Nursing faculty need cognitive and motivational models that cultivate a sense of autonomy and agency in nursing students’ pursuit of becoming a nurse. This article introduces nursing faculty to Dweck’s mindset model, which has documented for more than 30 years student academic success in disciplines other than nursing. Within this article, the author highlights the differences between the 2 mindsets, implications for nursing education, and ways to cultivate a growth mindset classroom.

What Are Mindsets?
According to Dweck’s mindset model, 40% of the general population perceives intelligence as fixed and immutable (ie, fixed mindsets), whereas another 40% perceives intelligence as completely malleable (ie, growth mindsets). The remaining 20% fall somewhere in the middle with no clear mindset predilection (nongrowth mindsets). Fixed mindset individuals perceive intelligence as innate and immutable. A fixed mindset person believes that “you either have it or you don’t,” and no amount of effort can improve learning.1 Fixed mindset learners, being normatively appraised, fear failure and focus on the display of competence: proving instead of improving. Much energy is expended to maintain the appearance of competence, which can deplete cognitive resources for learning. When fixed mindsets meet challenge, they withdraw and avoid further adversity. Fixed mindset learners will often blame others (self-handicap) for their failures.1

In contrast, a growth mindset individual perceives intelligence and academic ability as malleable through effort, persistence, and tenacity.1,2 The growth mindset individual is most concerned with the development of competence over time.1 A common attribution of growth mindset learners when they approach failure is “I have not learned that yet.” Growth mindset learners do not fear failure as fixed mindsets do; rather, they see effort as a positive sign that learning is underway. They welcome mistakes and adversity as learning opportunities.1 In summary, student endorsement of the fixed mindset generally limits learning, whereas endorsement of the growth mindset model has been linked with academic success.1-3

Mindsets and Remediation
Fixed mindset individuals generally do not seek help or remediate.1-7 The implications of not remediating leave fixed mindsets vulnerable to make the same errors over and over again as illustrated in the following study. Nussbaum and Dweck4 studied 20 to 30 undergraduates following an examination. Participants were able to compare their scores with former student scores, and higher-performing students offered strategies for success. Fixed mindset students reacted...
defensively at their low test scores and looked to see who scored lower, which seemed to console them. However, the fixed mindset students did not seek out the strategies of the higher-scoring students destined to make the same mistakes. Growth mindset students did not look to see who scored lower but immediately reviewed the feedback from the higher-scoring students, remediating while the fixed mindset students did not.4

Neuromodulatory tools have recently enabled educators to see the effects of remediation in a new light. Three studies5,7 found that growth mindsets are hardwired for adaption to mistakes. Mangels et al16 isolated regions of the brain most active in fixed mindset individuals as they responded to feedback following a challenging assignment. Fixed mindset individuals perceived feedback more negatively (processing it in areas of the brain associated with emotions and less in the frontal area for corrective processing). Long-term learning processes (deep learning) were diminished in the face of such anxiety and self-doubt, leading to less sustained memory activity for remediation. The next study by Moser et al5 extended Mangels and colleagues16 work by showing a strong positive correlation between the growth mindset, allocation for mistake correction, and remediation using brain wave patterns. Ng7 confirmed the previous research by Moser et al5 and Mangels et al6 but furthered the model by explaining how the brain’s neuroplasticity may account for growth mindset learners’ intrinsic motivation. Intrinsic motivation sparked the self-regulating behaviors (attention to mistakes and remediation) of growth mindset learners leading to their academic success.7

Growth Mindset Model as an Academic Success Model
Evidence is emerging linking the growth mindset model with undergraduate student academic success. The growth mindset model has demonstrated the following in college students: (1) higher grades8,12 (2) improvement and engagement in reading comprehension and writing,13 (3) acceptance of challenging assignments,14 (4) openness to and sustained interest in the pursuit of a new goal despite setbacks,15 (5) affinity for intrinsic motivation and adoption of more effective learning patterns16 and (6) improved inter-personal communication skills and less public-speaking anxiety.17

How Does One Cultivate a Growth Mindset?
Fortunately, the growth mindset model is easily cultivated.2,11,12,18,20 Understanding the 3 tenets of the growth mindset model is fundamental to its cultivation: (1) show students how believing your brain can “grow” as you learn new things (neuroplasticity) can influence learning and potentiate academic success, (2) students must feel as if they belong in the classroom, and (3) praise students for process, not talent. Three studies highlight how to cultivate a growth mindset curriculum, emphasizing the growth mindset messaging and instilling a sense of belonging in college.

Paunesku12 conducted a randomized controlled study or 844 community college students enrolled in a gateway general education math course. The intervention consisted of short online modules about the growth mindset, learning, and academic potential. Students were asked to write letters about how their math course would lay the groundwork for their career pursuits. Students in the intervention groups (who heard the growth mindset message and developed the letters stating the sense-of-purpose math had on their career trajectory letters) were more likely to pass the math course and progress. Yeager et al11 conducted 2 institutional-scale randomized double-blind studies of nearly 9000 (90% of the entering class) first-year undergraduate students. The researchers examined how the growth mindset message and developing a sense of belonging to the university would impact historically disadvantaged students (minority and first-year generation students). The interventional groups received online 25-minute modules with growth mindset messaging such as how the brain grows with learning (neuroplasticity) and how these processes relate to academic potential. Interventional students also used attributional training (seeing is believing) by writing letters to future struggling students, thereby internalizing the growth mindset message. The letters reinforced that many first-year students often do not feel as if they belong in college, and the need to reach out to teachers and others in the university might mitigate the feelings of isolation. The control group received information about the brain and its various regions and functioning. The control did not receive growth mindset messages or write letters about belonging.

