u>Issue Costs</u>	
No Par Common Stock Owned by WOW	\$ -	\$ -	75,000	100.0%		
No Par Common Stock Issued to Outside Investors		\$ 400.00	0	0.0%	4.0%	
10 Year Note Payable to Bank						
Total Initial Financing	\$ -	<i>Must Equal \$50,700,000</i>				
<i>Annual Operating Assumptions</i>						
		<u>Period 1</u>	<u>Period 2</u>	<u>Period 3</u>	<u>Period 4</u>	<u>Period 5</u>
Revenue		\$ 10,500,000	\$ 10,750,000	\$ 11,000,000	\$ 11,250,000	\$ 11,500,000
Months of Revenue in Receivables		1.50	1.50	1.50	1.50	1.50
Operating Costs - other than depreciation		\$ 1,700,000	\$ 1,700,000	\$ 1,700,000	\$ 1,700,000	\$ 1,700,000
Months of Operating Costs in Materials		1.00	1.00	1.00	1.00	1.00
Months of Operating Costs in Payables		1.25	1.25	1.25	1.25	1.25
Legal Expense			\$ -	\$ -	\$ -	\$ -
Capital Expenditures		\$ 50,000,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000
Useful Life (Average Years)		20	20	20	20	20
Cash Dividends Paid		\$ -	\$ -	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
New Borrowings		0	0	0	0	0
Principal Repayments		0	0	0	0	0
Interest Rate (Annual)		5.00%	5.00%	5.00%	5.00%	5.00%
Contingent Liabilities			\$ -	\$ -	\$ -	\$ -

RATIOS						
LIQUIDITY RATIOS:						
Current ratio		-237.00	-188.71	-147.49	-104.85	-60.81
Quick (Acid-test) ratio		-237.80	-189.51	-148.29	-105.65	-61.61
Current cash debt coverage			50.93	52.34	53.75	55.16
ACTIVITY RATIOS						
Accounts receivable turnover			8.09	8.09	8.09	8.09
Asset turnover			1.22	0.75	0.56	0.45
PROFITABILITY RATIOS						
Profit margin on sales		51.0%	60.7%	61.4%	62.0%	62.6%
Return on assets			74.2%	46.0%	34.8%	28.1%
Return on common stockholders' equity (ROE)			75.7%	46.5%	35.1%	28.3%
Earnings per common share (EPS)		\$ 71.40	\$ 87.00	\$ 90.00	\$ 93.00	\$ 96.00
COVERAGE RATIOS						
Debt to assets ratio		3.20%	1.47%	1.02%	0.78%	0.62%
Times interest earned		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cash debt coverage			50.93	52.34	53.75	55.16
Book value per share		\$ 71.40	\$ 158.40	\$ 228.40	\$ 301.40	\$ 377.40

Part 2 Background

Welcome students! Thank you for supporting our efforts to save the planet. As you may know, the accounting profession is taking a leading role in advancing the cause of sustainability. What do we mean by the word sustainability? There are many definitions of the term, and we are referring to it in terms of the concept of the Triple Bottom Line (TBL). We accountants are bottom line oriented by nature, and the TBL concept encourages our profession to develop metrics and other information that summarize the environmental, social, and economic (or financial) positions of an entity. And when we refer to an entity, we mean any entity. People, families, communities, companies, nations, or the entire world; each must have a long-term "sustainable" strategy for prospering environmentally, socially, and economically. But does that mean that we must sacrifice the most helpless and innocent creatures among us who simply wish to survive? That's the question that we must answer. So how shall we proceed?

Imagine a Western energy company called World Of Water (WOW). This company has secured a contract to develop a hydro-electric power generation plant over a pristine jungle waterfall in an impoverished African nation named Vastaria. At first, everyone is happy. The nation, desperate for an inexpensive and clean source of energy, looks forward to receiving power from the plant. Local jobs will be created to provide it. An artificial reservoir, similar to the Lake Mead Recreation area in the American southwest, will be transformed into an eco-tourism development. And WOW will earn significant profits from constructing and managing the plant.

But before construction commences, some troubling news emerges. Environmentalists discover that an endangered species known as the blue frog resides on the proposed location of the power plant. If WOW proceeds with construction, it may endanger the lives of these creatures, and threaten the extinction of the entire species.

Three individuals come together at WOW headquarters to determine a course of action. One is a representative of BC Capital, the private equity owner of WOW. One is a senior partner of a Big Four Accounting Firm (BFAC) that has been asked, but has not yet accepted, an engagement to assess the situation on behalf of WOW. Another one is Okopipi, the Blue Frog itself. If necessary, BC Capital's representative has the option of calling upon the WOW Chief Executive Officer (CEO), for additional insights. You will be placed in a group of three to four students and will be assigned to one of these roles. Then, by working with your team while employing the tools and techniques of accounting, you will do your best to find a solution to this challenge. Will you save the blue frog? Or will you let it perish? The choice is yours...

Part 2 Requirements (Completed in assigned teams)

Assume that WOW's lawyers have determined that because of the potential negative environmental impact, there is a 71% chance that the new company will be liable for \$9,000,000 to \$11,000,000 (each amount in the range equally likely). You can examine the impact of the possible contingent liability by inputting the appropriate amounts in the shaded spreadsheet boxes labeled "Legal Expense" and "Contingent Liabilities" in the assumptions section of the financials spreadsheet. Review the spreadsheet and answer the questions that follow.

1. Given the possibility of this environmental contingency, should WOW proceed with the project? Discuss why you believe WOW should or should not continue with the project and any other factors or options WOW should consider given this possible environmental contingency.
2. If WOW continues with the project, indicate what you believe is the optimal mix of equity versus debt financing for WOW given the contingency. Each can range from \$0 to \$50,700,000. The total amount cannot exceed \$50,700,000 for both alternatives combined (use the same shaded boxes you used in Part 1 above).

Briefly explain why you chose the debt to equity mix above. Also, submit your completed Excel spreadsheet.

Part 3 Background

Recall our discussion of sustainability in terms of the TBL:

- (1) Planet - the environmental aspect,
- (2) People - the social/human aspect, and
- (3) Profit - the economic/financial aspect.

