

Effects of a holistic, experiential curriculum on business students' satisfaction and career confidence

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Abstract:

Students' satisfaction with their major curriculum and their perceptions of career readiness are important drivers of recruitment, retention and rankings. As a result, universities, and business schools in particular, are redesigning curricula to be responsive to marketplace demands. Curricula are increasingly using holistic and experiential learning tools to foster student satisfaction and career confidence. To connect these practices to the outcomes of satisfaction and confidence, we examined student responses to a newly designed, experiential undergraduate business curriculum. The results indicated that, compared to students who graduated from a traditional, functionally structured curriculum, students graduating from the holistic, experiential curriculum were significantly higher in their satisfaction and career self-efficacy (but not leader self-efficacy). These findings provide evidence that holistic, experiential curricular redesign is related to improved student attitudes and confidence. We conclude by discussing the implications for education and future research.

Keywords: Career preparedness | Curriculum redesign | Experiential learning | Management education | Self-efficacy | Student satisfaction

Article:

1. Introduction

Recruitment, retention and rankings might be considered the ‘three Rs’ of higher education. Most universities focus on recruiting high quality students and retaining them for reputation and revenue (Bedggood & Donovan, 2012). Rankings have become important for many schools as they compete for top students (Agasisti and Johnes, 2015, Rauhvargers, 2013), making student satisfaction an important consideration (Chong and Ahmed, 2015, Douglas et al., 2015). In addition, most students expect their degree to offer them good job prospects (Browne et al., 1998, Douglas et al., 2015, Gibson, 2010). Thus, many institutions are concerned with students' satisfaction and career confidence.

Arguably, an important factor influencing these outcomes is the curriculum. However, observers have raised concerns regarding traditional curricula and recommended more holistic and integrated curricula that better prepare graduates to face the complexities of the 'real world' (Barnett, 2000, Moore, 2003). Taking business schools as an example, despite repeated calls for change (Bennis and O'Toole, 2005, Khurana, 2007), many business school curricula still include courses isolated in traditional disciplines. Most programs adhere closely to a functional-centric curriculum (Navarro, 2008). Critics have called for more integrated and experiential approaches (Colby et al., 2011, Weber and Englehart, 2011).

In support of these calls, the literature describes various pedagogical changes in business schools, including the effects of experiential learning projects (Paulson, 2011), student internships or work-integrated learning (Narayanan, Olk, and Fukami, 2010), simulations (Siewiorek, Saarinen, Lainema, & Lehtinen, 2012), and the use of teams (Boni, Weingart, and Evenson, 2009). The research shows that changing from traditional methods to more active and integrated learning can improve knowledge and skills acquisition (Lengnick-Hall and Sanders, 1997, Reynolds, 2009), as well as student engagement, student retention, and graduation rates (Stowe, von Freymann, & Schwartz, 2011). However, it remains uncertain whether students see the value in these sorts of pedagogies. While it is obviously important to give students the skills they need to succeed, it is equally important to foster students' attitudes and confidence (Paulsen & Betz, 2004). We argue that modern pedagogical reforms will also improve student self-efficacy (i.e., confidence in one's ability to accomplish specific goals; Bandura, 1991) and satisfaction by clearly demonstrating the link between their education and their career development (Stowe et al. 2011).

Our research responds to the need for evidence about the effects of curricular reform on students' attitudinal outcomes. In particular, we studied one business school that changed its traditional, functional-centric curriculum to a holistic, experiential curriculum, consistent with recommendations in the literature (described in detail below). We examined the effect of this change on student satisfaction and two aspects of their self-efficacy: leader self-efficacy (i.e., confidence in one's ability to lead effectively; Machida & Schaubroeck, 2011), and career self-efficacy (i.e., confidence in one's ability to successfully pursue a career; Taylor & Betz, 1983). We focused on these outcomes because they are among the most important of students' attitudinal responses. Specifically, student satisfaction has been linked to improved student motivation, retention, graduation rates, and alumni giving (Elliott & Shin, 2002); satisfaction is also part of business school rankings (Business Week, 2012). Self-efficacy is associated with better decisions, performance, and persistence (Paulsen & Betz, 2004), and students' confidence regarding leadership and careers are particularly important. Leader self-efficacy shapes how students think about leadership and influences their motivation to engage in leadership (Bandura, 1991, Stage, 1996). Likewise, individuals with high career self-efficacy are more likely to participate fully in their career and less likely to give up when facing career difficulties (Lent, Hackett, & Brown, 1996). As such, student satisfaction and self-efficacy in regard to leadership and careers are important outcomes to consider.

