

## Three Pillars of Education: Curriculum, Instruction, & Assessment

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Why did you become a teacher? Most teachers say making a difference in students' lives is one of the most rewarding aspects of teaching (82%). Forty-five percent also say that they wanted to help students reach their full potential (Rentner, Kober, & Frizzell, 2016). Education involves helping a novice develop a strong, readily accessible background of knowledge (Rosenshine, 2012). Schools and instructors can achieve this goal through the three pillars of education, which include curriculum, instruction, and assessment. Students are more likely to achieve academic success when curriculum, instruction, and assessment are aligned and, conversely, without alignment, student achievement will suffer (English, 2000). To improve academic success and performance, educators must "tighten" the relationship between the written curriculum, the implemented curriculum or instruction, and the tested curriculum or assessments (English, 2000).

### Curriculum

Curriculum is the content or material to be learned (Smith & Orlovsky, 1978) and defines the work of teachers (English, 2000). The word *curriculum* comes from the Latin for *course* in that curriculum represents an educational journey toward graduation. Curriculum exists in several forms, including the written curriculum, the implemented curriculum, the hidden curriculum, the excluded curriculum, the recommended curriculum, the supported curriculum, and the tested curriculum (Glatthorn, Boschee, & Whitehead, 2006). These constitute a "curriculum system."

#### Written Curriculum

The written curriculum is the curriculum created at the educational institution or the state level. The written curriculum may appear in school catalogs, handbooks, and syllabi. It often outlines the program's scope and may include standards, benchmarks, and objectives. An example of a written curriculum published by the *Commission on Massage Therapy Accreditation* (2015). The written curriculum is also called the *intended curriculum* or *official curriculum*.

#### Recommended Curriculum

The recommended curriculum is the curriculum advocated by stakeholders and experts in the field. The recommended curriculum for a massage therapy program is outlined in documents such as the *Massage Therapy Body of Knowledge* (2010) and *The Core: Entry-level Massage Education Project* (2013).

#### Supported Curriculum

The supported curriculum is the curriculum reflected in resources allocated to support teaching and learning. Two main resources are time and learning materials. The first resource includes how much time is allotted to a particular subject and how much time the teacher actually spends on the subject. The second resource includes textbooks and other materials used by teachers and students during curriculum implementation such as multimedia, blogs, software, and apps. The supported curriculum is the bridge between the written curriculum and other types of curriculum. A curriculum gap may occur when school

leaders are faced with difficult economic decisions and elect to reuse outdated resources rather than purchase new updated resources.

### **Implemented Curriculum**

The implemented curriculum is the curriculum that is taught and/or learned; it is closely tied to the pillar of instruction. The implemented curriculum is the content that is delivered and includes activities and interactions between learners and teachers, amongst learners, and between learners and content. This area is considered the messiest part of education because instructors bring their biases into the equation and may teach content that is not in the curriculum or omit content that is in the curriculum. The implemented curriculum is also called the *taught curriculum* or the *curriculum in action*.

### **Tested Curriculum**

The tested curriculum is another view of curriculum and represents content on exams developed by schools, teachers, and licensing/certification boards, including the *Massage and Bodywork Licensing Exam* (MBLEx) and the *Board Certification for Therapeutic Massage and Bodywork* (BCTMB) exam. The tested curriculum may drive instruction and lead to students doing better on exams. In fact, students were put at a disadvantage when there was a gap between the content students were taught and the content students were tested on via exams (Berliner, 1984).

### **Hidden Curriculum**

The hidden curriculum is the unplanned or side effects of education and includes the knowledge and skills students (and teachers) learn in school. The hidden curriculum consists of the development of personal values, beliefs, attitudes, perspectives, and ideologies of society. For example, if the teacher values research, students are more likely to value research. The hidden curriculum also encompasses the unexpected impact of learning such as motivation, self-efficacy, and development of a growth mindset, all which enable students to become life-long learners. These characteristics are considered “hidden” because they are often unacknowledged or unexamined by students, educators, and society.

