Questions about the impact of diversity in any profession have been raised for many years. Detractors often argue that the mere differences in personal identity offer little in the way of contribution to advancing business, learning, or social interactions. Further, efforts to emphasize and enhance diversity have frequently been met with criticisms that such efforts undermine true equity by deemphasizing merit and excellence. Such arguments neglect consideration that historically marginalized populations continue to be marginalized by insinuations that merit or excellence cannot be found among them. As we measure the efficacy of diversity programming—the acquisition of skills and resulting productivity in more diverse environments—there must be a foundational understanding that diversity is a driver of merit and excellence. Merit cannot be understated, but it must be noted that merit includes diversity, and diversity, as an independent variable, has empirically been shown to have significant impact on outcomes across sectors.

Many arguments supporting the need for diversity in higher education are grounded in themes of morality, historical inequalities, and social justice, with an

Chapter 6
The Land-Line Adjustment: How Do We Measure Impact?

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Land-line adjustment is the process of placing lines on a map by reconciling theoretical or estimated location with evidence of actual positioning (Maps for America).
ultimate solution of “it’s the right thing to do.” In a powerfully analytical departure from this approach, Scott E. Page (2007) uses mathematical modeling and case studies to demonstrate how diverse teams often outperform even highly intelligent individuals. While Page defines diversity as the differences in how people think, he also concedes that this cognitive diversity is inextricably linked to identity diversity, since people with different identities and/or different life experiences will tend to acquire different cognitive tools. By analyzing how teams and individuals solve problems and predict outcomes, Page shows that like-minded individuals tend to get “stuck” in the same places when solving problems. Thus, teams of like-minded individuals (who often share many similarities such as upbringing, level of education, etc.) tend to get stuck in the same place all at once, whereas individual members of diverse teams get stuck at different points in the problem-solving process. Therefore, the diverse teams ultimately have the tools to solve problems more efficiently than homogenous teams, and even more efficiently than smart individuals.

**Higher Education**

In 2003, the United States Supreme Court ruled that the pursuit of diversity in academe was a national compelling interest, recognizing that diversity contributes to enhanced learning environments and greater overall competitiveness in the workplace (Grutter v. Bollinger, 539 US 306 (2003)). This court-driven declaration was a long time coming and was reflective of an enormous amount of data on the educational benefits of having more diversity among students and faculty. Diversity’s impact in the classroom extends beyond the exposure of Caucasian/White majority students to students of color or varied socioeconomic status, which are important benefits, but rather the integration of classrooms in the US benefits all students as they struggle to learn how to manage conflict, enhance critical-thinking skills, and consider the broader world around them.

As the Supreme Court’s ruling in Grutter v. Bollinger illustrates, the promise of diversity’s impact cannot bear fruit if the educational environment does not include a critical mass of historically underrepresented populations (Terrell and Beaudreau 2003). As a result, barrier-breaking efforts to diversify academe must be embraced. For example, Michigan State University’s Vetward Bound Program has provided enrichment programming for 644 students with interest in veterinary medicine over the last twenty-eight years. Success for the program can be measured in numerous ways: 259 Vetward Bound graduates are now veterinarians, and thirty completed other graduate or professional programs (Pat Lowrie, pers. comm. with authors). Other, newer programs like Access to Animal-Related
Careers (A²RC) and the A²RC Scholars early admissions program, at Purdue University are also facilitating keeping minority students in the pipeline to a DVM degree. These options not only provide opportunities for minority and disadvantaged students to overcome obstacles in pursuing veterinary degrees, but they also contribute to the creation of more diverse learning environments in DVM programs around the country. The national landscape in veterinary medical education is also being reshaped by diversity efforts like the Association of American Veterinary Medical Colleges’ (AAVMC) DiVersity Matters initiative (AAVMC 2005), which focuses on best practices to increasing diversity among students and faculty, infusing the DVM curriculum with practice-relevant diversity modules and improving institutional climate.