In the following sections, we describe the curriculum we studied and then present hypotheses about the links between holistic, experiential curricula and the student outcomes examined in our

study. Our methods and results follow these discussions. We conclude by considering implications and future directions.

2. Conceptual framework

2.1. Holistic, experiential curriculum

Suggestions for improved business school curricula are numerous, including integration with the liberal arts (Colby et al. 2011), integration across traditional business disciplines (Weber & Englehart, 2011), experiential learning (McCarthy & McCarthy, 2006) and incorporating soft skills development (Rubin & Dierdorff, 2011). Navarro (2008) summarised an 'ideal' business school curriculum as one that provides students with opportunities to solve problems in a way that integrates implications across different functional areas as they affect one another in practice. Experiential education provides students with opportunities to engage in learning through direct, personal encounters (McCarthy & McCarthy, 2006), requiring students to practise making decisions and facing their consequences. As well, the business community has realised that hiring people with strong technical knowledge does not ensure that they will be good employees or leaders, making soft skill development in areas such as leadership and communication crucial (Klimoski & Amos, 2012). Together, functional integration, experiential learning, and soft-skill development are key features of recommended business school curricula, and create what we refer to here as a holistic, experiential curriculum (HEC). Below, we develop hypotheses linking HEC to student outcomes.

2.2. Leader self-efficacy

Business schools routinely assert that they are developing leaders (Caza and Rosch, 2014). In fact, most business schools' missions involve some reference to leadership development (DeRue, Sitkin, and Podolny, 2011), and employers continue to call for business schools to develop leadership skills (Rubin & Dierdorff, 2011). An important part of leadership development concerns students' leader self-efficacy (Paglis & Green, 2002), which is defined as 'a leader's confidence in their abilities, knowledge, and skills in areas needed to lead others effectively' (Machida & Schaubroeck, 2011, 460). Before individuals can take on the behaviours required of an effective leader, they must believe in their ability to do so. Leader self-efficacy is a powerful predictor of leadership success in a range of contexts (Anderson et al., 2008, McCormick, 2001, Paglis, 2010). Identifying oneself as a leader and a belief in one's ability to successfully lead set a foundation on which to build leadership skills (Machida & Schaubroeck, 2011).

Social cognitive theory describes four means of developing self-efficacy: performance accomplishments, vicarious learning, emotional arousal, and social persuasion (Bandura, 1991). HEC could support all four of these mechanisms. Experiences in simulations, internships, and efforts to solve real problems that incorporate multi-dimensional issues can provide performance accomplishments, emotional arousal and social persuasion. As well, skill development workshops that focus on leadership and communication provide opportunities for practice, feedback, and vicarious learning. Further, leadership coursework that emphasises experiential learning (i.e., active engagement in leading) should foster students' confidence in their ability to

lead. Thus, we expect HEC will develop greater leader self-efficacy among students, relative to comparable students who participate in a curriculum of isolated, discipline-bound courses.

Hypothesis 1. *HEC will lead to greater leader self-efficacy than traditional curricula.*

2.3. Career self-efficacy

Career self-efficacy, the belief in one's ability to successfully make and execute career-related decisions (Taylor & Betz, 1983), is a central construct in career counselling and development (Paulsen & Betz, 2004). It assesses individuals' confidence in their ability to succeed at things like identifying an ideal career, attaining a meaningful job, and negotiating the complexity of career decisions. Low levels of career self-efficacy are associated with career indecision, difficulty in developing a career identity, and professional floundering (Betz and Luzzo, 1996, Paulsen and Betz, 2004). Research has revealed a lack of confidence among business students concerning their ability to apply newly acquired management knowledge (Dodd, Brown, and Benham, 2002), making students' career self-efficacy an important educational outcome.