The hidden curriculum can reinforce the written curriculum, or it can contradict it and reveal hypocrisies or inconsistencies between a school’s stated mission and what students actually experience and learn. For example, if a school’s mission is to help all students succeed academically, but a review of its performance data reveals low test scores, high dropout rates, or low pass rates on the MBLEx. If a school has a dress code, what are they communicating to students about professional appearance? What does a school without a dress code communicate about professional appearance? Every school has some form of hidden curriculum. The hidden curriculum is also called the *unintended curriculum*, the *unwritten curriculum*, or *unofficial curriculum*.

### **Excluded Curriculum**

The excluded curriculum is content that has been left out, either intentionally or unintentionally (Eisner, 1994). For example, curricula may be omitted or covered only briefly, such as human trafficking, research literacy, or manual lymphatic drainage because of lack of teacher knowledge and understanding or because of lack of time. The excluded curriculum is also called the *null curriculum*.

## Instruction

Instruction consists of activities that impart knowledge (or skills) that are readily accessible. Instruction involves purposeful direction of the learning process, and effective instruction leads to improved student achievement (Coe, Aloisi, Higgins, & Major, 2014; Rosenshine, 2012). The word *instruction* comes from the Latin *structus*, to build. Components of effective instruction include (1) the instructor's content knowledge, (2) instructional quality, (3) classroom climate, (4) classroom management, (5) teacher beliefs, and (6) professional behaviors. It should be noted that the instructor's knowledge of the content and quality of instruction had the strongest impact on student outcomes (Coe et al, 2014). Caine and Caine (2011) also included the learner's state of mind as an important component of effective instruction.

### Massage Students

The median age of massage students is between 26 and 30 years of age; females make up 80% of the student body (American Massage Therapy Association, 2017). Many massage students may be classified as non-traditional. The National Center for Education Statistics defines nontraditional students as meeting one of seven characteristics: (1) delays enrollment into postsecondary education, (2) enrolled as a part-time student, (3) works full-time, (4) financially independent for financial aid purposes, (5) has dependents other than a spouse, (6) is a single parent, or (7) does not have a high school diploma (Choy, 2002). Non-traditional students such as working adults and parents represent 85% of higher education enrollment in the United States (PNPI, 2015). Who is in your classroom?

### The Classroom

Research suggests different learning environments can make a 10%-15% difference in academic outcomes (Uncapher, 2016).

**Seating.** Seating should be flexible and fit the learning activity. Row seating is best for lectures and independent/individual tasks. Cluster seating is best for interactive/group tasks (Wannarka & Ruhl, 2008).

**Temperature.** Ideal thermal temperature for optimal learning is between 68° and 74° Fahrenheit, with about 50% humidity (Earthman, 2002; Uncapher, 2016).

**Digital boundaries.** Portable digital devices (PEDs) include any web-enabled device such as mobile phones, laptop computers, tablet and notebook computers, iPods, MP3 players, e-readers, smart watches, and smart pens. Technology and web-enabled devices can play an important role in education. For example, electronic devices can be used in research and to study for exams. Technology use can promote student independence and encourage interactions outside of class between classmates and between students and instructors. In addition, many software programs can customize language for English language learners, and programs are available to help disabled students succeed academically.

Use of PEDs in the classroom has been found to decrease academic performance and test scores (Kraushaar & Novak, 2010; Kuznekoff & Titsworth, 2013; Mueller & Oppenheimer, 2014; Sana, Weston, & Cepeda, 2013; Wei, Wang, & Klausner, 2012), reduce notetaking during lectures (Kuznekoff & Titsworth, 2013), significantly distract both users and nearby non-users (Sana et al., 2013; Şad & Goktaş, 2014), and reduce in-class interactions between classmates and between students and instructors (Wurst, Smarkola, & Gaffney, 2008). Students using PEDs in class reported less satisfaction with their educational experiences (Fried, 2008; Wurst et al., 2008). Students repeatedly underestimate how often they use their PEDs for

nonacademic purposes during class time (Kraushaar & Novak, 2010). It is important to note that when PEDs were banned in schools, students who benefited the most were low-achievers (Beland & Murphy, 2015).