Launched in 2005, the initiative has tracked a 58 percent increase in the number of racial and ethnic URVM students in US veterinary schools and colleges (see figure 1, AAVMC 1968–2011). In fact, national enrollment in the twenty-eight US schools and colleges increased just over 15 percent between 2005 and 2011, leading us to conclude that increased emphasis on diversity programming during a period of significant growth among the institutions created new opportunities for many URVM students interested in pursuing careers in veterinary medicine.
Efforts to increase faculty diversity has proved more challenging. The number of racial and ethnic URVM faculty has grown only 1.3 percent since 2005. More substantive growth can be seen among female faculty, as their ranks have grown by over 7 percent during the last six years.

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Both of these populations have ascended to leadership roles during this time with racial and ethnic URVM administrators growing by 7 percent and their female administrator colleagues growing by nearly 10 percent (see figure 2, AAVMC 1968–2011).

Efforts to increase diversity can be successful, but they are not the success endpoint as we noted earlier. Academic environments featuring a critical mass mix of students and faculty from diverse backgrounds provides a wide array of educational benefits (Terenzini et al. 2001). All students gain enhanced problem-solving skills, group-interaction skills, and learning gains even in modestly diverse classrooms (Terenzini et al. 2001). At the University of Michigan, Pat Gurin and her team demonstrated the benefits of diversity in three separate but linked studies. In one study, Downing et al. (2002) analyzed the data from a national survey of 11,383 students (of whom 10,465, or 91.9 percent, were Caucasian/White). These students matriculated in 1985 and graduated in 1989 from 184 US colleges and universities. The results from this study showed that the more contact that these students had with other students from different ethnic backgrounds, the higher their intellectual engagement and self-assessed academic skills (Downing et al. 2002). In the second study, Gurin et al. (2002) tracked 1,582 University of Michigan students (of whom 1,129, or 71.3 percent, were Caucasian/White) between 1990 and 1994. Similarly to the national study, the Michigan student sample showed that active, engaged thinking increased in students who had increased contact with students from different backgrounds. Interestingly enough,
in both studies democratic values also increased with increased engagement with diverse populations (Gurin et al. 2002).

In the third study, Gurin et al. (2002) compared the experiences of two groups of eighty-seven students. One student group participated in an intergroup relations training, and the other group did not. When compared to their counterparts, the students who received the training experienced multiple benefits, including being more likely to consider the perspective of others and having a greater understanding that diversity and democracy can coexist. These students were also more likely to acknowledge that conflict can be constructive and to actively engage in causal thinking (Gurin et al. 2002). These and similar studies indicate that diversity in educational environments benefit all students. Indeed, since these student pools are overwhelmingly Caucasian/White, the argument can be made that the benefits of diversity in the classroom are being disproportionately reaped by Caucasian/White students. It is imperative to also note that the educational benefits from a diverse educational environment is not merely dependent on x number of Caucasian/White students being placed in a classroom or on a campus with y number of underrepresented minority students. Actual interaction with diverse peers both in and outside the classroom is the crucial way in which these benefits are realized for students (Antonio 2001; Antonio 2004).

Intergroup dialogue is one way of fostering crossracial interaction to support mutual learning among diverse students (Gurin and Nagda 2006). Intergroup dialogue is an innovative, integrative approach to encourage conversations across difference by utilizing various aspects of key social psychological models such as personalization and recategorization. Personalization comes from individual testimonies and stories told from the point of view of belonging to a group. This activity allows individuals to apply what they have learned about specific group members to more general situations they may encounter in the future. In recategorization, students from different identity groups perform joint learning using reflections, dialogues, and actions, and ultimately, they create a superordinate identity presented as an expression of the separate identities. From such a space, students can tackle difficult questions about their individual roles in challenging racial, ethnic, and other societal inequalities. Gurin and Nagda (2006) argue that moving forward, campus diversity programs need to be designed based on social psychological theory as well as rigorously evaluated. Too many programs are currently designed and run on the educated guesses of faculty and administrators rather than the lessons learned from relevant research.

