18

Academic Standards and Progression

Kristin P. Chaney, Kenita S. Rogers and Virginia Fajt

College of Veterinary Medicine & Biomedical Sciences, Texas A&M University, USA

🔑 Box 18.1: Key messages

- Academic standards are often a collection of expectations that attempt to address the needs of accrediting bodies, stakeholders within the profession, and faculty curriculum committees.
- In the modern professional education setting, standards must address not only academic coursework requirements, but also competence in technical skills, nontechnical skills, and professional behaviors.
- Academic standards need to be consistent, fair, well communicated, and above legal reproach.

- Measures to identify at-risk students early in the program allow additional opportunities for intervention and remediation.
- The rigor and purpose of remediation procedures should be carefully developed both to ensure appropriate standards and to allow individual progression as standards are met.
- Academic standards are a pivotal benchmark for program quality, and each institution should carefully engage on a regular basis with faculty and administration regarding the development of best practices.

Introduction

Developing and adhering to academic standards for progression is a critical component of highly successful veterinary programs. Academic standards often represent a collection of expectations that attempt to address the needs of accrediting bodies, stakeholders within the profession, faculty, members of curriculum committees, and students. In the modern professional education setting, standards must address academic coursework requirements, as well as competence in technical skills, nontechnical skills, and professional behaviors.

Academic standards need to be consistent, fair, well communicated, and above legal reproach. In the veterinary profession, standards for progression are determined at the program level, and therefore often reflect institutions' individuality.

Defining Academic Standards and Progression

Since the establishment of the first veterinary college in Lyon, France in 1761, professional

veterinary medical education has continually evolved. There are several publications detailing the historical establishment of veterinary schools, evolution of curricula, and increasing diversity in student bodies (Smith, 2010, 2011a, b, 2013; Smith and Fenn, 2011; Fletcher, Hooper, and Schoenfeld-Tacher, 2015; Kochevar, 2015; Greenhill *et al.*, 2015). However, despite their importance to ensuring quality within the profession, academic standards are infrequently mentioned in the literature. Both human and veterinary medical education programs have a clear obligation to society to deliver competent healthcare professionals, and defining standards for academic progression is where most programs begin. All programs have at-risk students who are more likely than others to fail to graduate, either through dropout or dismissal. Their academic performance lies at the threshold or below the standards of acceptable competence as determined by relevant institutions (Winston, van der Vleuten, and Scherpbier, 2010). This subset of students remains the primary focus of discussion related to setting standards, assessing competence, and providing remediation opportunities.

In many allied health science fields, including medicine, pharmacy, and nursing, governing bodies play an integral role in the establishment of standards and guidelines to ensure the quality of individual graduates (Poirier, Kerr, and Phelps, 2013; Giddens, Keller, and Liesveld, 2015). The American Veterinary Medical Association Council on Education (AVMA-COE) holds veterinary programs to high standards for accreditation, requiring evidence that students are observed and assessed for attaining competence in nine specific areas. It recently updated the standards to require that processes be in place to remediate students who do not demonstrate competence in these prescribed areas. Regardless, the creation of academic standards for individual student progression is left to the independent discretion of veterinary education programs. With the wide variety of educational models, this customized independence allows each program to define its own academic standards for progression, recognizing that without sufficiently rigorous standards it would be possible to graduate students who were not uniformly qualified, and making a discussion of veterinary academic standards relevant and necessary.

Who Determines the Standards for Each Program?