If you need a refresher, you may find it useful to review the following website:

<https://sustain.wisconsin.edu/sustainability/triple-bottom-line>

Part 3 Requirements (Completed in assigned teams)

Your group task is to come up with at least one metric for each of the three TBL categories to measure the sustainability performance of WOW's new hydro-electric energy company over time. Each metric must be a quantitative metric that can be easily measured and verified. Each metric must also be appropriate for this company. The profit/economic metric must relate to maintaining strong revenues or reducing costs in an environmentally and socially friendly manner. For example, Ikea saves more than \$1 million per year in waste disposal costs by recycling its waste into the company's products (Ingka Holding B.V., 2018), and Coca Cola has set a goal to more sustainably source its priority product ingredients (The Coca Cola Company, 2018).

Part 4

This part includes an instructor led in-class case debrief and discussion about sustainability accounting reporting standards.

Auditing Case

Background

This is the same background as the one used in Part 2 of the case for the Intermediate Accounting II course above with the exception of the third paragraph. For the auditing course, the third paragraph reads as follows:

But before construction commences, some troubling news emerges. Apparently, someone within WOW made sizable “gratuity” payments to local African officials before those individuals approved the project. There is a chance that those payments may be investigated by authorities as de facto bribes. In addition, environmentalists discover that an endangered species known as the blue frog resides on the proposed location of the power plant. If WOW proceeds with construction, it may endanger the lives of the creatures, and threaten the extinction of the entire species.

Team Requirements

Identify the relevant guidance that can be used by WOW’s management to create appropriate sustainability metrics that will help WOW decide how best to proceed.

1. Create appropriate sustainability metrics using the relevant guidance.
2. For these sustainability metrics:
 - a. Identify those sustainability metrics that can be audited.
 - b. Specify how each of these auditable sustainability metrics may be audited (name specific audit procedures in your response). Be sure to cite specific relevant Public Company Accounting Oversight Board (PCAOB) audit standards.
3. If a specific sustainability metric cannot be audited, can some other type of assurance be provided? If so, specify the other type of assurance service that may be provided. Be sure to cite specific relevant PCAOB attestation standards in your response.
4. Would the consideration of these sustainability metrics impact your assessment of risk during the planning phase of an audit or the planning phase of an attestation engagement? If so, how would consideration of these sustainability metrics impact your assessment of risk?
5. What is your decision? Did you decide to save the blue frog? Or did you decide to let it perish? Explain how you arrived at this decision.

IMPLEMENTATION GUIDANCE AND SUGGESTED SOLUTIONS

Intermediate Accounting II Case Implementation Guidance and Suggested Solutions

The case for a second intermediate accounting course has four parts. The first part of the case, completed by students individually, incorporates analytics designed to give students a deeper understanding of how the mix of debt and equity financing affects the new company’s projected financials. The second part of the case, completed in teams, builds upon the first part by requiring the teams to analyze the debt equity mix in conjunction with the potential impact of a sustainability related contingent liability on the financials. As a part of this analysis, they must decide whether the project (i.e., the new company) should proceed. In part three, the student teams learn about the concept of sustainability reporting and are required to come up with some triple bottom line (TBL) related metrics to measure the new company’s sustainability performance. Finally, in the fourth part of the case, students are introduced to the integrated reporting framework, as well as the various sustainability reporting standard setting bodies and the standards they have promulgated. This case is designed to be completed in three 50 minute class periods with some work outside of class, however, it can be customized by individual instructors to best meet their course needs. The learning objectives include:

1. Demonstrate an understanding of the advantages and disadvantages of various types of equity versus debt financing.

2. Evaluate the impact of different levels of debt and equity financing on the balance sheet, income statement, and cash flow statement.
3. Evaluate the impact of different levels of debt and equity financing on liquidity ratios, activity ratios, profitability ratios, and coverage ratios.
4. Develop a basic understanding of sustainability in a business context and the triple bottom line (TBL).
5. Weigh the social and economic benefits of a new hydro-electric power plant against the environmental risk of an endangered species going extinct.
6. Examine the potential impact of an environmental contingency on the financial statements in conjunction with the amount of debt versus equity financing.
7. Develop a basic understanding of sustainability metrics and measures used to assess a company's sustainability efforts.
8. Establish sustainability metrics and quantitative measures of those metrics for each of the TBL areas (i.e., planet, people, and profit) appropriate for a hydro-electric company.
9. Learn about and compare the various organizations that create sustainability standards and the standards they have promulgated to date [i.e., the Sustainability Accounting Standards Board (SASB), the Global Reporting Initiative (GRI), and the International Integrated Reporting Council (IIRC)].

Intermediate Accounting II Case Part 1 Implementation Guidance

The first part of the case is completed by students individually outside of class with the deliverable submitted to the instructor just before the second part of the case is started. A course packet containing background information, an interactive financial spreadsheet, and the required questions should be distributed via email or through a course website roughly a week before students begin the second part of the case in class. The student can complete this part of the case without any assistance from the instructor, but the instructor might also wish to introduce the case in class and discuss the assignment requirements.

A short introduction/background narrative introduces students to a Western energy company called World Of Water (WOW) that has been contracted to develop a hydro-electric power plant in Africa. The student is tasked with helping WOW decide how much of the \$50.7 million project cost should be financed with debt versus equity. In the first question, the student is prompted to think about alternative forms of equity and debt financing by listing specific advantages and disadvantages of each. After answering the first question, students should open the Excel spreadsheet provided that includes projected financial statements for the new company over a five-year period along with 13 ratios. There are two shaded boxes at the top of the spreadsheet in the "assumptions" section where the student can input various dollar amounts and then see the impact of changing those amounts on the financial statements and ratios. The spreadsheet also indicates how WOW's ownership percentage changes with the amount of equity issued. Students can use this spreadsheet tool to help them answer the remaining questions.

Intermediate Accounting II Case Part 1 Requirement 1 Suggested Solution

Some of the advantages and disadvantages of each of the following alternative financing options from the perspective of WOW are as follows (not an exhaustive list). The advantages of using common stock and/or preferred stock as a financing mechanism include that there is no need to pay back the amount financed, there is no interest expense (increasing net income) and that there is more solvency due to less leverage. Disadvantages include dilution of WOW's ownership (a disadvantage of common stock only), less control, and a decrease in EPS and ROE. If a 10 year installment note or a 10 year bond is used as financing mechanism, the advantages include that the interest is tax deductible and that there is no dilution of WOW's ownership. Disadvantages include the fact that the principal amount borrowed has to be repaid and that the increase in leverage reduces solvency. If the 10 year bond is a zero interest bond, an additional advantage is that there are no interest payments until the bond matures. An additional disadvantage is that there is a larger payment due at maturity due to imputed interest. If the 10 year bond is a convertible (into common stock) bond, an additional advantage is typically lower interest costs. If converted into common stock, all of the disadvantages of common stock as a method of financing (see above) now become the disadvantages of this convertible bond.