As discussed previously, there are four ways to increase self-efficacy, and all of them may be enhanced by HEC (Bandura, 1991, McCarthy and McCarthy, 2006). Similar to the development of leader self-efficacy, courses, experiences, and workshops that help students practise making career decisions will contribute to their career self-efficacy by providing opportunities to gain relevant experience. Students can receive feedback on their own skills, interests and weaknesses through simulations, internships, and real-world problem-solving, as well as in mock interviews, assessments, and resume review sessions. Students can also benefit from the vicarious learning opportunities provided by peers having similar experiences. The integrated approach of HEC more closely emulates the real work world, contributing to students' confidence about moving into the business world after graduation (Weber & Englehart, 2011). For example, after a successful internship, students can better visualise themselves in organisations and have confidence that because they performed successfully once before, they can do it again. Thus, we expect students in HEC to have greater career self-efficacy, particularly in the domains most relevant to the undergraduate business students: career goal clarity, which concerns the precision of career aspirations; career excitement, which concerns enthusiasm about one's professional future; and perceived ability to apply effectively, which concerns an individual's confidence in identifying and obtaining a given position (Taylor & Betz, 1983).

Hypothesis 2. *HEC will lead to greater career self-efficacy (i.e., career goal clarity, career excitement, and ability to apply effectively) than traditional curricula.*

2.4. Student satisfaction

The primary goal of education may be to develop knowledge, skills or confidence for long-term success, but another desirable outcome is student satisfaction with the educational experience. Students' positive attitudes toward their curriculum may improve their learning achievement (Chang & Smith, 2008) and are often used as one indicator of the perceived quality of the curriculum (Bedgood and Donovan, 2012, Douglas et al., 2015). More pragmatically, satisfied

students are more likely to be committed to their university and maintain contact and support after graduation (Gibson, 2010). For these reasons, student satisfaction is a valued outcome.

A primary predictor of student satisfaction is the curriculum (DeShields, Kara, and Kaynak, 2005). A review of business student satisfaction research found that the overall design and delivery of curriculum, especially its perceived usefulness, strongly influenced student satisfaction (Gibson, 2010). Furthermore, students are more satisfied with their major curriculum when they believe it is preparing them for future career opportunities (DeShields et al., 2005). HEC may be an important source of satisfaction, because some graduates feel that their traditional education has not prepared them for the dynamic world of business (Maskooki, Rama, and Raghunandan, 1998). Compared to a traditional curriculum, a curriculum that transparently shows students how it is preparing them for career success is more likely to satisfy.

Moreover, based on theories of employee satisfaction, we contend that curricular components that are engaging, useful, personally meaningful, and which provide feedback will be more motivating and satisfying (Hackman & Oldham, 1976). Experiential learning requires that students be involved in a personally meaningful activity (Keys & Wolfe, 1990). In addition, some forms of experiential learning, such as simulations, provide concrete and consistent feedback (Keys and Wolfe, 1990, Lewis and Ciak, 2011). Internships also offer advantages to students, including opportunities to apply classroom concepts in practice, better understanding of career paths and interests, increased chance of finding employment, development of good work habits, more realistic workplace expectations, and faster advancement (Maskooki et al., 1998). As a result, HEC, including features such as simulations and internships, may provide students with more feedback and opportunities to use a variety of skills, which promote satisfaction (Hackman & Oldham, 1976). Consistent with this prediction, research finds that some individual components of HEC, such as simulations and internships, are related to greater student satisfaction in school and in their new job once employed (Beard and Morton, 1999, Taylor and Brown, 1988). Thus, we expect that students in HEC should have more positive attitudes about their educational experience, relative to comparable students who participated in a curriculum of isolated, discipline-bound courses.

Hypothesis 3. *HEC will lead to greater student satisfaction than traditional curricula.*

3. Method

3.1. Study context

Our study was conducted in an AACSB-accredited business school at an American liberal arts university, which until 2009 had a traditional, functional-centric curriculum. All courses were taught independently, without mechanisms for integration. In addition to experiencing some of the disadvantages of traditional business curricula mentioned above, students were often unsure of their career preparedness, lacking confidence in their ability to compete for jobs.