In veterinary medical education, standards for academic progression are determined by a wide variety of stakeholders. Each veterinary college must uphold programmatic standards as established by the AVMA-COE to maintain accreditation. For example, programs are required to maintain specific passing rates for the national licensing examination (NAVLE), although direct individual student standards for progression are left to the discretion of each program. In allied health fields, governing bodies often presume a more intensive role in the academic progression of students. The current Accreditation Council for Pharmacy Education (ACPE) requires schools to provide individualized assistance to students with academic difficulty. As of 2016, this governance by the ACPE extends to include language for "identifying and intervening when students have academic difficulty" (Moser *et al.*, 2015). Many veterinary programs meet additional standards for accreditation defined at the university level by higher education commissions. Contributions to standards are also created by faculty, curriculum committees, administration, and legal counsel at each institution. To ensure that the integrity of the standards is maintained, faculty members must receive administrative support. Administrative personnel should understand the academic standards for their institution, be willing to adhere to those standards, and support faculty to ensure that standards are consistently applied and upheld. Without intentional demonstration of administrative support, faculty may find it difficult to maintain the standards for individual students (Poirier, Kerr, and Phelps, 2013). Upholding

academic standards requires diligence and consistency across the entire educational program (Irby and Milam, 1989). In summary, academic standards need to be consistent, fair, well communicated, and above legal reproach.

What Areas Should Have Standards Assessed?

As a discipline, veterinary educators should consider the following areas on which to base standards for academic progression: foundation knowledge, technical skills, nontechnical skills (communication, leadership, and teamwork), professional behaviors (ethical/moral reasoning, personal decision-making), and clinical rotation assessments.

Foundation Knowledge

Foundation knowledge is the critical educational component that allows students to grow academically and clinically, and supports their ability to problem-solve and think critically. Important tactics for the promotion of student progression in this setting include employing instructional techniques that focus on the student-learner and assessment strategies that highlight critical thought and reasoning skills. Students' grade point average (GPA) is the most frequently used means of assessing their mastery of foundation knowledge and, as such, is commonly employed as an academic standard. An interesting study from Kansas State University explored grade inflation in veterinary medicine. It suggested that "a change in academic standards and student evaluation of teaching may have contributed to relaxed grading standards and technology in the classroom may have led to higher (earned) grades as a result of improved student learning" (Rush, Elmore, and Sanderson, 2009, p. 107). This concept is not unique to veterinary education and has been identified as a concern in other health professions (Shoemaker and DeVos, 1999; Speer, Solomon, and Fincher, 2000).

Technical Skills

Technical skills are an inherent component of veterinary competence, so many programs are engaging in skills assessments that can be considered an academic standard or barrier to progression. Numerous programs have employed directed examinations, including objective structured clinical examinations (OSCEs), as a required assessment for progression.

Nontechnical Skills

The NAVMEC report (NAVMEC Board of Directors, 2011) confirmed the importance of business acumen, leadership, multicultural awareness, and interpersonal skills to successful veterinary careers. Historically, nontechnical skills have been neglected in favor of instruction in foundation knowledge and technical skills, but many programs now recognize the need to intentionally instruct students in these skills and have them woven into veterinary curricula. Indeed, these skills must be repeatedly practiced throughout the program to ensure that students achieve confidence and understanding (Burns *et al.*, 2006). Practicing nontechnical skills from the earliest point within a curriculum promotes stronger veterinary graduates, making it important to consider the relevance of such skills as an academic standard for progression.

Professional Behaviors

Some students admitted to professional programs are fully capable of negotiating the academic challenges associated with veterinary education, but may still struggle in the consistent demonstration of appropriate professional behaviors. Behaviors such as time management, suitable dress, personal hygiene, and moral/ethical reasoning may be innate characteristics of the ideal student, but for some these behaviors must be learned and practiced. This is also recognized in human medical education, and published work has shown an association between lack of professional behaviors in the educational program

and disciplinary actions against physicians following graduation (Papadakis *et al.*, 2005). A study of human medical students demonstrated that those with difficulty on clerkships in the third and fourth years of the program often manifested problematic behaviors earlier in medical school, where remediation may have been successful at improving their professional behaviors (Papadakis, Loeser, and Healy, 2001). This remains an important consideration for veterinary education programs, since regardless of career choice, professional behaviors are central to success. There are many doctor of veterinary medicine (DVM) programs that combine professional behaviors with nontechnical skills as a measure of academic performance and progression for students on clinical rotations during their final years. However, these behaviors should be assessed from the earliest possible time point in the curriculum to encourage early remediation if necessary.