Intermediate Accounting II Case Part 1 Requirement 2 Suggested Solution

The impact of increasing debt financing (i.e., leverage) and reducing equity financing on the financial statements is as follows. Balance Sheet: total assets decrease significantly due to a decline in cash (from payment of principal and interest), total liabilities increase significantly due to an increase in both current liabilities and long-term liabilities, and total stockholders' equity declines due to lower common stock and lower retained earnings. Income Statement:

net income decreases significantly with increased debt financing due to the higher interest expense from the loan. Statement of Cash Flows: due to the decline in net income noted above, net cash provided by operating activities decreases. In other words, operating cash is used to pay interest expense. Net cash used for financing activities increases because cash is used to pay the current portion of the long term debt each year. However, the combined increase in cash each year is lower because of the additional cash used to pay interest and principal on the loan each year.

Intermediate Accounting II Case Part 1 Requirement 3 Suggested Solution

The impact of increasing debt financing (i.e., the installment loan) and reducing equity financing (i.e., common stock issued to new investors) on the liquidity, activity, profitability and coverage ratios is as follows. Liquidity Ratios: The Current ratio and Quick (Acid-test) ratios decrease because there is less cash from payment of principal and interest and higher current liabilities due to the current portion of the long-term debt. Current cash debt coverage also decreases due to higher interest expense that reduces net cash provided by operating activities and also due to the increase in current liabilities. Activity Ratios: Accounts receivable turnover – not applicable. Asset turnover increases due to lower cash from payment of principal and interest. Profitability Ratios: Profit margin on sales decreases due to higher interest expense. ROA decreases initially due to a decrease in both net income and average total assets but then increases in later years because the balance on the loan is lower and net income is higher due to lower interest expense (while less cash is needed to pay interest expense). Despite a decrease in stockholders' equity, ROE increases due to the higher interest expense that reduces net profit. However, the reduced net profit is not enough to offset the significantly lower number of shares, and thus EPS increases. Coverage Ratios: Debt to total assets increases due to the significantly higher debt and lower total assets from decreased cash used for interest and principal payments. Times interest earned decreases due to the lower interest expense in both the numerator and denominator. Cash debt coverage decreases because the higher interest expense reduces cash provided by operating activities and the increased debt increases the average total liabilities. Book value per share decreases because the higher interest expense reduces retained earnings and the increased debt financing reduces the amount of common stock outstanding.

Intermediate Accounting II Case Part 1 Requirement 4 Suggested Solution

Student answers to this part will vary. However, it is important to note that WOW's ownership interest will fall below 50% once the amount of equity issued to outside investors exceeds roughly \$29,000,000. In citing the reason they chose a specific debt and equity mix, students should draw upon the key points from the analysis they produced for requirements 1, 2 and 3.

Intermediate Accounting II Case Part 2 Implementation Guidance

The second part of the case is group work and can be completed within one 50 minute class period, but the instructor may wish to allow teams additional time to complete work outside of class. At the beginning of class, the instructor should take about five to ten minutes to randomly assign students to teams of three to four people. In teams of three, students should be assigned to the following roles: (1) a representative of BC Capital, the private equity owner of WOW; (2) a senior partner of the BFAC that has been asked, but that has not yet accepted, an engagement to assess the situation on behalf of WOW; and (3) Okopipi, the Blue Frog. If class size requires a team of four members, a fourth role can be added for the WOW CEO.

Next, the instructor can spend about five to ten minutes introducing the topic of sustainability. This can be done through use of online videos (see, for example, the short PBS video "What is Sustainability?" (PBS, 2014) available at https://www.youtube.com/watch?v=_Yr8oFvY3a0) and "The Triple Bottom Line: the Science of Good Business" (Magnin, undated) available at <https://sustainabilityillustrated.com/en/portfolio/triple-bottom-line-the-science-of-good-business>). Then, the written narrative, excel spreadsheet, and related questions should be distributed to students. The narrative in this part builds upon the narrative from part 1, introducing sustainability and the TBL into the mix. The benefits of the hydro-electric power plant project are noted as including an inexpensive clean source of energy for a nation in need, the creation of jobs, and the development of an artificial reservoir as part of an eco-tourism attraction. However, a contingent environmental liability is also introduced. If the project moves forward, it may result in the extinction of an endangered species known as the blue frog that currently resides on the land where the plant will be located. The potential liability is quantified as falling within a range of \$9-\$11 million with a probability of 71%, just above the United States Generally Accepted Accounting Principles (U.S. GAAP) threshold required to accrue a liability (Financial Accounting Standards Board Accounting Standards Codification® or FASB

ASC 450).

In completing this part of the case, each team must decide whether to proceed with the power plant project given the environmental contingent liability and determine what the optimal mix of debt and equity financing should be assuming the project does move forward with that contingency. The instructor should encourage students to think about the decisions at hand from the perspective of the role they have been assigned. Students should also use the Excel spreadsheet to evaluate the impact of the contingent liability on the projected financials. It is the same spreadsheet used in the first part of the case, but with two additional boxes for the students to enter the amount of the contingent liability and the loss. Here, students need to draw upon what they previously learned in class regarding contingent liabilities. Under U.S. GAAP (FASB ASC 450), a liability should be accrued because the probability of occurrence is likely (i.e., greater than 70% chance). Given that all amounts in the range are equally likely, the student teams should accrue the lowest amount by inputting it into the spreadsheet. Under the International Financial Reporting Standards (IFRS), a liability should also be accrued because the probability is more likely than not (IFRS Foundation International Accounting Standard or IAS 37), which is interpreted in practice to be a greater than 50% chance. However, the amount accrued is instead the midpoint of the range. Once the students enter the accrual amount on the spreadsheet and select a debt/equity mix, they can analyze the impact on the financials and the ratios.

Intermediate Accounting II Case Part 2 Requirement 1 Suggested Solution

There is no single correct answer to this part of the case. Teams may take any number of positions, depending in part on the influence of each individual character in the role play exercise. Most teams will try to come up with some sort of compromise that mitigates the potential contingent liability and allows WOW to continue with the project. For example, they may want to explore the possibility of relocating the blue frog. However, some teams may decide to simply halt the project or proceed. It is a good idea to encourage the teams to consider alternatives and explore those alternatives in their narrative before settling in on a final answer.