Suggested policies include allowing PEDs during in-class projects and discussions and not allowing use of PEDs during classroom lectures, seminars, or clinical experiences unless directed by school faculty. When PEDs are permitted, the sound should be off at all times. Students should not be allowed to have PEDs in exam areas. Remind students that they are given opportunities to check their PEDs during breaks. Be sure PED use is in compliance with clinical off-site policies.

Be clear about how students should contact you outside of class. Examples are email, text message on your mobile device, and social media. Also be clear about when students can expect a response, especially when they contact you during evening hours or during the weekend.

Two methods of instruction are direct and indirect (Ruutmann & Kipper, 2011). *Direct instruction* is teacher led and academically focused. *Indirect instruction* is student led with little or no direction from the teacher. Indirect instruction helps students create meaning through investigation, discovery, and reflection.

A blend of the two methods is recommended, with a slight increase toward direct instruction (Rosenshine, 2012). These methods move students to a stronger and deeper understanding that is profoundly empowering and leads to achievement of a goal.

Students prefer teachers who are both the “Sage on the Stage” and the “Guide on the Side” (Hovious, 2013). Students want live classroom lectures and teacher-facilitated discussions with teachers who are engaging and have a good command of lesson content (Charbonneau, 2012).

### **Direct Instruction**

Direct instruction is structured, sequenced, teacher led, and academically focused. Direct instruction is based in cognitive and behavioristic learning principles and involves the delivery of the lesson, explaining the specific concept or skill, and leading students through activities that improve learning and support rigorous thinking (Rosenshine, 2012). Direct instruction encompasses a wide variety of techniques such as lecture, discussion, modeling, demonstrating, questioning, reviewing, and mentoring.

**Lecture and discuss.** Begin each class with a review of vocabulary and previously learned concepts. Without reviewing previously learned material, students may struggle learning new material while trying to recall old material because working memory is limited (Clark, 2008).

The most effective teachers spent more time in direct instruction presenting than less effective teachers (23 minutes in a 40-minute time period compared with 11 minutes in the same time period) (Rosenshine, 2012). Time was spent providing sufficient instruction with explanations, modeling, giving examples, and checking for understanding. Less effective teachers passed out worksheets and had students do independent work (Coe et al., 2014).

**Textbooks.** If your lessons are tied to textbooks, preview the chapter. Point out titles, subtitles, headings, and subheadings. Point out pictures, charts, graphs, or illustrations. Point out bolded terms. Be sure to include boxed content in your lecture, as this is often excluded in PowerPoint presentations provided by publishers. After the lecture, remind the students of free web-based resources such as image collections, electronic coloring books, and games provided by the publisher.

**Digital vs print textbooks.** While e-textbooks are widely available, 92% of college students prefer print textbooks (Robb, 2015). E-books may impair learning and, while there were no measurable differences between the two media in regard to student performance, e-book users required more reading repetitions to achieve the same result (Szalavitz, 2012). Other reasons for paper preference were improved reading comprehension and retention. In addition, students expressed concerns about eyestrain and fatigue with reading long documents on computer screens. Other reasons were “reassurance” issues such as familiarity, a feeling of comfort, tactile satisfaction, symbolic representation of how much reading time was required, and paper’s stability over digital information, which is more easily lost or deleted (Spencer, 2006). Context and landmarks are apparently important for memory, and the more associations a memory can trigger, the more easily it can be recalled. E-readers provide few spatial landmarks over print and simply scroll through text, rarely displaying page numbers, but rather the percentage already read. In this sense, “pages” are infinite and limitless, which can be mentally confusing. Print books give students a physical reference point, and part of memory recall includes how far along in the book we are, something that’s more challenging to assess on e-readers (Baron, 2015).

There were also concerns about the effect of e-readers on the environment (paper is biodegradable/e-readers are not). Advantages of e-books were search ability, variable font size, choice of languages, and text-to-speech.

**Screen size.** Size matters among students who use PEDs for educational purposes. Students learn best on screens 4.3 inches or larger while reading (Raptis, Tselios, Kjeldskov, & Skov, 2013) or viewing videos (Maniar, Bennett, Hand, & Allan, 2008). Smaller screen size also affected information clarity, the user’s ability to recall information (Ghamdi et al., 2016), and slowed reading time (Raptis et al., 2013).

