Creating cultures of excellence: Strategies and outcomes

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Abstract: Research findings on effective support for learning, the development of expertise, and the psychology of success suggest that the pursuit of excellence is teachable. Within the emerging field of research and practice termed “the scholarship of teaching and learning,” considerable effort has been made to document the practices of teachers who, by various measures, have been deemed excellent. In contrast, no effort has been made to codify how students can be trained to self-consciously build behaviors that generate excellent outcomes. This article reports on a multi-year effort to create cultures of excellence among cohorts of graduate students. A statistical analysis of subsequent student performance on a significant, related task indicates that explicitly promoting a culture of excellence among course participants can have a positive and sustained impact on their individual practices. Comments from subsequent student reflections further support this claim. The teaching strategies reported here could be refined, replicated, and reinvented to good effect across higher education. They are also of special relevance to those delivering professional development training to early- and mid-career professionals.

Subjects: Adult Education and Lifelong Learning, Classroom Management & Organization, Continuing Professional Development, Higher Education, Teaching & Learning

Keywords: organizational culture, excellence, learning and teaching, teamwork, pedagogy, educational effectiveness, scholarship of teaching and learning, professional development

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PUBLIC INTEREST STATEMENT

Excellence is a habit. This article explains how people can be trained to self-consciously adopt behaviors that generate excellent outcomes. A culture of excellence is here defined as: An organizational context encouraging behaviors that, when deployed, continuously improve task performance. This article reports a five-year effort to create cultures of excellence among cohorts of graduate students. A statistical analysis shows that explicitly establishing such cultures among course participants can have positive and sustained impacts on their individual practices. The reported strategies could be refined and introduced in many education settings, from early schooling to advanced university courses. They could also be followed in workplaces. The strategies should be of high interest to all educators and managers, including those involved in training early and mid-career professionals.
We have entered a period of economic and social development where the overall educational attainment of citizens is recognized as critical to national and regional advancement (Florida, 2005; Mintrom, 2009; Saxenian, 2006). Of course, at all periods in history, education has been a driver of broader economic and social development. However, with heightened global competition and the bifurcation of economies into low-skill, low-income versus high-skill, high-income, the pressure is on for more young people to attend institutions of higher learning and make the most of their learning opportunities. These broader dynamics are placing increased pressure on institutions of higher education everywhere to prove that their degrees and diplomas add significant value to their graduates (Bridgstock, 2009; Knight & Yorke, 2003; Wildavsky, 2010). At the same time, as the costs of higher education have soared, hard questions have emerged about what students are being taught, how they are being taught, and where their studies will lead them, both in career terms and in the quality of their lives. Return on investment is now being given serious attention by governments and citizens alike (Kelly & Schneider, 2012).

Against this backdrop, efforts have been made in the academy to identify excellent teachers and document what they do (e.g. Bain, 2004; Ellington, 2000; Hay, 2011; Johnston, 1996; Skelton, 2005). While the meaning of “excellence” in higher education teaching is contested, there appears to be convergence in research findings concerning common practices of effective teachers. For example, Andrews, Garriso, and Magnusson (1996) found that excellent professors tend to look for ways to bring depth and meaning to the content of their teaching and thus promote student interest. Following his international survey of teaching excellence in higher education, Skelton (2007) warned of misattribution problems. That is, we should be wary of fixating on the actions and attitudes of specific individual teachers at the expense of exploring effectiveness, as judged by attainment of valued student outcomes. Trigwell, Prosser, and Waterhouse (1999) noted that practices intended to meet the learning needs of students tend to generate better student outcomes. A recent meta-analysis of 225 studies of university student outcomes in courses under traditional lecturing versus active learning has emphasized the comparative gains in student performance associated with teaching in the active learning mode (Freeman et al., 2014).

To date, no effort has been made to reflect on what can be done to systematically orient students towards the pursuit of excellence. This article addresses that gap. It reviews how specific teaching practices can create cultures of excellence among students. It then reports on a multi-year effort to encourage cohorts of students to improve their task performance. Results from both quantitative and qualitative evidence support the claim that this effort generated positive and sustained impacts on student practices.