Clinical Rotation Assessments

There are many different models of education under the AVMA umbrella, all of which include clinical rotations in the final year(s) of the program. Assessment of performance on clinical rotations serves as an important academic standard for progression and graduation. Clinical rotations act as the final opportunity for students to apply their foundation and clinical knowledge in real-life situations. Students' performance on clinical rotations, termed "workplace-based assessments" in many programs, should include assessments of nontechnical skills including leadership and communication, as well as professional behaviors (Hecker, Norris, and Coe, 2012; Weijs, Coe, and Hecker, 2015).

Options for Assessing Academic Standards

Numerous assessment options are available, with no single method being appropriate or useful for all standards (Vandeweerd *et al.*, 2014),

although some are better suited to specific types of activities. Options for assessment include letter grading, pass/fail grading, OSCEs, Day One Competencies/skills lists, capstone experiences, barrier exams, proficiency scales/rubrics, professional behavior evaluations, and standardized examinations.

Letter and Pass/Fail Grading

Most letter grading schemes are based on a 10-point scale with designations of A through F. In some cases a plus/minus system is also used in an attempt to discriminate further between student performance levels. Of interest is a recent publication in the veterinary literature that describes various methods of reporting calculated grades, and questions whether grades truly represent what a student knows or can do (Royal and Guskey, 2015). This issue is pivotal to defining and maintaining academic standards, and demonstrates the challenges associated with making judgments regarding student progression. If a program utilizes individual course grades as an assessment for meeting standards, each program must identify the accumulated number of unsatisfactory grades, typically Ds or Fs, that triggers remediation or results in dismissal. In a recent survey of pharmacy schools with published guidelines for academic standards, a wide range of criteria for progression (or dismissal) were reported: "cumulative GPA or specific GPA post-probation or suspension; number of times on probation; certain number of F, D, or combination of F and D grades; failing a course more than once; failing two advanced pharmacy practice experiences; or exceeding the matriculation time limit" (Poirier, Kerr, and Phelps, 2013, p. 3).

Changing from letter to pass/fail (P/F) grading has been shown to increase medical students' wellbeing without having an impact on performance in licensing examinations (Bloodgood *et al.*, 2009; Reed *et al.*, 2011; Spring *et al.*, 2011). In dental education, research has shown no difference in the results of dental board examination pass rates when switching to P/F systems, and even demonstrated support for the

use of such systems to increase self-regulated and lifelong learning. This study also suggested that specific (letter) grades are not important for maintaining standards (Leske and Ripa, 1985). White and Fantone (2010, p. 469) found that "Pass-fail grading can meet several important intended outcomes, including 'leveling the playing field' for incoming students with different academic backgrounds, reducing competition, fostering collaboration among class members, and more time for extracurricular interests and personal activities." In other reports, moving to P/F grading in medical education has not been beneficial (Gonnella, Erdmann, and Hojat, 2004) or has shown mixed results (McDuff *et al.*, 2014). An online discussion held among Association of American Veterinary Medical Colleges (AAVMC) associate deans related to schemes of P/F versus letter grading for clinical-year rotations revealed 17 out of 20 responding schools reporting letter grading, and 3 schools reporting use of a P/F or satisfactory/marginal/fail scheme.

Objective Structured Clinical Examinations

OSCEs and mini clinical examinations (mini-CEX) are used in professional programs in both North America and elsewhere. Many veterinary schools have adapted this type of structured clinical examination for use in both preclinical and clinical programs. The most valuable aspects of OSCEs and mini-CEX are the ability to standardize the assessment, provide students with a timed clinical experience, and incorporate additional nontechnical skills into the assessment. There is scientific support for both the validity and the reliability of OSCEs, and some programs include this type of examination as a barrier to progression. If OSCEs are introduced into a curriculum, additional components that must be incorporated to ensure academic progression include opportunities for student practice in preparation for examinations, and appropriate remediation measures for students who are unsuccessful. There is evidence in the medical literature to suggest that the most effective remediation measures include not

only review of the material (i.e., practice), but also self-reflection and self-assessment. When these measures are combined, students have demonstrated improved performance on subsequent clinical examinations (White, Ross, and Gruppen, 2009).