**PowerPoint presentations.** When using PowerPoint presentations, use BIG PICTURES and very little text, also called *illustrative lectures* (Helmke, 2009).

**Support attention.** The cognitive functions of learning and knowing involve working memory (also known as *short-term memory*) and long-term memory. Learning is a function of working memory; knowing is a function of long-term memory. Working memory has a (1) limited capacity, (2) limited processing power, and (3) separate storage folders for visual and phonetic data. Phonetic refers to speech in sounds or symbols. To support learning, instructors should prevent overloading working memory by employing effective strategies such as supporting attention, reducing distraction, and judicious use of visual and phonetic information (Clark, 2008). Knowing, which is a function of long-term memory, is reinforced by repetition via study habits discussed in the section entitled Student Behaviors.

**Model.** Modeling is a change in behavior from observing the actions of others (Eggen & Kauchak, 2013). Modeling such as thinking aloud provides students with scaffolds or instructional supports and is a form of practice and how to use material learned. When you share your own stories and clinical experiences, especially the struggles, you encourage the development of a growth mindset, improve motivations, and increase performance (Lin-Siegler, Ahn, Chen, Fang, & Luna-Lucero, 2016).

Thinking aloud is a great way to model complex tasks such as critical thinking or clinical reasoning. Thinking aloud not only demonstrates the thought processes used while they themselves solve difficult problems, thinking aloud also provides learners with a way to observe “expert thinking” that is usually hidden from students (Rosenshine, 2012). Students need to learn how the teacher solves problems. Helping students

solve difficult problems by modeling has been called “cognitive apprenticeships.” Students learn context and strategies during their cognitive apprenticeships and they become better problem solvers (Rosenshine, 2012).

Use stimulating language such as, “Think about it...” or “I used to think this way, but now I see this way.” This type of language models metacognition and shifts an internal process into an external one. Teachers can also study the students’ thought processes by asking them to think aloud.

**Question.** Effective teachers asks lots of questions and ask students to explain the processes they used to answer questions or to explain how the answers were found (Rosenshine, 2012). When teachers ask who, why, and how, students learn to question themselves. This is a form of metacognition.

You can also use *choral responses*, which is a method of questioning that allows students to answer by calling out responses in unison. Instead of calling on one or two students to answer, all students answer. Use sentence starters to review past lesson material such as, “The four types of tissues in the body are...,” then pause for a choral response. Use wait time to draw students into conversations (including mental conversations). Use wait time even after you received the response you wanted to produce novel responses (Clough, 2009). Practice verbal (“What else?”) or nonverbal (Look puzzled) inquiries. Insert student names when giving examples in your stories.

**Review.** Students need extensive practice to learn new material in order to become fluent. The more review and practice, the better the performance (Rosenshine, 2012). If material is not adequately reviewed, it is easily forgotten. The development of expertise requires thousands of hours of practice, and review is one component of practice. Ask students to summarize by recalling something from the lesson and share it with the class. This is another example of rehearsal. Both questioning and summarizing allows teachers to check for understanding.

When students review and practice the lesson content, it creates opportunities for success and generates a sense of safety, which allows learners to feel relaxed and competent. This experience builds the foundations for high level performance to come. Review is needed for new material for this to be stored in long-term memory. It is easy to place something in a file cabinet and difficult to remember where you filed it. Practice and review helps students recall where they filed the information so it can be retrieved later.

**Mentor.** *Mentoring* is a term to describe a relationship between a less experienced individual, called a *mentee* or *protégé*, and a more experienced individual or mentor. Traditionally, mentoring is a relationship that fosters the mentee’s professional, academic, or personal development (Donaldson, Ensher, & Grant-Vallone, 2000). Mentoring helped student retention and predicted the degree to which students became involved in social and academic activities (Crisp, 2010). Mentoring improved academic performance and is one of the Big Six mentioned in the section entitled Student Behaviors (Leidenfrost, Strassnig, Schütz, Carbon, & Schabmann, 2014). Students may prefer mentors who are a close match demographically (Frierson, Hargrove, & Lewis, 1994), or they may differ in terms of gender, ethnicity, socioeconomic status, or disability status (Blake-Beard, 1999). The American Massage Therapy Association provides their members with mentoring opportunities. Perhaps a similar program can be established for massage educators.