Intermediate Accounting II Case Part 2 Requirements 2 and 3 Suggested Solution

Team answers to this part will vary. However, it is important to note that WOW's ownership interest will fall below 50% once the amount of equity issued to outside investors exceeds roughly \$29,000,000. Also, the contingent liability has a large negative impact on the projected financial statements in the early years. In citing why they chose a specific debt and equity mix, teams should examine the key changes in the financial statements and the various ratios over time.

Intermediate Accounting II Case Part 3 Implementation Guidance

The third part of the case is also group work and can be completed within one 50 minute class period, but the instructor may wish to allow teams additional time to complete work outside of class. At the beginning of class, the instructor should allocate roughly 15-20 minutes to expand upon the discussion of the TBL and to introduce the students to metrics that measure a company's sustainability performance. As a part of this discussion, it may be helpful to provide students with examples of corporate sustainability reports and go over the metrics used by those companies (e.g., the Coca Cola Company 2017 Sustainability Report and the Starbuck's 2017 Global Social Impact Report). In the remaining class time, teams should identify at least one metric and one quantitative measure of the metric for each of the TBL items (i.e., planet, people, and profit) for the new hydro-electric company. The instructor should encourage students to be creative, but also have them focus on developing metrics that are both measurable and relevant to a hydro-electric company in Africa.

Intermediate Accounting II Case Part 3 Suggested Solution

There are many possible TBL metrics and quantitative measures of these metrics. Here are some examples. These examples are organized by the categories of the TBL (Planet, People, and Profit) with the quantitative measure of each metric stated in parenthesis following the metric's name. Planet: air emissions (total or absolute pounds or metric tons of CO₂, or SO₂ emissions as a percentage of Megawatt hours (MWh) generated), hazardous waste (pounds or tons of hazardous waste disposed of or tons of waste as a percentage of total revenue) and waste recycled (pounds or tons of waste generated and recycled, or tons of waste generated and recycled as a percentage of revenue). People: charitable contributions (value of charitable contributions as a percentage of revenue), community service (number or percentage of paid employee hours spent volunteering at company sponsored events for the local community and charitable organizations) and local job creation (number of local employees as a percentage of the total number of employees). Profit: number of customers (retail electric customer count at year-end or average number of customers), renewable energy revenue (average retail electric rate and/or total dollar amount and MWh of

renewable energy sold) and reduced costs through hiring of local workers (dollar amount saved through use of local workers). Additional guidance and examples can be found from resources such as the Electric Power Research Institute (EPRI, 2017, 2018), the SASB (2018a, 2018b), and the annual sustainability reports of various utility companies.

Intermediate Accounting II Case Part 4 Implementation Guidance

The fourth part of the case is an instructor led case debriefing as well as an introduction to the sustainability reporting standards and the various organizations that promulgate them. It does not require any deliverable from the students and the instructor can use their discretion to decide how much time to allocate to the discussion. The primary goal in this part of the case is to introduce students to the sustainability reporting standards and the various organizations that promulgate them. The instructor should discuss with students the SASB, the GRI, and the IIRC, as well as the Integrated Reporting (IR) Framework. As a part of this discussion, the instructor may find it helpful in class to visit each organization's website (SASB: <https://www.sasb.org>, GRI: <https://www.globalreporting.org>, and IIRC: <http://integratedreporting.org>). Parallels and differences between these organizations and their standards can be discussed and compared to the FASB, International Accounting Standards Board (IASB), U.S. GAAP and IFRS.

The instructor may also wish to point out the evolution of these standard setting bodies. Today, numerous stakeholders with interests in the economic, environmental, and social well-being of their communities engage in the development of laws, regulations, and policies regarding sustainability. Recovery efforts related to the Deepwater Horizon catastrophe in the Gulf of Mexico, for instance, encompassed the activities of governmental relief organizations, private environmental groups, nonprofit social service agencies, for-profit energy companies, and other entities (Kessler et al., 2017). All of these players also participated in government hearings after the disaster. Partly in response to such high-profile catastrophes, and partly in reaction to the increasing public consciousness of climate change, standard setting bodies have emerged to promulgate relevant accounting guidance. The GRI, based in Europe, defines metrics for approximately three dozen organizational functions. The SASB, based in the United States, develops measurements on an industry-by-industry basis (available on the SASB website). Meanwhile, the United Nations has defined numerous metrics for seventeen Strategic Development Goals that measure economic, environmental, and social progress from the community's point of view (UN, 2018). And the IIRC has developed their own framework (the IR Framework) that can serve as a model for organizing and analyzing all of these measurements (IIRC, 2018).

Auditing Case Implementation Guidance and Suggested Solutions

Auditing Case Implementation Guidance

This version of the case is intended for an undergraduate auditing course and requires students to work in randomly assigned teams of three to four students. Each team member is assigned a stakeholder role within the team. Similar to part two of the case version used in the second Intermediate Accounting course (see Part 2 Background above), student teams are tasked with developing sustainability metrics to measure WOW's sustainability performance. However, this version is set in an audit context where students must consider various sustainability standards when creating the metrics and then evaluate the implications of auditing those metrics. This case can be used concurrently with the Intermediate Accounting II course or independently of that course.

Students are introduced to the standards of the SASB, GRI, and the IIRC, as well as the IR framework to use as guidance in developing their metrics. Once students have developed the appropriate sustainability metrics using the relevant guidance, they are then asked to distinguish between the metrics that can be audited and the metrics that cannot be audited (but for which some other type of assurance may be provided). Next, teams are asked to identify specific audit procedures that they might use to audit the auditable sustainability metrics and to identify if there is some other type of assurance (attestation) service that can be provided for the non-auditable sustainability metrics. In this manner, the case can be used to provide students with an introduction to assurance services other than audits as well as the provision of assurance on non-financial information. This version of the case assignment complements the sustainability cases created by Bouten and Hoozée (2015) and Brown and Kohlbeck (2017) in that it asks students to develop sustainability metrics before considering whether these metrics can be audited and encourages students to also consider whether some other type of assurance service may be appropriate for such metrics. This case is designed to be completed in three 50 minute class periods with some work outside of class, however, it can be customized by individual instructors to best meet their course needs. The learning objectives of this case include:

1. Develop appropriate sustainability metrics using the relevant guidance.
2. Distinguish between those sustainability metrics that can be audited and those sustainability metrics that cannot be audited.
3. Specify specific audit procedures that may be used to audit the sustainability metrics that can be audited.
4. Specify if another type of assurance (attestation) service can be provided for the sustainability metrics that cannot be audited.
5. Consider how the availability of sustainability metrics may impact risk assessment during the planning phase of an audit engagement or an attestation engagement.