The term “culture of excellence” combines the well-established concept of organizational culture—refined and promoted by Schein (1990, 2010)—with the notion of excellence as a moral category—first attributed to Aristotle (see Nixon, 2007, p. 19, chapter 1). Schein (1990) proposed that organizational culture be thought of as “... a pattern of basic assumptions ... invented, discovered, or developed by a given group.” He suggested that leadership of the group, the stability of its membership, how long it has been together, and how learning occurs within it all affect its culture. Observed Schein, “[o]nce a group has learned to hold common assumptions, the resulting automatic patterns of perceiving, thinking, feeling, and behaving provide meaning, stability, and comfort” (p. 111). With respect to the notion of excellence, Aristotle suggested that people become what they repeatedly do. From this, he famously concluded that “excellence ... is not an act, but a habit” (Nicomachean Ethics, 10.9). For the purpose of this article, a culture of excellence is defined as: An organizational context encouraging behaviors that, when deployed, continuously improve task performance. Here, focus is given to how teachers in higher education can create cultures of excellence among groups of students.

The approach taken in this article assumes a line of causation running from teachers’ actions, to how those actions affect students’ behaviors, to how, in turn, those behaviors generate valued outcomes. Hence, specific teaching strategies are deemed essential to creation of cultures of excellence. The example and the test of student outcomes introduced below likewise assume this line of
causation. However, efforts to create cultures of excellence could be initiated within whole teaching programs or whole academic units. In such instances, testing for attainment of valued outcomes, and reasonably attributing them to specific teaching strategies, would necessarily require sophisticated research designs. The research design introduced here incorporates a quasi-experimental model featuring baseline measures of student performance and use of a control group. It offers a starting point for considering more ambitious approaches to testing the effects of creating cultures of excellence in higher education.

1. Teaching strategies
Contributions to the scholarship of teaching and learning and other relevant literatures offer insights into how teachers can work to create cultures of excellence among students. Here, seven specific teaching strategies are discussed. In each case, explanations are offered as to why these strategies are expected to encourage student behaviors that, when deployed, will continuously improve their task performance. This set of strategies is not exhaustive. Indeed, as new findings emerge concerning how students might be supported to generate valued outcomes, we should expect the set to both grow and change.

1.1. Tapping individual motivation
Some teaching environments and workplaces appear more motivating than others. Often, this phenomenon is attributed to either the degree of charisma displayed by those in leadership positions or the use of powerful incentives. However, Deci, Nezlek, and Sheinman (1981) and Deci and Ryan (1985) have shown that individuals who are given high levels of autonomy concerning their work activities are more likely than others to exhibit high levels of motivation. An implication is that teachers should offer students opportunities to choose both the topics they work on and how they approach them. But “choice architecture” matters (Thaler & Sunstein, 2008). While some amount of choice can be positive for motivation, providing too many options can be overwhelming and lead to poor matching between preferences and the choices that are made. We also must avoid situations where, through ignorance of the consequences, students make poor choices. In addition, as instructors, we have obligations to our colleagues and our disciplines that will inevitably restrict the latitude we offer students when they perform assignment work. A solution, therefore, is to offer fixed menus of options for people to choose from and, if possible, give information on what each choice entails. Reflecting on her career as an academic economist, Blau (1998) offered a helpful insight on the link between self-determination, motivation, and performance.

... [I]n research, you have to follow your interests, without undue concern for the current status within the profession of your topic or approach. Only in this way will you do your best work. The topics that most engage you stimulate your best ideas and insights and enable you to perform at the highest level of your ability. And, in the long run, doing your best work, regardless of the topic, contributes most to your success. (p. 25)

1.2. Guiding work habits
For good reason, in higher education settings, we have a tendency to place most of our emphasis as teachers on imparting substantive knowledge or methodological techniques that are specific to our areas of expertise. As such, we can sometimes overlook the merit of teaching some basic work habits that students might not otherwise acquire. Considering ways to guide student work habits can produce significant pay-offs because those habits embody transferable skills (Justice, Rice, & Warry, 2009; Mintrom, 2003). For example, requiring students to produce short summaries of relevant readings before they come to class is a straightforward way to attack the perennial problem of students turning up to lectures or seminars unprepared (Saltmarsh & Saltmarsh, 2008). Forcing students to prepare before meetings is an effective way to increase the value and enjoyment that everyone gains from attending. In general, everyone appreciates productive meetings, in all contexts. Such efforts to guide student work habits need not take significant amounts of time. Aguilar-Roca, Williams, Warrior, and O’Dowd (2009) reported on how they addressed another perennial problem: unprofessional email correspondence from students. They did so by taking 2 min at the start of one
lecture to offer basic email etiquette training. Those students who received the training were subsequently more likely to use proper salutations, appropriate capitalization, and to use a class-specific subject line. The authors noted that students do not typically send intentionally disrespectful messages; they just required some advice on appropriate style. For my own part, students I have worked with have reported on the benefits they have gained from being advised on how to effectively protect their research time and how to establishing realistic timelines for their projects. In general, there is much that students can gain from our efforts to guide their work habits.