In both studies, disadvantaged students who completed the online interventional growth mindset and belonging modules were more likely to complete a 12+ full-time course load for the entire first year, reducing the historical achievement gap between academically advantaged and disadvantaged students by 31% to 40%. Moreover, their GPA scores were significantly improved, and they were more likely to be engaged in extracurricular activities such academic support programs than their control group counterparts. These 2 studies demonstrate inexpensive and efficient means to institutionally scale up growth mindset messaging and increase the academic potential for all students, but most importantly for historically disenfranchised students.

Implications of Fixed Mindset Teachers
While the merits of cultivating growth mindset students may seem apparent, the notion of faculty mindset development with endorsement of the growth mindset model may seem less inviting and uncomfortable. For eons, academia has perpetuated a fixed mindset culture by glamorizing intelligence and ability while shunning failure. However, the implications of a fixed mindset teacher who believes learning is innate and immutable (“you either have it or you don’t” mentality) can be devastating.

Canning et al20 examined 150 science, technology, engineering, and math (STEM) professors’ mindset endorsement.
and how it influenced students' learning. The sample consisted of 600 courses, more than 15,000 college students including 1600 underrepresented racial minority (URM) students. Drawing from the literature, the researchers knew that fixed mindset teachers, who believe students either have the ability to succeed or not, make premature assessments of students' likelihood of success (often based on the first examination) and ability group students, all practices that can exacerbate stereotype threats. The researchers were concerned to examine if the STEM professors' fixed mindset beliefs about intelligence and ability would influence URM students. The researchers hypothesized that conscious or unconscious fixed mindset beliefs by professors would lead URM students to experience lower motivation, resulting in underperforming and contributing to racial achievement gaps. Results indicated that the racial achievement gap was twice as large in courses taught by fixed mindset STEM professors than those courses taught by STEM growth mindset faculty. Students in courses taught by fixed mindset faculty reported that the teacher used less motivating teaching strategies (less focus on long-term learning and development), which seemingly contributed to lower course performance for all students but most significantly for URM students.

Good et al.21 examined nearly 1000 students (532 females) enrolled in a highly selective university calculus class. The female students who perceived the classroom tenor to be that of a fixed mindset (the belief that girls' math skills are limited) elicited gender-based stereotype threat, which resulted in a lack of belonging in the classroom. The erosion of the sense of belonging in math had serious consequences because students struggled in the current calculus class and expressed an aversion to future math classes. To the contrary, if the classroom milieu was that of a growth mindset tenor, which welcomed females and encouraged learning math to all students, the female students reported higher levels of belonging.

Two other studies found the effects of fixed mindset teachers to be unsettling.22,23 Fixed mindset teachers encouraged competition (not collaboration),22 de-emphasized social comparisons by not calling on weak students in class, and offered kind words meant to comfort struggling students but did not offer remediation.21 These behaviors were often perceived by the students as signs that the teacher does not believe they will succeed. These students internalized the perceptions of inferiority, which led to lowered motivations and expectations of success.

In summary, teachers' mindsets (fixed or growth) can have longstanding influences on students' educational outlook. Fixed mindset teachers' classrooms are often places where learning is limited, competitive, and noncollaborative; where talent and intelligence are revered; and where premature assessments forecast innate ability for some (not all) students to succeed. Growth mindset teachers focus on building competence in all students over time, are open to trying new learning strategies, and have been linked with academic success.

Cultivating the Growth Mindset Model

Nursing faculty mindset development and administration support are needed to properly cultivate the growth mindset model throughout a curriculum. Within a nursing curriculum, short online growth mindset messaging modules could be integrated into first-year nursing student orientation. As with any successful learning project, deliberate redundancy is essential for success. Therefore, subsequent assignments regarding how the growth mindset message equips nursing students to become better practitioners would need to be integrated throughout students' tenure. Auten,19 one of only a few studies addressing the need for mindset training and faculty development, reported that once community college faculty were exposed to the growth mindset model and taught ways to implement it in their classrooms, they reported a renewed sense of teaching.