Because of such concerns, the faculty redesigned the curriculum to include integration, experiential learning, and soft-skill development. In addition to coursework in functional areas (e.g., marketing, accounting), the revised curriculum included four key components: (a)

professional development workshops on soft skills (e.g., active listening, oral communication, understanding one's self and career interests) and job search skills (e.g., resume writing, interview skills); (b) a mandatory internship of at least 200 h combined with academic work relating the internship experience to coursework and personal development; (c) an experiential leadership course with significant hands-on opportunities, reflection and feedback from others; and (d) a capstone business simulation requiring students to work in teams during a competitive six-week engagement and to defend their performance to faculty and business professionals. Throughout these four elements, the curriculum incorporated key aspects of the 'ideal' curriculum: multidisciplinary integration, experiential learning, and soft-skill development (Navarro, 2008, Smith and Worsfold, 2015).

3.2. Participants and design

We surveyed two groups of senior undergraduate students: those graduating in 2010 from a traditional general business curriculum and those graduating in 2012 after implementation of the HEC described earlier. Students were invited to complete an anonymous online survey administered by the business school that included the measures for this study. In 2010, 70 students completed surveys (79.6% response rate) and in 2012, 94 responded (87.9% response rate). The sample was approximately half male (48.2%) and primarily Caucasian (90.2%).

Our study used non-equivalent group comparison to determine whether observed differences were a result of the HEC (Cook & Campbell, 1979). In addition to comparing the 2010 traditional curriculum students with the 2012 HEC students, we used the responses of senior accounting majors on the same two surveys as an additional comparison group. Nineteen accounting students responded in 2010, and 28 did so in 2012 (63.5% overall response rate). Because the accounting major remained unchanged throughout our period of study, the comparison between business and accounting majors provided a more rigorous test of the effects of the curriculum change. For example, students across business and accounting majors were affected similarly by economic conditions, university policy, and other factors that might have influenced our outcome measures. In addition, many courses in both majors were taught by the same group of instructors across years. Finally, all students were assessed using the same measures, so any effects that might be attributed to measurement issues can be ruled out using this design as those effects are held constant across comparison groups.

3.3. Measures

Our measures were constrained because this study was conducted within an ongoing, school-wide program to survey graduating students. We conducted a multi-stage pilot study to develop measures that provided valid assessments of our theoretical constructs and also conformed to the requirements of the larger survey. The Appendix describes our pilot study and all of the measures used. We used three items that had good internal reliability to measure leader self-efficacy ($\alpha = .91$) and each of the three aspects of career self-efficacy: career goal clarity ($\alpha = .82$), career excitement ($\alpha = .87$), and perceived ability to apply effectively ($\alpha = .88$). Satisfaction with education was measured with four items that also had good internal reliability ($\alpha = .88$).

A maximum likelihood estimation confirmatory factor analysis suggested that our six scales fit the data well ($X^2 = 243.84$, $df = 137$, $CFI = .95$, $RMSEA = .07$, $SRMR = .05$). Moreover, all six scales demonstrated appropriate convergent and discriminant validity: all items loaded significantly on their predicted factors; the smallest factor loading was 0.7; the largest correlation among the factors was only .69; and the average variance explained was greater than both the traditional 0.50 benchmark (Hair, Black, Babin, & Anderson, 2010) and the largest squared correlation among factors. In addition, we compared our six-factor model to various alternative measurement models that combined one or more of the six scales, and all of the alternatives had significantly worse fits with the data, based on chi-square comparison tests. Thus, our findings suggested that our six scales had adequate reliability and validity.

All items were measured on 7-point Likert scales. The data included demographic measures (e.g., gender, internship participation and prior work experience). However, most of these measures were not significant predictors of the outcomes, and their inclusion did not change any of the substantive conclusions. As a result, they were excluded from the analysis for parsimony.

4. Results

Table 1 presents descriptive statistics for all study variables. We tested our hypotheses using ordinary least-squares regression. Each of the five outcomes was used as the dependent variable in a different model that included a binary predictor variable corresponding to which curriculum the student graduated from: 0 for 2010 students in the traditional curriculum and 1 for 2012 students in the HEC. A model in which this curriculum variable was a significant predictor would reveal a difference between students in the two different curricula. The results are shown in Table 2.