1.3. Promoting deliberate practice
All teachers must worry whether their efforts make any difference to their students’ perceptions of the world or how they act (Andrews et al., 1996; Trigwell et al., 1999). Pfeffer and Sutton (2000) have deemed this “the knowing-doing gap.” In their view, such gaps can be closed by having people learn through doing. Hence, new knowledge and skills are immediately applied and tested. This prescription for teaching parallels that of Ericsson, Prietula, and Cokely (2007), who have distilled common factors supporting the development of expertise across many human endeavors. According to Ericsson and colleagues, engagement in deliberate practice is crucial to developing expertise. That means consistently repeating the parts of your work that you find most challenging, acknowledging your mistakes, and figuring out how you can correct them. For sports training and musicianship, this might mean completing a brief sequence of actions many times, attending to feedback, making adjustments, and improving control. For those in more academic settings, reflections by Ericsson and his colleagues on the case method used by many business schools suggest possibilities for promoting deliberate practice. The case method presents students with real-life situations that require action. Since the eventual outcomes of those situations are known, the students can immediately judge the merits of their proposed solutions against what experienced decision-makers actually did. In this way, students can practice making decisions many times in a short period and, hence, build their skills.

1.4. Giving effective feedback
Expertise can be built through deliberate practice if we recognize the mistakes we are making and take remedial action. Coaching can help here. Recent educational research has generated important insights into coaching and the giving of feedback. Increasingly, teachers in higher education are recognizing the role that feedback can play in their practice, but they often do not fully understand the best ways to give it (Bailey & Garner, 2010; Orrell, 2006). Through a meta-analysis on studies of factors affecting student learning, Hattie (2005) showed that feedback is more significant than any other variable in the learning context, including the professional development of teachers and class size. Feedback is powerful because it allows students to understand the strengths and the weaknesses in their work and make appropriate corrections. When used in tandem with previously given directions (sometimes called feed-forward), feedback can become even more effective (Hattie & Timperley, 2007). Two additional points deserve consideration. First, feedback couched in positive language and that praises approximations to valued practices is much more effective than negative feedback, which can be demoralizing (Blanchard & Ridge, 2009). Second, following years of experiments with feedback to children, Dweck (2007) has concluded that praise for effort will promote a strong desire among students to extend themselves, seeking out more difficult problems to tackle. In contrast, praise that implies students did well because they are bright is likely to lead to risk-aversion, where students will avoid difficult work in the future to maintain their positive self-image. Dweck also found that students praised for effort are more likely to take an interest in learning from the work of peers who have mastered a task, whereas those praised for their intellect prefer to spend time considering the inadequacies of peers who have not performed as well as them. These findings confirm the importance of feedback that praises effort and that offers specific advice on how current problems can be addressed. Value also can be gained by having students observe the work of their peers.

1.5. Creating transparency
The foregoing discussion of work habits, practice, and feedback has indicated the value of clarifying expected performance standards and of demystifying the effort it takes to master an activity. There is no point talking about excellence and how to attain it if people have no sense of what excellent
work in their field looks like (O’donovan, Price, & Rust, 2004). Having students engage closely with examples of high-quality work is one way to create transparency. Another is to have senior academics and practitioners share personal stories of professional successes and failures, especially when those stories emphasize the payoffs of hard work. Pausch (2008) stated: “Brick walls are there for a reason. And once you get over them—even if someone has practically had to throw you over—it can be helpful to others to tell them how you did it” (p. 174). Yet, another way to promote transparency is to encourage students to read and learn from the work of their peers (Parker, 2009). This can be helpful when it comes to offering feedback. If students have access to the work of their peers, then part of the feedback and advice might involve directing students to consider how a peer performed on the same task. This can be especially helpful when students face further opportunities to improve their performance. Aside from giving people a sense of the standards to be attained in their work, transparency can also be helpful for allowing them to support and learn from one-another. In his study of the diffusion of innovations, Rogers (1995) observed that people tend to change their practices only when others with whom they closely identify switch. This is found to be the case even when people have previously been given information on the benefits of switching. The finding is consistent with Pfeffer and Sutton’s (2000) observation that most workplace learning occurs informally, rather than through transfer of codified information in the form of books, presentations, and articles. Given that people learn mostly through activities like participating in meetings, talking with mentors, chatting or working with peers, and so on, it makes sense to infuse that learning environment with relevant information. Being open about what we are all doing and the standards to which we aspire is a good way to do that.