**The big six.** Teachers and mentors can influence students in profound and measurable ways for years to come. Thirty thousand college graduates in the U.S. participated in a study to find out which college experiences were correlated with a student’s long-term career and life success. Six elements were identified as critical. They were: (1) had a professor who made the student excited about learning, (2) had a professor who cared about the student as a person, (3) had a mentor who encouraged the student to pursue his or her

goals and dreams, (4) personally had worked on a long-term project, (5) had a job or internship where the student applied what he or she was learning, and (6) had been involved in extracurricular activities (Seymour & Lopez, 2015). This study also found that only 3% of college graduates say they had all six experiences called the “Big Six.”

### **Indirect Instruction**

Indirect instruction is student led with little or no direction from the teacher. Indirect instruction is based on constructivist and social learning principles. Indirect instruction helps students create meaning through investigation, discovery, collaboration, and reflection. Indirect instruction encompasses a wide variety of techniques such as problem-based learning (case-based learning and team-based learning), collaborative test-taking, reflective activities, and teaching students how to study effectively. It is not enough to present new material because material will be forgotten without sufficient practice. The quality of storage in long-term memory will be weak if students only skim the material and do not engage with it. We construct and reconstruct knowledge when we use what we have learned (Rosenshine, 2012).

As a reminder, effective teachers spent more time in direct instruction than less effective teachers. Moreover, indirect instruction is done AFTER, not before, direct instruction once fundamental concepts are learned (Rosenshine, 2012).

**Problem-based learning.** Problem-based learning is an approach in which students learn through engagement with a problem (Nilson, 2010). Students are confronted with an ill-structured situation in which they utilize problem-solving strategies and knowledge bases and skills to solve a problem, usually the kinds of problems they are likely to face in practice. Two methods of problem-based learning are *case-based learning* and *team-based learning*.

**Case-based learning.** Case studies are vignettes expressed as clinical, ethical, or moral dilemmas. They can improve critical thinking and problem solving (Coppola, 1996). Case studies help students anticipate or avoid problems by engaging them in conversations about situations they may encounter in professional practice. By examining case studies with fellow classmates and experienced clinicians (e.g., teachers), students learn to contemplate; situations can be handled in many ways, and students learn what might arise from certain actions. Students also learn to draw upon other disciplines when choosing the most appropriate action (e.g., economics, law, ethics, medicine, history, philosophy, or psychology) (Herreid, 2005).

**Team-based learning.** Team-based learning uses small teams of diverse learners to discuss and solve cases. Assemble teams early in the semester. Students will remain working in the same 4- to 7-member teams until the end of the semester. Use a set of predetermined criteria such as (1) massage experience; (2) cultural background, such as being an English language learner, having international travel experience, or having lived in a different country; or (3) educational background (Brame, 2017). Team-based learning gives students a cross-cultural perspective and deepens empathy (National Institutes of Health, 2016). Therapists are likely to have clients from different cultural backgrounds (Georgetown University Health Policy Institute, 2004). Team-based learning exposes students to novel ideas, challenges previously held beliefs, and improves critical thinking and problem solving (Wells, Fox, & Cordova-Cobo, 2016).

**Collaborative test-taking.** Collaborative testing is an active learning approach in which students work together while taking a test (Centrella-Nigro, 2012). Collaborative, or cooperative, testing is an umbrella term used to describe a test method different from traditional or individualized testing. When students work in

groups during collaborative test-taking, they think aloud as they explain how they arrived at their answers to other members of the group, modeling reasoning skills and rehearsing the lesson content.

Practice tests, taken collaboratively or individually, have been shown to boost students' performance across different tasks and educational contexts (Centrella-Nigro, 2012; Dunlosky, Rawson, Marsh, Nathan, & Willingham, 2013). Students who tested themselves after learning something retained more of the material a week later than students who did not test themselves (Dunlosky et al., 2013).