Table 1. Descriptive statistics and pairwise correlations of study variables.^a

Variable	Mean	SD	α	1	2	3	4
1. Leader self-efficacy	5.89	.93	.91				
2. Career self-efficacy: goal clarity	5.59	1.05	.82	.58*			
3. Career self-efficacy: career excitement	6.13	.89	.87	.40*	.47*		
4. Career self-efficacy: application effectiveness	5.83	.98	.88	.44*	.52*	.49*	
5. Satisfaction with education	5.82	.89	.88	.39*	.48*	.48*	.40*

^a $n = 164$; $*p < .05$.

Table 2. Regression results testing study hypotheses.^a

Independent variables	Model 1 Leader self-efficacy	Model 2 Career efficacy: goal clarity	Model 3 Career efficacy: career excitement	Model 4 Career efficacy: ability to apply effectively	Model 5 Satisfaction with education
Intercept	5.74* (0.11)	5.27* (0.12)	5.85* (0.10)	5.45* (0.11)	5.56* (0.10)
Curriculum change	0.26 (0.15)	0.55* (0.16)	0.48* (0.14)	0.66* (0.15)	0.46* (0.14)
R^2	0.02	.07	0.07	.11	0.07
F (df)	3.25 (1, 162)	12.07* (1, 162)	12.30* (1, 162)	20.24* (1, 162)	11.37* (1, 162)

^a Standard errors are in parentheses; $n = 164$; $*p \leq .05$.

There was no evidence to support Hypothesis 1. The two groups of students (traditional curricula vs. HEC) reported similar levels of leader self-efficacy (Model 1; $p = .08$). Hypothesis 2 was supported (Models 2–4) in that students graduating from the HEC reported greater career goal

clarity ($\beta = .55, p < .01$), career excitement ($\beta = .48, p < .01$), and confidence in their ability to effectively apply for positions ($\beta = .66, p < .01$) than did students in the traditional curriculum. Finally, Hypothesis 3 was supported, as students who experienced the HEC were more satisfied with their education (Model 5, $\beta = .46, p < .01$).

Based on a comparison between the traditional and HEC graduating classes of business majors, two of our three predictions were supported. However, there may have been other, confounding differences between the environments that those two classes experienced (e.g., economy, university climate, faculty change). To minimise such threats to internal validity, we compared the responses on all five outcome variables between two classes of graduating accounting majors at the same school in the same years (i.e., the accounting seniors of 2010 and 2012). The accounting curriculum did not change during the period of our study, so it served as a control condition. As shown in Table 3, the accounting students had no significant differences in any of the five outcomes (2010 vs. 2012).

Table 3. Regression results for accounting control group.^a

Independent variables	Model 1 Leader self- efficacy	Model 2 Career efficacy: goal clarity	Model 3 Career efficacy: career excitement	Model 4 Career efficacy: ability to apply effectively	Model 5 Satisfaction with education
Intercept	5.91* (0.17)	5.40* (0.22)	6.05* (0.25)	5.77* (0.22)	6.01* (0.16)
2012 class (vs. 2010)	0.28 (0.22)	0.17 (0.28)	0.012 (0.33)	0.14 (0.28)	0.11 (0.21)
<i>R</i> ²	0.04	0.00	0.00	0.00	0.00
<i>F</i> (df)	1.67 (1, 45)	0.36 (1, 45)	0.00 (1, 45)	0.26 (1, 45)	0.27 (1, 45)

^a Standard errors are in parentheses; $n = 47$; $*p \leq .05$.

In sum, the data showed significant differences in four of five outcomes between the students in the HEC and those in the traditional management curriculum, consistent with our predictions. In contrast, the accounting students, who experienced the same environment but had no curriculum change from 2010 to 2012, did not differ in any of the outcomes. The fact that the accounting students did not show improvement in outcomes over the same time period provided more evidence that the positive changes observed in management students could be attributed to the introduction of the HEC (Cook & Campbell, 1979) rather than another environmental factor.

5. Discussion

As higher education focuses on recruitment, retention, and rankings, students' self-efficacy and satisfaction with their education are increasingly important. While many factors influence these outcomes, the curriculum is among the most important (Navarro, 2008). As such, our study contributed by investigating the link between curriculum change and these important student outcomes. Moreover, to our knowledge, empirical investigation of curricular change has been limited to the examination of individual pedagogical components (i.e., service learning, simulations, action learning, or case discussion). Our study provides the first empirical examination of reform at the whole-curriculum level, rather than the effects of individual pedagogical tools. The results demonstrate that HEC can produce positive results in business students' career-related self-efficacy and satisfaction with their education. Each of these results is discussed further below, along with implications for education and future research.