1.6. Scaffolding teamwork

Teamwork in courses can be highly valuable, because of the opportunities it creates for students to learn from their peers, and to do so in contexts that are less formal than the typical lecture room or seminar space. The broader benefits of positive experiences with teamwork are twofold. First, they include the building of support networks and emotional bonds among students (Cartney & Rouse, 2006). Second, those benefits include the development of skills that can be applied in many social settings, the workplace being among them (Drake, Goldsmith, & Strachan, 2006). When teams work well, they provide additional venues for promoting transparency, for students to practice together, and for the giving and receiving of feedback. In other words, they are excellent mechanisms for helping to close knowing-doing gaps (Pfeffer & Sutton, 2000). However, not all teams are effective, and attention must be paid to reducing the risks of poor team dynamics arising (Edmondson, 2003). One way to do this is to provide students with guidance on how to work effectively in teams before they actually form them. Such feed-forward can be enhanced by giving students explicit guidelines on how their teamwork will be assessed. Allowing students to make recommendations about the final grades for teamwork to be given to their teammates can also increase the likelihood that all team members understand what it means to be a good teammate and will strive to be one (Mintrom, 2003, chapter 6).

1.7. Naming the culture of excellence as a group goal

At the start of any course, participants may know only a handful of other class members and may feel anxious about the course materials and the instructor’s teaching style. A lot of things can be intimidating. An instructor would therefore be insensitive and risk ridicule to announce from the outset that the goal here is for all of us to work together to create a culture of excellence. As much as this is a terrific goal for the instructor to hold, naming it as a group goal is best left until well into the course, when the other teaching strategies have started to produce intended effects. Why name the goal at all? Mainly, it should be done to help consolidate a sense of common purpose among course participants and to take their sense of possibility to a higher level. In any group situations, effective leaders construct a vision of how things might be. They then transfer confidence to others that the vision can become reality, via collective effort (Heifetz, 1984; Kanter, 2004; Katter, 1996; Quinn, 2000). Looking back to critical junctures in their lives, people often note the transformative experience of having someone who clearly believed in them tell them that, so long as they apply themselves, there is a limitless horizon. Low-key ways to introduce the group goal might include:
(1) Occasionally introducing and discussing inspiring quotations that reinforce the notion that striving for excellence is a noble pursuit; (2) Thanking a team of students for their contribution at a class meeting and noting that it has helped to build a culture of excellence among course participants; and (3) Using routine forms of communication with class-members (e.g. reminders of assignment deadlines) as opportunities to encourage strong efforts that will help build a culture of excellence. Quinn (2000) has suggested that this kind of invocation of excellence can appear genuine only when the leader places himself or herself within the collective effort. Thus, according to Quinn, a leader might say, “Here is the standard, which I know is impossible, so let’s stand together and learn our way into a higher level of performance” (p. 164). When all the preparatory work with a group of students has been completed, making an observation like this can seem all at once natural, outrageous, and wonderful. It can take the group process to a new level and inspire extraordinary commitment.

2. An example with evidence of positive student outcomes

Having introduced seven teaching strategies to create cultures of excellence, we now consider an example of how these strategies were applied to good effect. In 2006, at the request of colleagues, I developed a graduate course called Managing Research Projects. The one-semester course was intended to give students the knowledge and skills needed to effectively complete a large piece of original research, such as a dissertation for the BA (Honors) degree or a thesis for an MA degree. The valued outcome being sought was better student performance on original research projects. The intention was to establish several practices that would reduce knowing and doing gaps.

2.1. Strategies for creating a culture of excellence

Throughout the course, students were required to produce reading summaries that were shared with everyone else in the group. They were required to work in teams to present course content to each other. They were expected to develop research proposals on topics they developed themselves. Along the way, information was given to students about matters such as effective time management, managing a project, choosing and working with a supervisor, and how to work well in a team. As the course instructor, I provided feedback to students on each piece of work, and explained how they could improve their performance the next time. When announcing new student contributions to the whole class, I emphasized the quality of the work and encouraged everyone to keep working hard to promote a culture of excellence in the class, where all of us could improve our performance. In sum, the theory motivating the course was that tapping student interest, promoting effective teamwork, and constructing a culture of excellence would equip students to subsequently complete original research projects of high quality. The expectation was that the culture of excellence would assist students to adopt new behaviors that would support continuous improvement in task performance. Several routine methods were used to evaluate the course. These included student evaluations at the end of every annual offering, a formal peer review by a colleague from another department on campus, and a recorded focus group with a selection of students.