This case can be used toward the end of the term and, as noted, in a first or second undergraduate auditing course to introduce students to types of assurance services other than audits along with providing assurance on non-financial information. Instructors can use this case to accompany the coverage of other assurance services (see, for example, Chapter 25 in Arens, Elder, Beasley and Hogan, 2017). One to two 50 minute class period(s) can be devoted to both an introduction to sustainability and team work on case requirements. Additional time may be given to each team to finish their responses to the case questions outside of class. A third 50 minute class period can then be used as an opportunity to debrief and discuss each team's responses to the case questions which are turned in before or at the beginning of the second class.

Before the beginning of the first class, instructors should take the time to randomly assign students to teams of three to four people. In teams of three, students should also be randomly assigned (in advance) to the following roles: (1) a representative of BC Capital, the private equity owner of WOW; (2) a senior partner of the BFAC that has been asked, but that has not yet accepted, an engagement to assess the situation on behalf of WOW; and (3) Okopipi, the Blue Frog. If class size requires a team of four members, a fourth role can be added for the WOW CEO.

After breaking students up into their teams, the instructor can spend about five to ten minutes introducing the topic of sustainability. One useful website is <https://sustainabilityillustrated.com/en/>. Specifically, the videos available at this website may be used to provide this introduction: <https://sustainabilityillustrated.com/en/sustainability-videos/> (Magnin, undated). Alternatively, the instructor can choose to lecture on the topic for a short period of time. In addition, students may be provided with the link to access the Corporate Sustainability reports for Coca Cola (available at <https://www.coca-colacompany.com/sustainability>) or some other publicly traded companies. Next, students can be introduced to the standards of the SASB, GRI, IIRC and the IR framework. The instructor may find it helpful to visit each organization's website with students in class (<https://www.sasb.org>, <https://www.globalreporting.org>, and <http://integratedreporting.org>) before they begin working on developing the sustainability metrics. After becoming familiar with the standards, the students should be directed to begin working on the case requirements within their teams using the roles assigned to them. Additional time may be granted to students to complete the assignment outside of class as necessary. Once their responses have been turned in, a second class may then be used to debrief and discuss each team's responses to the case questions.

Although WOW is owned by a private equity company, a private equity company may itself be publicly or privately held. The case intentionally leaves the public or private nature of WOW ambiguous. The instructor may want to specify that WOW is owned by a publicly-held company because the current case requirements ask students to cite specific PCAOB standards. In that case, the instructor may want to provide The Blackstone Group as a real-world example of a publicly held private equity company. Alternatively, the instructor may specify that WOW is privately held so that students can use the American Institute of Certified Public Accountants (AICPA) standards. A third option is for the instructor to choose to leave the ambiguous nature of WOW as is, which is likely to prompt questions from students regarding whether WOW is a publicly-held client of BFAC or a privately-held client of BFAC. Note that if the third option is chosen, more time will likely be needed to complete the case requirements.

Auditing Case Requirements 1, 2 and 3 Suggested Solution

There are a number of sustainability metrics that students can pick. Students can use the publications of the EPRI (for example EPRI, 2017, 2018) and the standards promulgated by the SASB (for example SASB 2018a and SASB 2018b) as guides in choosing sustainability metrics. In general, one may argue that financial sustainability metrics can be audited while non-financial sustainability metrics are more suited to the provision of some other type of assurance (typically some type of attestation) service. However, depending upon the nature of the engagement agreed upon between WOW and BFAC, even the financial sustainability metrics may fall under the non-auditable

category. For example, if WOW and BFAC enter into an Agreed-Upon Procedures Engagement (PCAOB AT 201 or AICPA AT-C sec. 215), then BFAC is not going to provide a higher level of assurance (i.e., an audit) for the financial sustainability metrics while providing a lower level of assurance for the non-financial sustainability metrics. It is only going to provide the lower level of assurance for all of the sustainability metrics inspected. This lower (than an audit) level of assurance can be provided by one of the following type of attestation services (depending upon the nature of the agreement between WOW and BFAC and the publicly held or privately held status of WOW): Attest Engagement (PCAOB AT 101) or Examination Engagement (AICPA AT-C sec. 205, see also AT-C sec. 105) or Agreed-Upon Procedures Engagement (PCAOB AT 201 or AICPA AT-C sec. 215) or Compliance Attestation (PCAOB AT 601 or AICPA AT-C sec. 315) [the PCAOB adopted the old AICPA attestation standards including AT 101, AT 201 and AT 601) as its Interim Standards in 2003].

Here are some examples of sustainability metrics that students can pick. These examples are organized by the categories of the TBL (Planet, People, and Profit) with the answer to the question of whether each metric is auditable or not stated in parenthesis (yes or no) following the metric's name. Planet: air emissions (no) and hazardous waste (no). People: charitable contributions (yes) and community service (no). Profit: number of customers (no) and renewable energy revenue (yes). Assuming that the BFAC provides only one (lower) level of assurance for all of the sustainability metrics, one of the following types of attestation services may be provided: an Attest Engagement (PCAOB AT 101) or Examination Engagement (AICPA AT-C sec. 205) or Agreed-Upon Procedures Engagement (PCAOB AT 201, or AICPA AT-C sec. 215) or Compliance Attestation (PCAOB AT 601, or AICPA AT-C sec. 315). Note that even though charitable contributions (in the People category) and renewable energy revenue (in the Profit category) metrics may be auditable, the BFAC is only going to provide one (lower than an audit) level of assurance for all of the sustainability metrics that the BFAC has been hired to provide assurance upon.

As noted earlier, this case intentionally leaves the public or private nature of WOW ambiguous and instructors have the flexibility of choosing between three options: specifying that WOW is a public company (in which case the PCAOB standards are applicable), specifying that WOW is a private company (in which case the AICPA standard are applicable) or leaving the ambiguous nature of WOW as is (in which case, both the PCAOB and the AICPA standards are applicable). The PCAOB audit standards as well as attestation standards can be found on the PCAOB website. The AICPA audit standards as well as attestation standards can be found on the AICPA website.