Gurin et al. (2011) performed a multi-university intergroup dialogue research study involving fifty-two parallel field experiments run between 2006 and 2009.
Students applied to participate in the courses, and they were either assigned to a dialogue course (the experimental group) or a wait-list (the control group). Half of the experiments focused on race, while the other half focused on gender. A total of 1,463 students participated in the study, with equal numbers of Caucasian/White males, Caucasian/White females, men of color, and women of color. Students were asked to respond to a survey before participating in the class, at the end of the semester, and a year after the class ended. Specific sessions of ten race and ten gender dialogues were also videotaped as a part of this study, and all participants were interviewed at the end of the class. Finally, the authors performed a content analysis of the final papers of all the students enrolled in the fifty-two dialogue classes (Gurin et al. 2011).

This study employed three vital aspects of intergroup dialogue. First, there was a stated understanding of the difference between dialogue and debate, and students were expected to listen to and appreciate the perspectives of others, even if they did not agree with those perspectives. Second, a four-stage curriculum was utilized in all the dialogue classes. These stages were: (1) establishing a foundation by getting acquainted; (2) exploring personal and social identity experiences and the intersection of power, privilege, and identity experience; (3) discussing controversial issues; and (4) creating a plan of action and building alliances. Third, for each dialogue class, each social identity group was represented in equal numbers, with two facilitators, each a member of one of the identity groups. The results from this study show that when compared to a control group of their peers, students who participated in intergroup dialogue had a greater understanding of race, gender, and socioeconomic inequalities; they had higher levels of intergroup empathy and motivation to collaborate across difference; and they showed greater commitment to civic engagement postcollege (Gurin et al. 2011).

The benefits of diversity in the college classroom are not limited to the time the student spends on campus. In the book *The Shape of the River* (1998), William G. Bowen (the former president of Princeton University) and Derek Bok (the former president of Harvard University) perform an in-depth analysis of the personal, academic, and employment records of over 45,000 students of all races from twenty-eight elite US colleges and universities who were students between the 1970s and early 1990s. Bowen and Bok believed that in order to adequately assess the benefits of race-sensitive admissions in higher education, there was a need to understand more fully not just the college careers of students, but their postcollege lives as well. The authors found that years after graduation, African American/Black alumni had greater civic service involvement, were more likely to have leadership roles in in civic organizations, and were more likely to have
leadership roles in multiple civic organizations than their Caucasian/White counterparts. These differences are even more striking when comparing graduates of graduate and professional programs. This data indicates that diversity in the college classroom had a distinct benefit for our entire society—African American/Black college graduates from elite, highly selective institutions are most likely to be engaged in their communities.

There has also been some discussion about whether the diversity on college campuses might be harmful to the performance of minority students. The argument states that allowing “special admits” to elite universities is demoralizing to these minority students, who will ultimately do poorly and drop out. This argument assumes that these “special admit minorities” are academically unprepared (Heilman et al. 1997; Heilman and Blader 2001). In the Bowen and Bok (1998) analysis, the authors found that African Americans/Blacks admitted to highly selective institutions graduated at higher rates than African Americans/Blacks with equivalent family backgrounds, grades, and test scores who were enrolled at less selective institutions. This study also showed that African Americans/Blacks who graduated from highly selective institutions were equally as likely as their Caucasian/White counterparts to attend competitive, prestigious professional schools and to become doctors, lawyers, and business executives. In fact, these African Americans/Blacks tended to be much more successful than African American/Black college graduates in general (Bowen and Bok 1998).

Stereotype threat is one particular instance where the academic performance of minority students could indeed be handicapped in the college classroom. Stereotype threat is a testing phenomenon that causes underrepresented minority students to achieve lower test scores than their Caucasian/White counterparts with similar ability. It occurs when individuals who are aware of a negative stereotype about the ability of their group to perform in a certain situation show impaired performance when placed in that situation. Examples of stereotypes that can lead to stereotype threat in the classroom testing environment include the notion that female students are not as good as male students at advanced mathematics, or that African American/Black students score lower than Caucasian/White students on achievement tests (Steele 1997). In addition, the stereotype threat response can be elicited regardless of whether the stereotype is explicitly mentioned, or regardless of whether the student believes the stereotype to be true (Aronson et al. 1999). Stereotype threat has also been demonstrated in individuals from lower socioeconomic class (Croizet and Claire 1998). Left unchecked, stereotype threat can wreak havoc on the psyche of the minority student in a hostile academic environment, rendering the student unable to achieve his/her
highest academic potential and eventually to disengage from the classroom, possibly even dropping out.