2.2. The study population

The course, Managing Research Projects, was offered by the same instructor using the same content and teaching methods annually from 2006 to 2011. The number of students in the course fluctuated from year to year within the range from 15 to 35. The objective of the course was to assist students to become self-motivated, highly competent, and creative researchers. In every offering of the course, as the instructor, I sought to establish a culture of excellence through application of the teaching strategies noted earlier in this article. The course was non-compulsory. Students who had taken it frequently continued with their studies and completed a BA (Honors) dissertation containing original research or an MA by thesis, again based on original research. They conducted those original research projects under the supervision of a range of instructors, matched by substantive interest. Names and grades of all students who completed the BA (Honors) dissertation and MA by thesis in Political Studies were collected for the years 2006–2010. The total number of students was 137. They comprised the population for the subsequent analysis reported here.
2.3. Comparing student outcomes

The average grade that students in the study population received for their original research project (dissertation or thesis) was 6.6 (SD = 1.5), where 6 is equivalent to a B+ and 7 is equivalent to an A−. The students were then assigned to two groups. The 78 students who had previously completed the course, Managing Research Projects, were found to have an average grade for their original research project of 7.0 (SD = 1.3). The 59 students who had never taken the course were found to have an average grade for their original research project of 6.1 (SD = 1.7). The difference of .9 is statistically significant (t = 3.63; df = 1,135; probability the means are the same ≤ .00). In percentage terms, the grade improvement associated with completing the course was 15%. The difference was of substantive significance for the students concerned. It could mean the difference between a B+ grade and an A− grade. This comparison of means analysis suggests that participation in the course, Managing Research Projects, had a positive effect on student outcomes. Note, also, that there was a reduction in the variance of grades for those students who had previously completed the course. In sum, this bivariate analysis indicates that prior participation in the course contributed to a step-up improvement in subsequent student performance in completing original research work, and reduced variance in that performance.

2.4. Testing for the influence of prior differences among students

Perhaps students who took the course, Managing Research Projects, were already better prepared to conduct original research work. To address that concern, the prior cumulative grade point averages (GPA) of all 137 students included in the study were analyzed. For the whole group, the prior cumulative GPA was 5.5 (equivalent to an average grade between B and B+). For those 59 students who did not take the course, the average prior cumulative GPA was 5.55. For those 78 students who had taken the course, Managing Research Projects, the average prior cumulative GPA was 5.46. There is neither a substantive nor a statistically significant difference here (in a comparison of means test, t = .37, df = 1,135, probability the means are the same ≤ .714).

2.5. A multiple regression model

A multiple regression model was constructed to simultaneously test for the influence of prior preparation and the impact of the course on subsequent performance on an original research project. The model took this form:

The dependent variable, the student’s grade on an original research project, is assumed to be a function of two independent variables: (1) the student’s previous cumulative GPA and (2) whether or not the student had previously completed the course, Managing Research Projects.

The multiple regression analysis contained 137 student cases from 2006 to 2010. The results of the regression analysis, presented in Table 1, clearly demonstrate the positive effect of having previously completed the course on Managing Research Projects, even while controlling for previous cumulative GPA.

2.5.1. Summary statistics

<table>
<thead>
<tr>
<th>Number of observations</th>
<th>F(92,134 degrees of freedom)</th>
<th>Probability &gt; F</th>
<th>R²</th>
<th>Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>137</td>
<td>98.27</td>
<td>.0000</td>
<td>.5946</td>
<td>.5886</td>
</tr>
</tbody>
</table>

Table 1. Predictors of student grades on an original research project

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Estimated coefficient</th>
<th>Standard error</th>
<th>t-Statistic</th>
<th>Probability that coefficient = zero</th>
<th>Standardized coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Took course</td>
<td>.993</td>
<td>.170</td>
<td>5.83</td>
<td>.000</td>
<td>.321</td>
</tr>
<tr>
<td>2. Prior GPA</td>
<td>.763</td>
<td>.059</td>
<td>12.93</td>
<td>.000</td>
<td>.711</td>
</tr>
<tr>
<td>Constant term</td>
<td>1.858</td>
<td>.352</td>
<td>5.27</td>
<td>.000</td>
<td>–</td>
</tr>
</tbody>
</table>
2.5.2. Description of the variable being predicted
The grade the student received for the BA (Honors) dissertations or MA theses. All such work is subject to external assessment or examination by academic staff at other universities.