Auditing Case Requirement 4 Suggested Solution

In general, consideration of sustainability metrics should impact BFAC's risk assessment during the planning phase of the audit (assuming WOW is already an audit client) or attestation engagement. Essentially, sustainability metrics add an additional dimension to the assessment of risks. Students may conclude that consideration of sustainability metrics increases their assessment of WOW's risks since this additional dimension reflects the impact of WOW's actions on additional stakeholders not considered explicitly by BFAC before. The additional issue of the "de facto bribes" (in the auditing case background provided to students) might also lead students to increase their assessment of WOW's risks.

Auditing Case Requirement 5 Suggested Solution

Student responses to this question may vary. Some students (teams) may conclude that they want to save the blue frog while others may conclude that they want construction to commence on the hydro-electric power generation plant.

EVIDENCE OF TEACHING EFFECTIVENESS

Intermediate Accounting II Case Evidence of Teaching Effectiveness

The case was administered in the last week of classes across two sections of the second intermediate financial accounting course that is part of a three-course sequence, with both sections taught by the same instructor. Students completed an online survey prior to beginning the case and another online survey after completing the case. In order to encourage student participation in the surveys, the value of the final exam was reduced, and students were given three points on their final grade if they completed the surveys. In compliance with Human Experimentation Committee/Institutional Review Board (HEC/IRB) requirements, students were also given the option to opt out of

the surveys and maintain the same value on their final exam. Survey responses were received from all 46 students enrolled across both sections of the course for both the pre-case and post-case surveys. The first survey consisted of nine pre-case knowledge self-assessment questions. The second survey included the same nine knowledge self-assessment questions, seven post-case feedback rating questions, two open ended feedback questions, and some demographic questions. Students responded to the nine pre- and post-case knowledge self-assessment questions and the seven post-case feedback questions using the following seven-point scale: 1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 = Somewhat Agree, 6= Moderately Agree, 7 = Strongly Agree.

The nine pre- and post-case questions used to assess the students' knowledge and learning are presented in Table 1. The Wilcoxon Signed Ranks test was used to compare the paired pre- and post-question responses because the data was not normally distributed. The first three questions about debt and equity related to material that was covered toward the end of the course and before the case was administered. There was an expectation that students would express at least some familiarity with the material before completing the case and a significantly stronger understanding of the material after completing the case. The results were consistent with our expectations. The pre-case median response was 5.0 and the post-case median response was 6.0 for all three questions. The difference between these responses was statistically significant ($p < 0.001$). Similar results were found for the next two general questions related to sustainability. Although sustainability had only previously been mentioned in brief comments during the course prior to the case administration, students may have been exposed to the topic in other courses taken at the university. Thus, it was not unexpected to see that they expressed some general knowledge of the subject before completing the case, with their comfort level increasing after completing the case. The last four questions examined specific sustainability topics students were less likely to be knowledgeable about prior to completion of the case. Consistent with our expectations, students expressed significant increases ($p < 0.001$ for all four sets of questions) in their understanding of the material after completing the case. The pre-case median responses ranged from 3.0 to 4.0 across the four questions with the post-case median responses ranging from 6.0 to 7.0.

Table 1: Self-Assessment Results of Student Knowledge and Learning for the Intermediate Accounting II Course (n = 46)

Question	Pre-Case Median	Post-Case Median	Z-Statistic ^a	p-value ^b
I have a good understanding of the comparative advantages and disadvantages of debt versus equity financing.	5.00	6.00	-4.771	<.001
I have a good understanding of the impact of debt versus equity financing on the balance sheet, the income statement, and the statement of cash flows.	5.00	6.00	-3.953	<.001
I have a good understanding of how debt versus equity financing affects all the liquidity ratios, activity ratios, profitability ratios, and coverage ratios discussed in this course.	5.00	6.00	-4.190	<.001
I can identify the major standard setting bodies that define sustainability metrics.	5.00	6.00	-5.005	<.001
I have a good understanding of how sustainability factors impact the financial strength of an organization.	5.00	6.00	-4.743	<.001
I understand how to evaluate various sustainability metrics and select ones that apply to an organization.	4.00	6.00	-5.114	<.001
I understand how to integrate an analysis of sustainability metrics into a corporate financial analysis.	3.00	6.00	-4.798	<.001
I know how to access the Sustainability Accounting Standards Board (SASB) standards.	4.00	7.00	-5.033	<.001
I know how to access the International Integrated Reporting Council (IIRC) International Integrated Reporting Framework.	3.00	6.00	-5.148	<.001

^aWilcoxon Signed Ranks Test for non-normal distributions.

^bAsymp. Sig. (2-tailed) based on negative ranks.

Auditing Case Evidence of Teaching Effectiveness

The case was administered in the last week of classes across two sections of the second undergraduate auditing course that is part of a two-course sequence, with both sections taught by the same instructor. Students completed an online survey prior to beginning the case and another online survey after completing the case. In compliance with HEC/IRB requirements, students were also given the option to opt out of the surveys. Survey responses were received from all 51 students enrolled across both sections of the course for both the pre-case and post-case surveys. The first survey consisted of ten pre-case knowledge self-assessment questions. The second survey included the same ten knowledge self-assessment questions, seven post-case feedback rating questions, two open ended feedback questions, and some demographic questions. Students responded to the ten pre- and post-case knowledge self-assessment questions and the seven post-case feedback questions using the following seven-point scale: 1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 = Somewhat Agree, 6 = Moderately Agree, 7 = Strongly Agree.

The ten pre-case and post-case questions used to assess the students' knowledge and learning are presented in Table 2. The Wilcoxon Signed Ranks test was used to compare the paired pre- and post-question responses because the data was not normally distributed. The first two questions were about accessing and applying the relevant PCAOB auditing standards. There was no significant difference between the median pre-case and post-case responses for these questions. However, this result was not surprising since these students were already familiar with accessing and applying the PCAOB auditing standards from earlier assignments in their first and second undergraduate auditing courses. The next two questions were about accessing and applying the relevant PCAOB attestation standards. The pre-case median response on each of these two questions was 5.0 and the post-case median response was 6.0. Consistent with our expectations, students reported significantly improving upon their ability to access ($p = 0.002$) and apply ($p = 0.065$) the relevant PCAOB attestation standards.