Day One Competencies/Skills Lists

Many veterinary education programs use Day One Competencies/skills lists as an academic standard for progression. Typically, these are lists of the technical skills and experiences that students are expected to encounter during the training program. Early in the DVM program, students receive a booklet or online resource for maintaining skills records. At Texas A&M University (TAMU), students must complete a rigorous number of skills during the three-year preclinical program. Performance of individual skills is validated by faculty and/or support staff through an e-mail database. This system requires a student to log in and select the skill(s) performed and the instructor(s) who guided the experience. An automatic e-mail is generated and sent to the instructor, requesting that the skill be either accepted or denied. These skills were previously used as a barrier to graduation, but completion of the skills list is now a requirement for entry into fourth-year clinical rotations. Moving this requirement was in concert with the introduction of a new system of scoring technical skills on clinical rotations in order to focus more intentionally on individual student competence in commonly performed procedures.

Proficiency Scales/Rubrics

While many programs use skills lists as a requirement for student progression, it is important to distinguish "exposure" to a clinical skill from "proficiency" in skill performance. To better ensure TAMU students' competence, clinical skills performed by all fourth-year students are individually assessed in real time using a proficiency scoring rubric (see Table 18.1). Each time a student performs one of the five required skills for each clinical rotation, a score

Table 18.1 Proficiency scoring rubric for clinical skills.

Much below minimum expectations	Below minimum expectations	Expected performance	Exceeds expectations	Excellent	Score
1	2	3	4	5	
Even with intense supervision, student is unable to successfully perform the procedure.	Requires supervision for success in performing the technical skill. Student is unable to perform independently.	Able to perform procedure without supervision, but requires additional experience to build confidence. May take more than one attempt, but student is successful.	Readily performs skill independently. Student needs no instruction or support. Typically achieves success on first attempt.	Complete mastery of skill. Student needs no additional training or experience to become competent or confident. Capable of performing and teaching the procedure.	

is assigned and feedback awarded. Students appreciate the immediate feedback from the score and tips on improving their technical performance. Faculty appreciate the more intentional mechanism for scoring students on routinely performed tasks. The proficiency scoring rubric is used as a barrier assessment, since students must score 3 out of 5 or better for each of five clinical skills per rotation. Students failing to meet this requirement undergo remediation with the individual clinical service to improve technical proficiency.

Capstone Experiences and Barrier Examinations

There are examples of programs in allied health fields that use individual courses as "capstone" experiences for progression. In nursing education, one study described a capstone experience where students were required to achieve a certain grade in a particular course to ensure academic progression. An association between grades in the capstone course and student retention in nursing education was demonstrated (Jeffreys, 2007). A few veterinary programs use capstone courses and barrier examinations as a student standard for progression. The development of entrustable professional activities (EPAs) is a concept originally introduced in 2005 and "can be defined

as a unit of professional practice that can be fully entrusted to a trainee, as soon as he or she has demonstrated the necessary competence to execute this activity unsupervised" (ten Cate *et al.*, 2015, p. 983). Successful execution of EPAs requires multiple competencies, including foundation knowledge, technical abilities, and professional skills. "To give a simple example: if an EPA is 'taking a history', clearly both medical knowledge and communication skill are competencies that, in an inseparable combination, must be present. Both should be assessed before a trainee is trusted to enact the EPA without supervision or confirmation of collected history information" (ten Cate et al., 2015, p. 985). While many allied health professions and some veterinary programs have fully defined EPAs for students to achieve as a benchmark or barrier for progression, in truth clinical rotations are a system of EPAs inherently nested within every veterinary educational program.