**Reflection.** Reflections, in education, are self-observations and self-evaluations used to gain a deeper understanding of actions and reactions. Students are asked to think about and share how they feel about what they have learned or are learning. Teachers can use this information to determine levels of metacognition, comprehension, and reasoning (Costa & Kallick, 2008). Reflections can reduce stress in students and promote a growth mindset (Yeager, Lee, & Jamieson, 2016). Consider the use of artifacts or objects that can be presented during reflective activities. As students reflect, they are synthesizing learning experiences.

**Study skills.** Teach students how to study effectively. As mentioned previously, practice tests were one of the most effective methods to boost students' performance (Dunlosky, et al., 2013). Other effective study methods are spaced repetition.

**Spaced repetition.** This is a learning technique that spaces studying out over time, which improves retention and retrieval. Spaced repetition (also known as *distributed practice*) is based on the Forgetting Curve first postulated by Hermann Ebbinghaus in the late 1800s (Nickson, 2011). Ebbinghaus asserted that information decays or breaks down over time and, to strengthen learning, we must revisit the material often. Forgetting, then remembering, allows learning to build, like exercising a muscle. In fact, without forgetting, there is no benefit from studying. Donovan and Radosevich (1999) conducted a meta-analysis and found that participants who used spaced repetition outperformed those who did not by 67%.

**Leitner technique.** This technique combines spaced repetition with flash cards. It was developed by German scientist Sebastian Leitner. The system involves moving flash cards with correctly answered questions further down a line of boxes and moving incorrectly answered cards back to the first box. Each box represents a time interval (1: every day; 2: every other day; 3: once per week; 4: bi-weekly; 5: review before exam). Cards in the first box are studied more frequently, and time intervals become longer in subsequent boxes, encouraging students to review the least recalled information more often. There are several apps and resources that use this principle such as Anki, Memrise, Tinycards, and Quizlet Plus.

**Pomodoro technique.** This technique uses a timer to divide time on a task into intervals separated by breaks. It was developed by Francesco Cirillo, who used a tomato-shaped kitchen timer while studying at the Guido Carli International University in Rome; *pomodoro* means tomato in Italian. The six steps of the Pomodoro technique are: (1) decide on the task to be done; (2) set the timer to 25 minutes; (3) work on the task until the timer rings (if you suddenly remember you have something else to do, write it down and get back on the task); (4) after the timer rings, put a checkmark or other identifier on the page if you are working on a document; (5) take a short 3- to 5-minute break and do something non-work-related such as going for a walk, getting a cup of coffee, meditating, or doing controlled breathing techniques, and then return to step 1; (6) every four pomodoros, take a 15- to 30-minute break. Regular breaks are thought to aid in assimilating new information before the next round of pomodoros (Cirillo, 2009). This technique is also called *interval studying*. The brain tends to remember best what happens at beginnings and endings — so have lots of beginnings and lots of endings.



**Exercise.** The benefits of exercise on learning are well documented. Give studying a boost by breaking a sweat shortly before you study. Exercise enhances blood flow to the brain and promotes learning (Reynolds, 2012).

**Sleep.** One of the easiest ways to improve learning is to get adequate sleep consistently (based on your age group) (National Sleep Foundation, 2017; Taylor, Vathauer, Bramoweth, Ruggero, & Roane, 2013), reduce pre-bed screen time from light-emitting digital devices (Chang, Aeschbach, Duffy, & Czeisler, 2015), and sleep between studying and testing (Baert, Omey, Verhaest, & Vermeir, 2015). The best way to recall information is to sleep shortly after learning it (Payne, 2012).

## **Assessment**

Assessment is the process of measuring how much a student has learned from planned activities or the program (Scanlan, n.d.). The more information we have about students through assessments, the clearer the picture we have about achievement or where gaps may occur. Two types of assessment are formative and summative.