Achievement Goal Theory and Mindset Model

Understanding classic achievement goal theory is beneficial to building a growth mindset culture because the growth mindset model is predicated on a healthy balance of performance and learning goals.22 Briefly, performance goals focus on the demonstration of academic competence (examples would include examinations and skill development) and the need for normative appraisal or comparisons.3,22 Learning or mastery goals are focused on development of academic competency over time, related to personal growth.3,22 While performance goals are typically completed in the moment (as with an examination or a skill), learning goals teach students to improve their competence and knowledge building (deep processing) over time.22 A curriculum solely built on performance goals can lead to competitive and noncollaborative fixed mindset classrooms, which limit learning and generate other comparisons and negativity.22

Students perceive and prioritize the strategies and values on which they are evaluated by the teacher. A teacher’s well-intentioned admonitions of the value of persistence and effort will be diminished if effort, persistence, and trying new learning strategies are not rewarded. A classroom that is largely based on swift completion of performance goals (such as with examination-heavy courses) can inadvertently cultivate the deleterious effects of fixed mindset learners. In other words, students must also be rewarded somehow for effort, persistence, acceptance of challenge, and personal growth, as well as satisfactory examination grades.

In addition to performance and learning goals, faculty should instill relational goals to build a growth mindset classroom. Butler24 added to classical achievement goal theory by the addition of relational goals. Relational goals depict faculty caring and offering student social support. Where space is available, this author encourages belonging (relational goals) by having students sit in circles so all students are visible to each other and the teacher. On the first day of class, a fair amount of time is set aside to learn all students’ names and reasons for considering
nursing as a career. Through this practice, the teacher can attempt to customize learning and show evidence of relational goals.

A community of learning through mentoring could be established in such a way that senior nursing students write letters (or emails) to junior students about common challenges of trying to fit in, belonging in nursing school, and ways to succeed. Through these learning communities, nursing students can realize that their anxieties are not due to an inability to do the work or make the grade; rather, they begin to see that these are commonplace feelings that all novices experience, which should ease over time. As we have seen in the prior studies, these practices are especially useful for historically disenfranchised students.

Proper Praise and the Power of Not Yet

Dweck1-3 referred to proper praise, the third tenet of the growth mindset model, as the “power of yet.” In the recent past, we praised students for natural talent and intelligence. Students praised for intelligence often did just about anything to maintain the “smart” image, often seeking less challenging assignments that can be done with little effort or lying and embellishing their scores to maintain their appearance of competence.1-3

Praise is for verbs, processes, or actions, not for nouns like talent, ability, or intelligence.1-3 Fixed mindset learners fear failure and often do not extend themselves to accept challenge. The teacher should praise students for trying new strategies to learn, reading more complex books or articles, and accepting more complicated patient experiences. These formative assessments, which may not have been seen in the study about fixed-mindset STEM teachers, lay the groundwork for cultivating the growth mindset model.

In contrast, students praised for effort and task persistence more often accepted increasingly more difficult assignments and viewed mistakes and failure as an opportunity for learning.1 Boaler2-5 described a simple but elegant example of proper praise and the “power of yet.” As a math teacher, Boaler noticed how the red X’s on an examination caused anxiety. Having been exposed to the growth mindset message, she replaced the usual red X’s with smiley faces. The curious smiley faces of incorrect responses (former red X’s) now served as praise, highlighting an opportunity for learning, the “power of yet.”

This author has employed a growth mindset model in nursing classes for more than 5 years. Dweck’s book Mindset1 is mandatory reading; after reading the book, students have embraced the growth mindset concept, and many describe it as life-changing. In addition to integrating the 3 tenets of the growth mindset model (the brain is a muscle that grows when you learn new things, belonging, and proper praise), the author has found subtle ways to invite remediation. For instance, on a term paper rubric, the teacher can replace the customary “Does Not Meet Expectations” heading with a “Not Yet” heading, which invites revision of papers. Supplemental Digital Content, http://links.lww.com/NE/A741, provides other tips and suggestions to cultivate a growth mindset mode in nursing students.

In summary, Dweck’s1 growth mindset model has important implications for nursing education. The foundational principles of growth mindset cultivation should include multiple-goal endorsements, development of a sense of belonging in the classroom, and praising students for effort, not intelligence. Endorsement of the model by nursing faculty should bring about increased academic success for many nursing students (especially historically underrepresented and disenfranchised students) while providing a resurgence in faculty’s teaching and learning.

References

Using Flipgrid as an Alternative to Journals During DNP Practicum Experiences

Practicum experiences are a fundamental component of post–master’s doctor of nursing practice (DNP) programs. Journals and discussion boards are traditional assignments for students to document, analyze, and reflect on their practicum experiences. However, these learning strategies lack engagement and socialization.\(^1\) Flipgrid (https://info.flipgrid.com), a free online video discussion forum, is an alternative to journals in DNP practicum courses. Students and faculty can access Flipgrid on a computer, or a mobile app can be downloaded on a smartphone or tablet. To use Flipgrid, faculty first create a grid, or homepage for a course, and then journal topics within the grid. Journal topics can be related to practicum experiences and/or course objectives. Students then record and post a 15-second to 5-minute video response to the journal prompt. Formative and summative feedback can be provided by faculty through video responses. To promote student engagement, students should record multiple videos, preferably 1 video after each practicum experience. Post–master’s DNP students have provided favorable reviews of Flipgrid stating that the technology is easy to use, less time consuming than writing a journal, and more engaging, and affords them time to complete other writing assignments. Faculty have also offered positive reviews stating that Flipgrid videos provide an opportunity to review student progression throughout practicum experiences and the ability to provide feedback in real-time via video responses.

Reference

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