Professional Behaviors

Medical students' professional behaviors have been identified as a barrier to progression (Papadakis, Loeser, and Healy, 2001). A system of evaluation was described in this study whereby any student in the first two years of the program would receive a physicianship

evaluation form if they received less than a satisfactory rating on any clerkship. These forms were submitted to the academic affairs dean, and if two or more forms were received for an individual student, the dean would include this information in the residency application for that student. In addition, "the student may be eligible for academic dismissal from school even if he or she has passing grades in all courses" (p. 1100). This research group identified that students who demonstrated poor professional behaviors, such as "unnecessary interruptions in class, inappropriate behaviors in small groups both with peers and faculty, unacceptable timing of requests for special needs for taking examinations" (p. 1101), were in need of remediation early in the program. A specific course was identified in the first years of the curriculum for which student evaluations were often linked to deficiencies in physicianship skills later in the program. Based on evaluations from this course, faculty began to recognize opportunities for students to receive early remediation for improving behaviors (Papadakis, Loeser, and Healy, 2001). In a follow-up study, these researchers further described increased risk of disciplinary action by medical boards for physicians demonstrating previously documented unprofessional behavior in medical school (Papadakis *et al.*, 2005). This lends support for the inclusion of nonprofessional behaviors as a barrier or standard for academic progression in veterinary education programs.

Standardized Examinations: Veterinary Educational Assessment, State Boards, and National Licensing Examination

A passing score on the NAVLE is a requirement to practice clinical medicine. According to the AVMA-COE (AVMA, 2016), 80% of students sitting for the NAVLE are expected to have a passing score by the time of graduation. Programs that fail to uphold this standard may be placed on limited accreditation, or terminal accreditation if pass rates are not improved and maintained, so there is a substantial incentive to maintain NAVLE pass rate

standards. In the veterinary literature several publications demonstrate the association of student variables and NAVLE pass rate, including Veterinary Educational Assessment (VEA) scores, undergraduate and veterinary school GPAs (Danielson *et al.*, 2011), Graduate Record Examination (GRE) scores, DVM class rank, and annual DVM GPAs (Roush *et al.*, 2014). The VEA is a 200-item, web-based examination used as a standardized assessment of basic science knowledge for students in veterinary school (NBVME, 2015). This examination is created by experts in specialty fields and administered by the National Board of Veterinary Medical Examiners (NBVME), which is also responsible for administration of the NAVLE. The VEA has been described as similar to the US Medical Licensing Exam (USMLE) Step 1 for medical students, since both examinations focus on foundation science subjects: anatomy, physiology, pharmacology, microbiology, and pathology. As the USMLE Step 1 examination has been proven to be a predictor of success in clinical clerkships and licensing exams, there is similar data to support use of the VEA for student success on the NAVLE (Danielson *et al.*, 2011).

How Are Academic Standards Used?

After development of a consistent set of academic standards that assess the student's abilities, they may be used in a variety of ways. Standards are developed with the primary focus of determining whether the student should progress through each step of the curriculum, but in reality they are also employed to evaluate the strength of a program, by both accrediting bodies and other stakeholders. Standards are the academic institution's obligation to society, ensuring the quality of graduates at least to the level of Day One competence. They also represent an obligation to the student, ensuring that they will have the opportunity to be successful.

The relative success with which a student masters academic standards is also frequently used

in a variety of high-stakes decisions, including competitive scholarships and postgraduation education programs such as internships, residencies, and graduate degrees. With recognition that graduation with a DVM or equivalent degree is the ultimate goal, many training programs are also using academic standards to guide students in prioritizing their extracurricular activities. For example, some programs have a minimum overall GPA that students must attain to become elected class officers, corporate representatives, or eligible for certain extracurricular activities.