Questions 5 and 6 were about accessing and applying the relevant Sustainability Accounting Standards Board (SASB) standards. The pre-case median response on each of these two questions was 5.0 and the post-case median response was 6.0. Consistent with our expectations, students reported significantly improving upon their ability to access ($p < 0.001$) and apply ($p = 0.004$) the relevant SASB standards. Questions 7 and 8 were about accessing and applying the relevant elements of the IIRC's IR Framework. Consistent with our expectations, there was a significant difference in student responses. Specifically, the pre-case median response on each of these two questions was 5.0 and the post-case median response was 6.0. Thus, students reported significant improvement in their ability to access ($p < 0.001$) and apply ($p = 0.008$) the relevant elements of the IIRC's IR Framework. The last two questions were about identifying and assessing risks of material misstatement using, where relevant, the appropriate PCAOB standards. There was no significant difference between the median pre-case and post-case responses for these questions. Again, this result was not surprising since these students were already familiar with identifying and assessing risks of material misstatement using, where relevant, the appropriate PCAOB standards from earlier assignments in their first and second undergraduate auditing courses.

Table 2: Self-Assessment Results of Student Knowledge and Learning for the Auditing Course (n = 51)

Question	Pre-Case Median	Post-Case Median	Z-Statistic ^a	p-value ^b
I know how to access the Public Company Accounting Oversight Board (PCAOB) auditing standards.	6.00	6.00	-1.373	.170
I can apply the relevant PCAOB auditing standards to questions that arise from a specific set of circumstances.	5.00	6.00	-0.523	.601
I know how to access the Public Company Accounting Oversight Board (PCAOB) attestation standards.	5.00	6.00	-3.046	.002
I can apply the relevant PCAOB attestation standards to questions that arise from a specific set of circumstances.	5.00	6.00	-1.847	.065
I know how to access the Sustainability Accounting Standards Board (SASB) standards.	5.00	6.00	-4.112	<.001
I can apply the relevant SASB standards to questions that arise from a specific set of circumstances.	5.00	6.00	-2.914	.004
I know how to access the International Integrated Reporting Council (IIRC) International Integrated Reporting Framework.	5.00	6.00	-4.213	<.001
I can apply the IIRC International Integrated Reporting Framework to questions that arise from a specific set of circumstances.	5.00	6.00	-2.655	.008
I have a good understanding of identifying and assessing risks of material misstatement.	6.00	6.00	-1.157	.247
I can apply the PCAOB standards on identifying and assessing risks of material misstatement to questions that arise from a specific set of circumstances.	5.00	6.00	-1.425	.154

^aWilcoxon Signed Ranks Test for non-normal distributions.

^bAsymp. Sig. (2-tailed) based on negative ranks.

Additional Feedback from Students Regarding their Learning Experience in the Two Courses

In addition to the self-assessment questions, in each of the two courses, we asked students to provide feedback on the value of the learning experience by providing ratings to some post-case feedback questions. Students responded to these post-case feedback questions using the same seven-point scale as the one used for the pre- and post-case knowledge self-assessment questions: 1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 = Somewhat Agree, 6 = Moderately Agree, 7 = Strongly Agree. Results (untabulated) indicate that the median responses to those questions ranged from 5.0 to 7.0, indicating the students generally agreed with the statements such as “The case provided a tangible and valuable learning experience for me” and “Sustainability is an important issue that students should learn about and discuss in the classroom”.

CONCLUSION

This paper describes a case that can be used in the Intermediate Accounting II course as well as the Auditing course in an undergraduate degree program in Accounting. The case provides instructors with an opportunity to incorporate principles of sustainability into each of these two courses. A comparison of pre-case and post-case median scores on survey questions that includes student self-assessments of their knowledge and learning indicates that student’s knowledge increased regarding sustainability metrics and their use in accounting and attestation. Additional feedback from students indicated that they found the case to be valuable learning experience. As such, the case can be used to promote more engaging classroom activities that facilitate learning.