We found evidence that the HEC increased students' clarity of career goals, confidence in their ability to apply for jobs, career excitement, and overall satisfaction with their education. These findings are good news in that they suggest that curricular change benefits these important student outcomes. The opportunities throughout the course of study to apply concepts and theories in real world contexts such as internships and simulations likely built student confidence and positive expectations about their current and future abilities. We believe that students recognised how the curriculum supported their desire for a meaningful career and helped them to increase the skills desired by recruiters. The feeling of being developed may also have contributed to a belief that the school cares about student career success, even beyond graduation. These possible mechanisms should be explored in future research.

In contrast, our results did not suggest that the HEC was more effective at developing leader self-efficacy. If we presume that critiques of business education are correct, and that we are currently not doing enough to prepare future leaders (Bennis and O'Toole, 2005, Khurana, 2007), then there is a clear need to better understand the development of leader self-efficacy. It may be that the HEC curriculum studied here was not doing enough and needed more focus on leadership development. The curriculum reform that we studied involved an experiential course on leadership, but that course may need to be executed differently, or leadership practice may need to be integrated more intensively throughout the curriculum. An alternative explanation may be that the results reflect a ceiling effect, in that the seniors at this institution are already confident about their leadership ability and had little room to improve on that measure. Work remains to understand how to best prepare business graduates to lead in future roles (Rosch & Caza, 2012).

It is noteworthy that most individual components of the curriculum change we studied were not new to students or faculty. Many students who graduated prior to the HEC experienced one or more of the new curriculum components, such as internships, leadership opportunities, soft skill development or career coaching. However, these experiences were not formally part of the curriculum, nor were they intentionally integrated with one another. Therefore, we believe that the results we found did not arise from any single pedagogical innovation. Rather, the significant benefits produced by the curriculum change appear to reflect the synergistic effects of an integrated curriculum. It may be that the whole is greater than the sum of the parts in HEC.

5.1. Implications

There is a growing movement in management education to encourage evidence-based management (Charlier, Brown, and Rynes, 2011). This movement calls for closer connections between academic research and practical application. In addition to teaching evidence-based management, we would argue that business school faculty should also model evidence-based management by employing research evidence about curriculum design in their own programs (Klimoski & Amos, 2012).

Our results offer an opportunity to practise evidence-based management in the pursuit of improved student outcomes. Student confidence and satisfaction appear to be increased by the use of a curriculum emphasising integration, soft skill development and experiences that allow for engagement in practical business problems. Faculty and administrators who examine the

results of this study should consider implementing curricula that have a demonstrated effect on building career self-efficacy and student satisfaction.

5.2. Limitations and future research

A limitation of our data is that it consists solely of student self-reports. It would strengthen the findings to examine other evaluations of student skills and readiness for work. Outside raters and recruiter evaluations could provide such assessments. Ideally, longitudinal research would also be conducted to examine the effect of curricular change on job success.

Another limitation of our study is that it only included one business school. Conducting confirmatory studies at diverse institutions is needed to rule out potential alternative explanations such as regional employment opportunities and school reputation that may have played a role in our findings. Doing so will allow for broader generalisation of the results. It also remains to be seen whether other sorts of students respond differently to HEC (e.g., sciences, humanities).

Our study examined undergraduate students and curriculum, which raises the question of its generalizability to graduate programs. Many of the criticisms of business education focus on MBA programs, but intuitively they are relevant to undergraduate business education as well. Moreover, we would argue that the outcomes we studied are desirable in students of all levels. For instance, organisations are looking for leaders, regardless of whether they are hiring undergraduates or graduate students. Nonetheless, the best means of developing students may vary by their work experience. For example, the aspects of career self-efficacy that are most relevant for a 22 year-old entering the work world for the first time are likely quite different than those most relevant to someone with previous work experience. Future research should examine the similarities and differences of curricular effects on undergraduate and graduate student outcomes.