Informing Students about Academic Standards

For standards to be useful and fair, they must be communicated in a clear, unambiguous manner. Anyone who has been responsible for developing and implementing standards will appreciate how difficult this can be. In truth, standards change over time as new circumstances arise and as they are reviewed and updated by faculty, administration, and legal counsel.

In most programs, a student handbook has been developed to share important information with students and faculty regarding expectations, including academic standards. This information is often shared in print and/or with a web-site link. An early part of the curriculum is typically dedicated to discussing this information with students so that expectations are deliberately communicated for understanding. Changes in academic standards are typically published on a yearly basis. The process for changing standards varies, but often involves faculty and administrative input, as well as the advice of legal counsel. It is important that each change, as well the entire document on a periodic basis, be reviewed by legal counsel so that any consequences of an inability to meet standards will withstand challenge. It is extremely important that published standards be consistently applied and deemed to be fair and necessary for a professional student.

Consequences of Failing to Meet Standards

The most obvious consequence of failure to meet standards is that the student is not allowed to progress through the curriculum. In most circumstances, particularly when the failure to meet standards is academic or related to technical and nontechnical skills, students are allowed an opportunity to remediate the deficiency. How this is accomplished is dependent on the timing of the course, type of remediation required, extenuating circumstances associated with failure, previous failures, available resources, and whether the reason for failure is correctable. Appropriate remediation can require substantial resources, specifically faculty time and support materials. From the student's standpoint, the issues will include time required for remediation, impact on timely progression through the program, financial implications, and resulting personal/emotional difficulties. Mental health issues and learning disabilities may play a role in placing students at risk, and must be effectively addressed for the long-term success of remediation efforts.

Remediation of a didactic course may occur during the summer between academic years or with the next matriculating class. If difficulties are identified early, appropriate support measures such as tutoring or counseling are indicated. Clinical rotation remediation can often be accomplished in a timely manner, since most rotations are repeated throughout the year. If only clinical skills require remediation, the program may utilize OSCEs or other similar means to demonstrate competence.

Effective remediation of professional attributes can be even more complex, as this may involve addressing issues as disparate as poor personal choices or academic dishonesty or illegal activities. The failure to demonstrate appropriate professional behaviors may be unrelated to academic standards, so the process for addressing professionalism may be quite different and include Honor Code Council hearings or even immediate dismissal. Probation requirements may also be different depending

on whether the issues are academic or professional. Finally, if the program has policies allowing appeal for readmission after academic dismissal, the student may be required to remediate each area that is viewed as a weakness in order to optimize their chances for ultimate success.

Thoughts on Remediation

The most important role for examinations that determine progress is to ensure that students proceed to the next level only after achieving the intended learning outcomes of the current level. Educators have a duty to help students understand their strengths and weaknesses and to guide improvement (Hays, 2012), so having a clear understanding of the goals of remediation is critical.

Programs deciding to take a proactive approach to helping students develop the necessary skills to prevent academic difficulties should be prepared for a range of potential issues. Problems can be related to testing (test taking, test anxiety), materials (time management, organization/integrating information, formulating learning issues, tutoring requirements, course remediation), noncognitive areas (anxiety, stress, lack of concentration or motivation), cognitive issues (critical thinking, problem-solving, reading comprehension), and/or disabilities (screening, accommodations; Paul *et al.*, 2009). Effective remediation policies should include early detection of problems in academic performance, strategies to help students develop better approaches for academic success, and facilitation of self-directed learning (Maize *et al.*, 2010). Remediation approaches can include exam remediation, course repetition, individualized remediation plans, summer restudy programs, reduced course-load programs, competency lists, and clinical practice remediation.

It should also be recognized that most learners have more than one deficit, and that deficits may vary by academic level of the learner, with medical knowledge, clinical reasoning, and professionalism being most common (Guerrasio *et al.*, 2014). In one study, remediation of clinical reasoning and communication deficits took the most faculty time, but increased faculty time significantly reduced the odds of a negative student outcome. Learners who struggled with mental wellbeing required significantly more faculty time than other learners, as these issues often slowed the pace at which they could acquire new information because of a more limited ability to remain on task while studying and learning.