We would be remiss to discuss diversity in terms of assessing and monitoring numbers of underrepresented groups on our college campuses without discussing the assessment of the institutional climate for diversity that these students will encounter once they arrive. The climate for diversity is important not just for the students who matriculate to our academic programs, but also for the faculty we hope to hire and who can serve as mentors and role models for our minority students. Several racial incidents on multiple college campuses attracted the type of media attention that forced higher education institutions to begin assessing their climates for diversity. While initial assessments were knee-jerk reactions to many of these types of incidents, assessments today are largely more proactive, as faculty and administrators seek to understand and plan for the issues affecting many different groups (including LGBT and disabled students) matriculating to campus.

In a large review of over ninety instruments used to assess campus climate, Hurtado et al. (2008) found that the majority of the research in this area has focused on the racial climate. The authors note that although external factors such as government policy and sociohistorical context have a strong influence on campus diversity initiatives, focus on assessment is placed on factors internal to the institution. These factors are the institution’s (1) historical legacy of inclusion/exclusion; (2) structural diversity (the physical presence of underrepresented minorities); (3) psychological climate (individual perceptions of racial harmony or discord, whether they are welcomed or isolated, and/or the commitment of their institution to diversity); and (4) behavioral climate (number and quality of interactions across groups, participation in campus diversity programming, and enrollment in courses regarding diversity).

In their review, the authors contend that still much is unknown about the nature and influence of the racial on-campus climate, and that much more research is needed to understand the experiences of understudied groups like Asian Americans and Native Americans on our campuses. The authors also state that because many of the surveys are designed for and administered to students, future assessments need to include the perspectives of faculty, administrators, and staff, since these groups all contribute to and experience the institutional climate. The authors also proposed future surveys should include a focus on student outcomes by measuring those competencies and values necessary for postgraduation success in increasingly diverse environments. These intercultural competencies are also crucial for one of higher education’s most lofty of goals—to accelerate social progress with each generation (Hurtado et al. 2008).
In 2011, AAVMC launched institutional climate surveys to the DVM students at each of the twenty-eight US schools and colleges of veterinary medicine. The effort was strongly influenced by Hurtado’s work in that it focused on climate as it relates to race, ethnicity, gender and gender expression, sexual orientation, and religion, among other areas. The survey effort was enormously successful, having surveyed nearly 11,000 veterinary students in the US and achieving a response rate of 48 percent. A national data set was developed through the initiative that is being used to assess national climate trends, and local data is being used to develop college-specific programming. A companion survey for veterinary school and college faculty was also conducted by Western University of Health Sciences’ College of Veterinary Medicine during the summer of 2011. Findings for both studies are expected to be published in 2012.

While many campuses are striving to increase their diversity in terms of numbers of underrepresented students, and to continuously improve their campus climates for diversity with rigorous initiatives and programming, there remains the issue of open, honest interaction across difference, and how those interactions are influenced by individual racial identity development. In her book, “Why Are All the Black Kids Sitting Together in the Cafeteria?” And Other Conversations about Race (1997), Beverly Daniel Tatum defends the phenomenon of underrepresented minorities segregating in school cafeterias (or on college campuses) so that they can build a racial identity devoid of the negative stereotypes that seem to abound in US culture. The book takes a frank look at racism in the US, reminding us that race is social construct and that racism was borne out of the need of the majority (dominant) group to oppress the minority group. Tatum (1997) develops a convincing argument that self-segregation of minority groups may not be an issue to be resolved, but a means of establishing and affirming racial identity that should be supported. In her follow-up book, Can We Talk about Race? And Other Conversations in an Era of School Resegregation (2007), Tatum expresses concern for the resegregation currently occurring in American classrooms. She insists that educators must work harder to dispel racial prejudices in the classroom, where they can adversely affect the academic achievement of minority students. She calls on educators to do more to increase opportunities for crossracial contact and dialogue, which are necessary to produce effective leaders in a multicultural world (Tatum 2007). Tatum’s insights on these difficult conversations underscore many of the issues that should be considered on every college campus seeking to increase diversity and inclusion while simultaneously providing a rich, inclusive student educational experience.