### **Formative Assessment**

Formative assessment is intermittent teacher assessment that occurs throughout the learning experience and is used to monitor student understanding (Black, Harrison, Lee, Marshall, & William, 2003). Continuous assessment provides both students and teachers with the information needed to improve teaching and learning in process. Formative assessments help teachers recognize where students are struggling and address problems quickly. Formative assessments are often integrated into instruction during activities such as questioning, reviewing, or peer assessments. Formative assessments help students identify their strengths and weaknesses and target what areas need improvement.

Formative assessments are generally low stakes and have little or no point value. That said, formative assessment tends to be less threatening and less stressful to students. Teachers do not hold students accountable via “grades” for skills and concepts they have just been introduced to or are learning. In addition, formative assessments are prone to bias and are highly subjective (Scanlan, n.d.). Formative assessment is also called *informal assessment* or *continuous assessment*.

**Peer-Assessment.** Peer assessment is a process by which peers check each other’s work and provide feedback. This increases student engagement and critical thinking skills and promotes metacognition and cooperative learning (Burkett, 2012). Students tend to achieve more in settings where they explain the material to someone else (Rosenshine, 2012).

### **Summative Assessment**

Summative assessments are used to make decisions for grading and/or to determine a learner’s academic performance and readiness for progression to a goal such as graduation. Summative assessments are given at regular intervals, usually at the end of educational activities. Summative assessments can also be used to evaluate teacher effectiveness, programs, and alignment of curriculum (Black et al., 2003). Examples of summative assessments include exams, graded projects or papers, and behavioral competencies such as practicals. Summative assessments are often high stakes, which means that they have a high point value. Students are aware of upcoming summative assessments and are given opportunities to prepare. Because the outcome leads to a grade, summative assessments are associated with increased stress (Scanlan, n.d.).

For students to successfully pass high stakes exams, it is helpful if they experience academic success while in school (Rosenshine, 2012). The optimal test percentile for fostering student achievement appears to be around 80%. A success rate of approximately 80% demonstrates that students are learning the material (Rosenshine, 2012). Be sure to acknowledge scores, as this was found to improve motivation, student achievement, and academic success (Moricle, 2013). While practice makes perfect, practice is disastrous if students are practicing errors. Once errors have been learned, they can be difficult to modify (Rosenshine, 2012). This is one of the values of instant feedback during summative assessments (discussed next). Summative assessment is also called *formal assessment*, *final assessment*, *terminal assessment*, or *assessed curriculum*.

**Instant feedback assessment technique.** The instant feedback assessment technique (IF-AT) is an assessment system that provides students with immediate feedback on test items (Epstein Educational Enterprises, n.d.). This technique uses a traditional multiple-choice format and allows students to continue answering questions until they discover the correct response. Students receive partial credit for subsequent attempts. This type of assessment teaches while it evaluates.

### **Graduate Support and Self-Care**

Build a learning community that can extend past graduation. Social networking sites such as Facebook can enhance academic performance and promote students' social capital (Shah, Subramanian, Rouis, & Limayem, 2012). Discuss social media policies; many companies that provide massage services have their own policies (Society for Human Resource Management, 2017). Self-care begins in massage school. The American Massage Therapy Association recently announced a plan to help members "have rewarding and long-term careers..." and the first item on the list is self-care programs (Radcliff, 2016). Remind students regularly about self-care and model the importance in your own life (Steinman, 2016).

Members of a culture find ways to connect with one another for support, guidance, and to share monumental events. Suggest that students stay connected after graduation via social media. Consider the use of ritual to promote connection as well as a growth mindset.

### **Candles**

Give students a candle. Ask them to light it when they hit a milestone.

### **Yearbook**

Ask students to sign one another's main textbook using the front and/or back pages.

### **Growth Mindset**

Remind students that learning never ends and that their knowledge base requires continual expansion and updating. This concept is also called life-long learning or growth mindset.

### **Teacher Support and Self-Care**

Teacher support and self-care have been found to have a sizeable impact on student outcomes (Coe et al., 2014) and student achievement (Darling-Hammond, 2014). Seek professional development and support from peers within your school, at conferences and conventions, and through online social networks such as Facebook's EdNet. Practice and model self-care (Shevrin, 2014).

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