Grade point equivalents:  
A+ = 9, A = 8, A− = 7, B+ = 6,  
B = 5, B− = 4, C+ = 3, C = 2, C− = 1

2.5.3. Description of the two predictor variables
(1) Took Course: 1 = Yes, 0 = No. Yes means the course, Managing Research Projects, was completed prior to the completion and grading of the original research project.

(2) Prior GPA: Each student’s cumulative GPA achieved before original research project—BA (Honors) dissertation or MA thesis—was conducted.

2.5.4. Data note
The data-set comprises records for all students who completed BA (Honors) dissertations or MA theses from 2006 until 2010, and for whom grades were available as of October 2010.

2.6. Discussion of findings from the regression model
The findings presented in Table 1 can be summarized as follows. While prior cumulative GPA is a strong predictor of student success when conducting an original research project, whether or not they had previously taken the course on Managing Research Projects was also a good predictor of success. Indeed, participation in the course was estimated to add one full grade point to the grade of the student on the original research project. For example, this model predicts that a student with a prior GPA of 6 (B+) who did not take the course on managing research projects would receive a grade of 6.4 (B+) for an original research project, such as a BA (Honors) dissertation or MA thesis. However, if the same student had taken this course prior to completing an original research project, this model predicts that the student would receive a grade of 7.5 (A−).

The standardized coefficients reported in Table 1 confirm that a student’s prior GPA serves as the strongest predictor of the grade for their BA (Honors) dissertation or MA thesis. A one standard deviation increase in a student’s prior GPA (1.4) would raise the estimated grade on the research project by .711 of a standard deviation (equivalent to one grade point). But most significantly for our purposes, the standardized coefficient for a student having completed the course on managing research projects tells us that the shift from not enrolling in the course to enrolling in the course (a shift of 2 standard deviations) would raise the estimated grade on the research project by .641 of a standard deviation (also approximating one grade point). This careful, controlled analysis should assure readers that a positive relationship exists between student completion of this course and subsequent success in the management of original research projects.

2.7. Discussion of findings from qualitative survey evidence
To obtain qualitative evidence on the impacts of this course, a post-intervention student survey was devised and administered to the 2009 and 2010 cohorts of students. In both years, students completed the surveys several months after the end of the course. All of the students who completed the course were contacted by email and asked to provide responses to several open-ended questions about the course. Students responded using a purpose-built website that assured anonymity and allowed easy collation of responses. The response rates in each cohort were 43% (15 students out of 35) and 64% (16 out of 25) respectively. These are reasonably good response rates, especially given the time delay from the end of the course. The following six comments are representative of the responses to this survey. They illustrate how the creation of a culture of excellence served to change student behavior. As such, they confirm that the observed grade differentials in student performance on the dissertation and thesis work were largely due to the teaching strategies employed in the course, Managing Research Projects.
Student 1: I think the group work and peer reviews really forced the students to work harder not just as individuals but as members of a team. This meant that team members had to communicate and more importantly compromise to get the best overall mark. I felt that in this class communication, flexibility, and diligence are promoted rather than how “smart” the individual student is. These qualities are required (if not necessary) outside of classroom situations: communicating clearly what you want, and what you expect of others; being flexible with others’ opinions; and keeping up to date with your work for everyone’s benefit.

Student 2: I suppose I am less secretive with my ideas now. Before I used to want to protect any ideas I thought were good. Now I’ve realized that fleshing out ideas with others actually makes your work better! That was something that was discussed a lot throughout the entire course.

Student 3: The emphasis on presentation (the proposal in particular) and the excellence of the student-led seminars demonstrated the importance of doing more than just what is necessary. Being able to see the work of other students was very interesting and motivating.

Student 4: I guess the culture made you feel better about taking more risks—by challenging us to generate a culture of excellence, I felt we were pushed to exceed beyond, even our own, expectations. I feel that what I learnt in this course better equipped me for real world project work.