Students benefit from diversity in the academic environment and programs, like Michigan State University’s Vetward Bound and Purdue University’s A²RC,
that foster and nurture diversity, which are critical to the development of a more diverse, competitive workforce. Beyond the classic assumptions of cross-cultural learning and engagement, students with greater diversity in the learning environment are more likely to develop stronger intellectual and interpersonal skills, more democratic and civic-minded values, and basic conflict-management skills. Clearly these benefits are not without some problems along the way that can be devastating for minority students and their peers during critical periods of adult development. Faculty and administrators have a responsibility to support evidence-based efforts to advance diversity initiatives and provide the support students need to experience the true benefits of diversity in the educational environment.

**Business**

Scholarly literature suggests numerous ways of measuring diversity’s impact on business. The tracking of group process, productivity, and innovation are all among the most common strategies discussed when considering diversity’s impact. It is important to note that much of the literature does not advance the notion that just the inclusion of a broader spectrum of individuals alone improves business processes. Certainly efforts to increase racial, ethnic, and gender diversity are worthwhile, but failure to address issues of inclusion within the business environment results in continued systemic marginalization of underrepresented populations (Bendick et al. 2010). That is not the goal, nor does it truly echo the spirit of the business case for diversity. Representative diversity is frequently promoted as the central component of the business case for diversity; this is critically important, but we must have a clear understanding how diversity changes the way we do work. How we measure those changes requires a more nuanced set of metrics that explore the key leverage points that demonstrate diversity’s impact on a business. Employers, like their academic counterparts, must cultivate inclusive environments where diverse populations of employees can more successfully advance the goals of the organization. Environments that nurture groups of diverse individuals make the business case for diversity possible.

Diversity in the workplace (and in academic environments) must be managed and facilitated, lest the more positive effects of diversity not be realized. The environment must feature leaders who are committed to diversity and clearly articulate their commitment and the expectation of others’ commitment to diversity (Jayne and Dipboye 2004). The desired outcomes from the diverse team must be clearly articulated, achievable, measurable, and tied to the larger company goals (Jayne and Dipboye 2004). Finally, the diverse teams must be coached in how to work
together through group process training and team building (Jayne and Dipboye 2004). Metrics for diversity’s impact must be considered within this larger context of environmental shaping. With the indicators listed above, one can assess diversity’s impact through a variety of mechanisms.

Some metrics for diversity’s impact may include customer surveys, performance appraisals, and evaluations from the necessary group/team trainings (Lockwood 2010). Customer surveys provide useful information on the demographics of the surrounding area and how a diverse staff is meeting the needs of the population in the area. Take, for example, a large animal, ambulatory practice in which an English-only speaking veterinarian and her support staff engage clients whose primary language is not English. A customer survey may reveal important information about the quality of the professional interaction, therapeutic compliance based on language comprehension, and willingness to continue accessing services with a known language barrier. Performance appraisals can provide very individualized evidence about how employees navigate the diverse work environment; the appraisals can reveal supporting evidence of worker productivity, something that is often associated with the business case for diversity. Finally, the group and team training evaluation can provide periodic data about how diversity is managed and integrated into the work of employees from a group perspective. These metrics are useful but limited on their own, as they do not provide systemic information about how diversity impacts organizational systems. Metrics that consider how the business’ organizational system is altered by diversity and inclusion initiatives provide more insightful, nuanced data about what is really going on in the office or in a practice.