Failing an early examination two weeks into medical school was strongly predictive of later student difficulty (Winston, van der Vleuten, and Scherpbier, 2014). These authors found that an examination in the first two weeks of medical school was an early predictor for the target population of students likely to struggle, confirming the notion that close similarity between the predictor task and target task provides sufficient accuracy for targeted early interventions. Further, in the prevention of failure, as with remediation, the type and details of intervention are likely to matter. Importantly, it is essential that systemic issues, such as workload and curricular flexibility, are addressed if there is to be maximal support of increasingly diverse student populations. Under the usual system of remediation (assessment-focused revision program and then reassessment), the majority of poorly performing students fail to improve in clinical assessments. In other words, the poorly performing subgroup achieves only short-term success with traditional remediation and retest models, and, critically, shows an absence of longitudinal improvement. Therefore, following poor performance, remediation should be embedded in the subsequent program (Pell *et al.*, 2012).

Most remediation interventions in medical education focus on improving performance to the standard required to pass resit or retake, rather than to support the development of effective lifelong learning skills (Cleland *et al.*, 2013). Generally, interventions represent "more of the same," such as additional or intensive

knowledge or skills teaching. The likely critical factor in short-term improved performance is individual analysis of performance and feedback. Early remediation interventions have the potential to stop the cycle of underperformance that is characteristic of many struggling students. Typically, these students have low self-efficacy beliefs and negative feelings about learning that directly influence their motivation to persist with difficult learning tasks. They need to experience success as soon as they are identified as having difficulties so that they can feel a sense of control over their learning and performance. Intervention may require a substantial time commitment from faculty, including multiple meetings, a flexible curriculum that allows a decelerated track to at-risk students, experienced and mindful faculty facilitators, emotionally supportive relationships, sufficient academic rigor, and timely, constructive feedback in order for students to develop and apply their skills over time (Cleland *et al.*, 2013).

A Few Best Practices for Maintaining Academic Standards

- Students should be well informed about their deficiencies. At TAMU, Progress Committee meetings are held twice per semester in addition to individual meetings with students by instructors, assigned mentors, and members of the academic dean's office. Counseling appointments are available with an onsite counselor as well as on campus. Letters detailing deficiencies are shared with students as well as placed in their academic file.
- There should be easy access to student handbooks that are updated on a regular (yearly) basis, with input from students, faculty, administration, and legal counsel. The academic dean's office should keep good records of issues that arise throughout the year that are not expressly addressed in the handbook,

so that language can be developed to "close loopholes" in the future.
- The faculty should be engaged in continual reassessment of the curriculum and standard-setting to ensure that educational objectives are being met. TAMU faculty meet for a yearly curriculum retreat to discuss important academic issues that affect the program.
- Remediation procedures and content should be faculty driven but administratively supported.
- One aspect of maintaining standards is to afford the student an opportunity to appeal a grade that they feel was assigned unfairly. The process is typically managed administratively, with the protocol for overturning a grade being a determination that the grade was assigned in a capricious or discriminatory manner. For traditional didactic classes, the accrued evidence may be different than in clinical rotations, where the grading is often more subjective. Using scoring rubrics and careful event documentation can help to provide support for a low score. The process usually has two or three levels of appeal, which may include the faculty member, department head, associate dean, and dean or college committee.
- Readmission appeals are utilized after a student has been dismissed from the program, typically for academic reasons. In this case, the appropriate faculty committee hears evidence and decides whether the student should be readmitted to the training program, and, if so, where and under what conditions.
- Students can have a role in the development and dissemination of information regarding standards. At TAMU, students are voting members of the Curriculum Committee and comprise the membership of the Honor Code Council.
- Ideally, individuals with a substantive role in disciplinary action or the appeal process should be separate from student engagement activities such as active mentor groups, in order to avoid the appearance of bias or a conflict of interest.