Student 5: My confidence was certainly boosted by taking this course, which showed that completing an independent research project was not daunting and rather is a process that can be managed well to get the best results ... I have also found that despite completing your research independently there is a huge support network of other students and friends to discuss your work with, including many of whom have taken the course, and we can share our problems and also give encouragement to one another.

Student 6: The course gave me a taste of academic achievement that I hadn’t experienced since early high school and was a real confidence-booster. I aimed to do as well in my other courses as I did in the course, with fairly good results. The expectation that my work needed to improve has helped instill an expectation that I will continue to improve through critical self-assessment.

2.8. Summary
The combined quantitative and qualitative evidence presented in this example suggests that specific teaching strategies can promote cultures of excellence among students. Further, those cultures can have positive and on-going impacts on the quality of individual student work. It can also influence longer term dispositions and aspirations. The research design used here was quasi-experimental in nature and did not involve randomization of student participation in the course. As such, the research design attained limited control over other factors that could affect the relative quality of student work. Nonetheless, it involved before-and-after observations of performance by those who took the course and it compared those with observations of performance by a similar group of students who did not take the course. As such, the findings indicate the merits of efforts to create cultures of excellence among students. In addition, this example lays the foundation for more controlled future efforts to foster commitment to excellence across student cohorts and evaluate the results.

3. Conclusion
The pursuit of excellence—which can be thought of as continuously striving to improve upon past performance—is crucial to creativity, knowledge generation, innovation, and the development of new products and services. In short, it is central to social and economic advancement. Given this, the practice of creating cultures of excellence should be given high priority in universities and other institutions of higher learning. The teaching strategies discussed here could be applied with positive effects in many courses, ranging broadly in their substantive content.
In this article, an example was given of an effort to create a culture of excellence. The results of subsequent quantitative and qualitative research give confidence that the effort had significant and positive effects. Knowing this, looking to the future, major benefit could be gained for students and for society as a whole through systematic efforts to create cultures of excellence in teaching programs across a range of settings. The example and the test of student outcomes presented here focused on a single university course. However, efforts to create cultures of excellence would become far more powerful if they could be initiated within whole teaching programs or whole academic departments, schools, and faculties.

Evidence is powerful for assisting people to improve their practices. It is also powerful in promoting greater institutional acceptance of broad changes in areas of core business. For this reason, as well as advocating more efforts to create cultures of excellence, it is here argued that those efforts should—wherever practicable—be subject to well-designed evaluation. In order to confidently attribute attainment of valued outcomes to specific teaching strategies, we must employ sophisticated research designs. The research design introduced here incorporated a quasi-experimental model featuring baseline measures of student performance and use of a control group. More ambitious approaches to testing the effects of creating cultures of excellence in higher education would be fully experimental in nature, incorporating randomized, controlled trials. Those approaches become feasible when the scope of an initiative is broadened.

This article, then, has set the scene for two important developments in higher education in the future. The first involves systematically orienting students towards the pursuit of excellence. Cultures of excellence can produce short-term and long-term gains for students. Systematic encouragement of cultures of excellence across multiple fronts simultaneously could produce many amazing forms of social and economic progress. As yet, we can only imagine the possibilities. The second important development suggested here is the rigorous application of evidence-based, continuous improvement in pedagogical practice.

For too long, institutions of higher learning have devoted insufficient attention to considering what works in teaching and how good teaching practices can be replicated. Advances in medical practices based on lesson-drawing from randomized, controlled trials provide inspiration for those seeking to turbo-charge the quality of teaching in universities and elsewhere. Getting better at pursuing what works is not so much a matter of having more resources. It is about having a mindset oriented towards excellence. It is also about having the courage to deploy the right resources to the right initiatives. Educational leaders exhibiting both dispositions can promote organizational transformations. They can empower teachers and students to thoughtfully pursue new heights of self-improvement and group success. In the current environment, many stakeholders believe institutions of higher education hold the power to deliver bright futures both for their students and society as a whole. Those stakeholders are right. Let’s bring it on!

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Notes
1. I supervised five of the 137 projects (3.6%).
2. The variable indicating participation in the course is coded 0 (for no participation) or 1 (for participation). The standard deviation for the variable is .5. So a shift of two standard deviations takes us from 0 to 1. This shift of $2 \times .321$ is predicted to result in a grade-point increase equivalent to $.642 \times 1.4 = .896$, or almost one full grade point. This estimate is consistent with that produced using the unstandardized “Took course” coefficient.

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