Metrics that include studies of programmatic measures, long-term productivity and profitability, and organizational climate (Lockwood 2010) provide enhanced data about the impact of diversity and inclusion. Employers must evaluate, both at the programmatic and organizational levels, the long-term productivity and profitability of the team. It is often said that diverse teams are more productive and more innovative. This is true, but it does not happen upon immediate development of the team. Added diversity does not simply equate to inclusion. Inclusion seeks to bring all voices and perspectives to the table, and to consider these perspectives when making decisions that will impact the whole. In an environment that is truly inclusive and not simply diverse, diverse employees should develop stabilizing group norms that leverage the diversity of knowledge and skills, resulting in higher productivity and profitability over long periods of time (Richard et al. 2007). In a small animal veterinary practice, for example, owners who create the proper environment for a diverse team will see more clients and
greater profitability over the long term. Similar experiences will also be found across the profession.

Organizational climate is essentially how workers understand their business, its goals, and what behaviors (internally and externally) are expected and rewarded in the business model (Schneider 1990). Periodic assessment of the organization’s climate enables leaders to evaluate whether diversity-enhancement programming and the promotion of an inclusive environment have resulted in a desired state in which employees have shared goals and are team-oriented. Such assessments may focus on specific areas within the organization and on specific areas of interest where the organization engages the public. Tools such as the American Medical Association’s “Communication Climate Assessment Toolkit” (2011) can be useful in evaluating how a team is meeting the communication needs of the community it serves.

Veterinary Medicine

The large body of research designed to measure the impact of diversity on campus, in business, and in teams overwhelmingly indicates that diversity has the potential to be beneficial in the majority of cases, and that diversity, when combined with inclusion, is powerful. But what does all this mean for veterinary medicine? The 2007 Foresight report from the Association of American Veterinary Medical Colleges, “Envisioning the Future of Veterinary Medical Education,” acknowledges the changing social landscape and made strong calls for the veterinary profession to embrace diversity and to renegotiate and reinterpret long-held understandings and professional core values in the context of the changing world (Willis et al. 2007). In 2011, the North American Veterinary Medical Consortium (NAVMEC) built on the Foresight report recommendations further by including multicultural acuity and cultural competence among the recommended new competencies of day-one veterinary graduates (NAVMEC 2011). The evolution of recommendations from organized veterinary medicine connotes two key facts: first, diversity in the larger sense demands the learning and adoption of a new conceptual professional framework, and second, there are specific skills, knowledge, and aptitude that must be both selected for among applicants and taught to veterinary students in order to maximize the diverse team benefits discussed in this chapter.

In a practical sense, it means that diverse practice teams, in all clinical and nonclinical practice areas, have the capacity to be more broadly strategic and successful than their more homogenous counterparts. Consider the demographic changes described earlier in this text. Private practices might consider the need
to establish businesses in neighborhoods with growing populations of people of color. There may be an increased need to hire multilingual staff or focus recruiting strategies for new hires in the local neighborhood.

If we apply Page’s (2007) observations about diversity, problem solving, and predictions, it could also mean that practices with diverse staff may be able to more quickly and efficiently diagnose and treat cases, better understand, and thus more quickly respond to changes in their community/clientele. For veterinary medical education, it means that all students will have a richer educational experience as members of diverse classes, and that graduating a more diverse group of veterinarians is the first crucial step in diversifying intern and residency programs, PhD programs, and ultimately, the veterinary school and college faculty itself. Diversity within the profession may increase the probability of these veterinarians in urban and underserved areas with high minority populations. This in turn could have major impact on both the face and impact of the profession. Families in such communities may be more likely to take their pets to a practice with staff who either look like them or speak to them in their preferred language. This would increase the engagement of minorities within the profession and expand veterinary services to entire communities who previously may not have taken household pets to a local veterinarian (Asare 2007). Children in these communities would be able to see and interact with veterinarians and veterinary technicians who look like them and who could serve as mentors, should some of these children decide they would like to pursue this profession, thus creating a self-perpetuating effect on diversity within the pipeline (Amass 2011).

References