6. Conclusion

Our study contributes by empirically comparing the effects of an integrated, experiential curriculum to those of a curriculum delivered primarily within disciplinary boundaries. The research design supports causal inference about the effectiveness of integrated curricula. The students in our sample benefitted from integrated content across disciplines, being engaged in complex, real-world business experiences, and an emphasis on soft skill development. We found that a holistic, experiential curriculum that explicitly incorporates components intended to give students the opportunity to 'practise business' benefitted those students by improving their self-efficacy and feelings of career preparedness. Furthermore, students recognised the value of these learning opportunities, resulting in greater student satisfaction with their education.

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Appendix. Pilot study and measures

We developed our measures by writing a series of potential items to assess each construct, based on its conceptual definition (Hinkin, 1998). These items were tested with a survey of 45 senior students. We retained the items that were psychometrically and conceptually sound. We then surveyed 46 other students to confirm the measurement validity of our scales, as well as their convergent validity with existing measures of the same or closely related constructs.

We assessed our leader self-efficacy measure using Chemers, Watson, & May (2000) nine-item scale of leader-self-efficacy, which asks participants to rate their own ability to execute a variety of leadership-related activities, such as setting direction, delegating, motivating, and influencing others. In the pilot study, our scale had good internal reliability ($\alpha = .94$), as did Chemers and colleagues' scale ($\alpha = .96$). Moreover, the two scales had a large, significant positive correlation ($r = .90, p < .05$), providing evidence that our scale was measuring the appropriate construct.

Our career self-efficacy measure was compared to corresponding dimensions in Taylor and Betz' (1983) Career Decision-Making Self-Efficacy Scale. We used their five-item 'self-appraisal' scale, which assessed the same construct as our 'goal clarity' scale, and their four-item 'planning for the future' scale, which assessed the same construct as our 'ability to apply effectively' scale. All scales had good reliability in the pilot data: goal clarity ($\alpha = .88$), ability to apply ($\alpha = .88$), self-appraisal ($\alpha = .91$), and planning for the future ($\alpha = .85$). Our scales also had large, significant correlations with the appropriate scale from Taylor and Betz: goal clarity with self-appraisal ($r = .78, p < .05$), and ability to apply with planning for the future ($r = .80, p < .05$). These results suggested that our scales had appropriate measurement validity. We are not aware of an existing measure analogous to our 'career excitement' measure.

In the pilot study, we tested the measurement validity of our satisfaction scale using Shin's (2002) six-item student satisfaction measure. We adapted the prompts slightly to make the business curriculum the focus of the evaluation. Reliability in the pilot study was high for both our scale ($\alpha = .91$) and the Shin scale ($\alpha = .94$), and the two scales had a large, significant positive correlation ($r = .90, p < .05$), suggesting that our scale was measuring the intended construct.

The final measures are given below. All used 7-point scales of confidence or agreement, as indicated by the question prompt.

Leadership self-efficacy

Please rate how confident you feel about your ability to do the following:

- 1) Lead others.
- 2) Influence others in business or society.
- 3) Provide direction to others.

Career self-efficacy: goal clarity

Please rate how confident you feel about your ability to do the following:

- 4) I can list my top five interests that relate to possible careers.
- 5) I have several careers in mind that I think would be appropriate and fulfilling for me.
- 6) I know what type of corporate culture would be most appealing to me and where I would be most successful.

Career self-efficacy: career excitement

Rate your level of agreement with the following statements:

- 7) I am excited about my future career in business.
- 8) I expect to be deeply engaged in my career.
- 9) I am looking forward to starting my career.

Career self-efficacy: ability to apply effectively

Please rate how confident you feel about your ability to do the following:

- 10) I can write effective resumes and job search correspondence.
- 11) I can rewrite my resume, as appropriate, to target different jobs.
- 12) I have a professional resume targeted towards a job that clearly highlights my related skills and accomplishments.

Satisfaction with education

Rate your level of agreement with the following statements:

- 13) The curriculum in my major gave me the opportunity to apply what I learned in my courses in business contexts.
- 14) I learned how topics in different courses in my major related to each other.
- 15) I feel the quality of the curriculum in my major was excellent.
- 16) My major helped me to understand the real-world applicability of what I was learning.

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