REFERENCES

- American Institute of Certified Public Accountants (AICPA). 2018. *AT-C Section 105 Concepts Common to All Attestation Engagements*. Durham, NC: AICPA. Available at <https://www.aicpa.org/content/dam/aicpa/research/standards/auditattest/downloadabledocuments/at-c-00105.pdf>.
- American Institute of Certified Public Accountants (AICPA). 2018. *AT-C Section 205 Examination Engagements*. Durham, NC: AICPA. Available at <https://www.aicpa.org/content/dam/aicpa/research/standards/auditattest/downloadabledocuments/at-c-00205.pdf>.
- American Institute of Certified Public Accountants (AICPA). 2018. *AT-C Section 215 Agreed-Upon Procedures Engagements*. Durham, NC: AICPA. Available at <https://www.aicpa.org/content/dam/aicpa/research/standards/auditattest/downloadabledocuments/at-c-00215.pdf>.
- American Institute of Certified Public Accountants (AICPA). 2018. *AT-C Section 315 Compliance Attestation*. Durham, NC: AICPA. Available at <https://www.aicpa.org/content/dam/aicpa/research/standards/auditattest/downloadabledocuments/at-c-00315.pdf>.
- Arens, A., Elder, R., Beasley, M., and C. Hogan. 2017. *Auditing and Assurance Services: An Integrated Approach, 16th edition*. New York, NY: Pearson.
- Association to Advance Collegiate Schools of Business (AACSB). April 2018. *2018 Eligibility Procedures and Accreditation Standards for Accounting Accreditation*. Available at <https://www.aacsb.edu/-/media/aacsb/docs/accreditation/accounting/standards-and-tables/2018-accounting-standards.ashx?la=en>.
- Bouten, I., and S. Hoozée. 2015. Challenges in Sustainability and Integrated Reporting. *Issues in Accounting Education* 30 (4): 373–381.
- Brown, V., and M. Kohlbeck. 2017. Providing Assurance for Sustainability Reports: An Instructional Case. *Issues in Accounting Education* 32 (3): 95-102.
- Brown, K., and K. Veenstra. 2018. Home Capital Group – The High Cost of Dishonesty. *Accounting Perspectives* 17 (2): 307-322.
- Electric Power Research Institute (EPRI). 2017. *2017 Metrics to Benchmark Electric Power Company Sustainability Performance*. Palo Alto, CA: EPRI. Available at <https://www.epri.com/#/pages/product/3002011884/>.
- Electric Power Research Institute (EPRI). 2018. *2018 Metrics to Benchmark Electric Power Company Sustainability Performance*. Palo Alto, CA: EPRI. Available at <https://www.epri.com/#/pages/product/3002013458/>.
- EY. 2015. *Tomorrow's Investment Rules 2.0: Emerging Risk and Stranded Assets Have Investors Looking for More from Nonfinancial Reporting*. Available at [https://www.ey.com/Publication/vwLUAssets/investor_survey/\\$FILE/CCaSS_Institutional_InvestorSurvey2015.pdf](https://www.ey.com/Publication/vwLUAssets/investor_survey/$FILE/CCaSS_Institutional_InvestorSurvey2015.pdf)
- Financial Accounting Standards Board (FASB). *Accounting Standard Codification® (ASC) 450 Contingencies*. Norwalk, CT: FASB. Available at <https://asc.fasb.org/>.
- Global Reporting Initiative (GRI). 2018. *Getting Started with the GRI Standards*. Amsterdam, Netherlands: GRI. Available at <https://www.globalreporting.org/standards/getting-started-with-the-gri-standards/>.
- Governance and Accountability Institute, Inc. March 2018. *Flash Report: 85% of S&P 500 Index® Companies Publish Sustainability Reports in 2017*. Available at <https://www.ga-institute.com/press-releases/article/flash-report-85-of-sp-500-indexR-companies-publish-sustainability-reports-in-2017.html>.
- Hart, L. July 17, 2018. Should Students Learn Sustainability Accounting? *Journal of Accountancy Extra Credit: The Newsletter for Accounting Educators*. Available at <https://www.journalofaccountancy.com/newsletters/extra-credit/sustainability-accounting-education.html>.
- Haskin, D., and M. Burke. 2016. Incorporating Sustainability Issues into the Financial Accounting Curriculum. *American Journal of Business Education* 9 (2): 49-55.
- Ingka Holding B.V. 2018. *Sustainability Summary Report FY17*. Available at https://www.ikea.com/ms/en_US/pdf/sustainability_summary/INGKA_Sustainability_Summary_Report_FY17.pdf.
- International Integrated Reporting Council (IIRC). 2018. *International <IR> Framework*. London, United Kingdom: IIRC. Available at <http://integratedreporting.org/resource/international-ir-framework/>.
- International Financial Reporting Standards (IFRS) Foundation. 1999. *International Accounting Standard (IAS) 37 Provisions, Contingent Liabilities and Contingent Assets*. London, UK: IFRS Foundation. Available at <https://www.ifrs.org/issued-standards/list-of-standards/ias-37-provisions-contingent-liabilities-and-contingent-assets/>.
- Kessler, S., Mahoney, K., Randolph-Seng, B, Martinko, M., and P. Spector. 2017. *The Effects of Attribution Style and Stakeholder Role on Blame for the Deepwater Horizon Oil Spill*. Business & Society. Newbury Park, CA: Sage Publications.
- Kraten, M. 2015. Social Presence Theory And Experiential Learning Games. *Business Education Innovation Journal* 7 (2): 6-16.
- Lee, E., Birkey, R., and D. Patten. 2017. Exposing Students to Environmental Sustainability in Accounting: An Analysis of Its Impacts in a US Setting. *Social and Environmental Accountability Journal* 37 (2): 81-96.
- Magnin, A. Undated. *Triple Bottom Line: The Science of Good Business*. Available at <https://sustainabilityillustrated.com/en/portfolio/triple-bottom-line-the-science-of-good-business/>.
- Magnin, A. Undated. *Business Case for Sustainability*. Available at <https://sustainabilityillustrated.com/en/portfolio/business-case-sustainability/>.
- McGuigan, N., Sin, S., and T. Kern. 2017. Sourcing Sustainable Finance in a Globally Competitive Market: An Instructional Case. *Issues in Accounting Education* 32 (1): 43-58.
- Painter-Morland, M., Sabet, E., Molthan-Hill, P., Goworek, H., and S. de Leeuw. 2016. Beyond the Curriculum: Integrating Sustainability into Business Schools. *Journal of Business Ethics* 129: 737-754.
- Pippin, S., Weber, J., Wong, J., and J. Bergner. June 2016. The Inclusion of Sustainability in the Accounting Curriculum. *The CPA Journal*. Available at <https://www.cpajournal.com/2016/06/17/inclusion-sustainability-accounting-curriculum/>.
- Public Broadcasting Service (PBS) Food. April 24, 2014. *What is Sustainability?* Available at https://www.youtube.com/watch?v=_Yr8oFvY3a0.
- Public Company Accounting Oversight Board (PCAOB). Undated. *AT 101 Attest Engagements*. Washington, DC: PCAOB. Available at <https://pcaobus.org/Standards/Attestation/Pages/AT101.aspx>.
- Public Company Accounting Oversight Board (PCAOB). Undated. *AT 201 Agreed-Upon Procedures Engagements*. Washington, DC: PCAOB. Available at <https://pcaobus.org/Standards/Attestation/Pages/AT201.aspx>.
- Public Company Accounting Oversight Board (PCAOB). Undated. *AT 601 Compliance Attestation*. Washington, DC: PCAOB. Available at <https://pcaobus.org/Standards/Attestation/Pages/AT601.aspx>.
- Saravanamuthu, K. 2015. Instilling a Sustainability Ethos in Accounting Education through the Transformative Learning Pedagogy: A Case Study. *Critical Perspectives on Accounting* 32: 1-36.
- Sisaye, S. 2013. The Development of Sustainable Practices in Complex Organizations. Implications and Potentials for Integration into the Accounting Curriculum. *World Journal of Entrepreneurship, Management and Sustainable Development* 9 (4): 223-245.

- Starbucks Corporation. 2018. *2017 Global Social Impact Report*. Available at <https://globalassets.starbucks.com/assets/8c1f8c07efde407e9d48bfaf518c0b45.pdf>.
- Sustainability Accounting Standards Board (SASB). 2018a. *Infrastructure Sector: Electric Utilities & Power Generators Sustainability Accounting Standard*. San Francisco, CA: SASB. Available at <https://www.sasb.org/standards-overview/download-current-standards/>.
- Sustainability Accounting Standards Board (SASB). 2018b. *Renewable Resources and Alternative Energy Sector: Wind Technology & Project Developers Sustainability Accounting Standard*. San Francisco, CA: SASB. Available at <https://www.sasb.org/standards-overview/download-current-standards/>.
- The Coca Cola Company. 2018. *2017 Sustainability Report*. Available at <https://www.coca-colacompany.com/content/dam/journey/us/en/private/fileassets/pdf/2018/2017-Sustainability-Report-The-Coca-Cola-Company.pdf>.
- United Nations (UN). 2018. *Sustainable Development Goals*. New York, NY: United Nations. Available at <https://sustainabledevelopment.un.org/?menu=1300>.

Excel files for use with the case can be obtained by contacting the lead author.