# *Seven Timeless & Universal Principles of Student Success:*
## Research-Based, Learner-Centered Educational Processes Strongly Associated with Academic Achievement and Degree Completion

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**Introduction**

A large and growing body of research indicates that remarkably different outcomes are achieved by institutions with very similar enrollments in terms of admissions selectivity, race, and ethnicity (Benjamin & Chun, 2003; Carey, 2004, 2005; CollegeBoard Advocacy, 2008; Kelly, Schneider, & Carey, 2010; Kuh, et al., 2005; Mortenson, 1997). These findings strongly suggest that not all educational environments and cultures programs are created equal. A key distinguishing feature of colleges and universities with unexpectedly high graduation rates is that they transformed themselves into student success-focused campus cultures (AASC&U, 2005; Carey, 2005; Kuh, et al., 2005).

Creating such a culture involves more than simply accruing multiple, stand-alone support programs. Research indicates that colleges and universities with higher-than-predicted graduation rates don't just "plug-in best practices" to improve their graduation rates (Engle & O'Brien, 2007). As John Bean (2005) points out: "Changes in retention occur when the institution changes, not when a new program is added" (p. 237). Deep and durable change doesn't take place with "quick fixes", "magic bullets" or serial injections of "best" (or "popular") practices.

Tackling the challenge of improving student-success rates simply by tacking on a series of separate, segmented initiatives runs the risk of creating "initiative fatigue" among members of the campus community responsible for student-success programs. In addition to this risk, the American Association of State Colleges & Universities warns that the add-on-programs strategy runs another risk: "Adopting an action strategy based on 'programs' can send an unintended message that only those directly involved in them are responsible for student success. Ironically and unintentionally, this perspective may actually discourage widespread internalization of this responsibility in the form of a student centered culture" (AASCU, 2005, p. 26). Similarly, Vince Tinto (1993) reminds us: "Ultimately the success of our actions on behalf of student learning and retention depends upon the daily actions of all members of the institution, not on the sporadic efforts of a few officially designated members of a retention committee" (p. 212).

An alternative, more effective approach to advancing student success focuses less on programs and more on *principles*—transferable processes transcending the boundaries of specific programs that can be "decontextualized" and applied campus-wide by all members of the campus community. As Melinda Karp, Senior Research Associate at the Community College Research Center, argues: "A shift is needed. Efforts to improve persistence should focus on processes, not programs. Shifting our lens to look at mechanisms rather than programs, we can see how reforms might result merely in 'tinkering around the edges' rather than the establishment of environments that truly help students create relationships or gain essential information" (Karp, 2011, p. 24). Focusing on pervasive processes with campus-wide applicability moves campuses away from a "band-aid" approach to promoting student success that relies exclusively on supplemental, peripheral support programs, and moves them toward a more central,

*systemic* approach in which multiple members of the campus community adopt common practices that can have a collective, coordinated, and synergistic impact on student success.

Such a systemic approach also has the potential to exert a *transformative* on campus culture, shifting it toward becoming more learner-centered and student-success oriented. Developing a culture of student success, like the development of any culture, requires a common language and common customs. In this manuscript, seven principles are offered as a common language of student success and a springboard for crafting common student success-promoting practices that may be infused throughout the campus community. The principles offered are *student-centered*, focusing on the student experience and are consistent with the *new learning paradigm* that calls for a "paradigm shift"—away from the traditional focus on teacher and the teaching process—to a focus on the *learner* and the *learning* process (Barr & Tagg, 1995). As Peter Ewell (1997) argues: "Change requires a fundamental shift of perspective. Instead of starting with academic 'programs', alternative design visions start with students and what they need to be successful as learners" (p. 6).

The principles offered herein are also are *research-based*—they are well grounded in higher education scholarship with a long historical trail of empirical and theoretical support. The sheer volume of scholarly support, plus its striking consistency across a different periods of time and different student populations, strongly suggests that the following principles are timeless and universal:

1. **Personal Validation.** Students are more likely to succeed when they feel personally *significant*—when they are recognized as *individuals*, feel that they *matter* to the college and that the college *cares* about their success.
2. **Self-Efficacy, Grit, and Growth Mindset.** Success is maximized when students believe: (a) they can *influence or control* their educational fate, (b) their intelligence isn't "fixed" but can be "grown," and (c) that positive academic outcomes are achieved through personal *effort*, *perseverance,* and *resilience.*
3. **Finding Meaning and Purpose.** Students are more likely to succeed when they find *meaning or purpose* in the undergraduate experience—when they appreciate the *significance* of their college education and make *relevant* connections between academic learning, their current life, and their future goals.
4. **Active Involvement (Engagement).** Student success increases proportionately with the depth of student *involvement* in the learning process—i.e., the amount of *time* and *energy* that students invest in their college experience—both *inside* and *outside* the classroom.
5. **Reflection.** Student success is optimized when students *reflect* on their learning experiences, *think deeply* about them, and *transform* them into a form that connects with what they *already know* or have *previously experienced.*
6. **Social Integration.** Student success is facilitated by *interpersonal interaction, collaboration,* and formation of *relationships* between students and other members of the college community—peers, faculty, staff, administrators, and alumni.
7. **Self-Awareness (Self-Knowledge).** Students' prospects for success increase when they gain self-insight into and remain mindful of their: (a) learning strategies, styles, and habits, (b) ways of thinking, and (c) personal talents, interests, and values.

This manuscript provides documentation for the positive impact of these principles on student-success outcomes and supplies specific strategies for putting the principles into practice. Although the seven principles are distinct and discussed independently, the reality is that they operate interdependently. Practices cited for implementing a particular principle often serve to implement additional principles simultaneously.

**1. Personal Validation.** Students are more likely to succeed when they feel personally *significant*—when they are recognized as *individuals*, feel that they *matter* to the college and that the college *cares* about their success (Muraskin, et al., 2004; Rendón, 1994; Rendón-Linares & Muñoz, 2011; Schlossberg, Lynch, & Chickering, 1989; Terenzini, et al., 1996).

In contrast, student success is impeded by college practices and policies that devalue, depersonalize, or marginalize students. Vince Tinto eloquently captures the importance of personal validation in his landmark book, *Leaving College: Rethinking the Causes and Cures of Student Attrition*, "Students are more likely to become committed to the institution and, therefore stay, when they come to understand that the institution is committed to them. There is no ready programmatic substitute for this sort of commitment. Programs cannot replace the absence of high quality, caring and concerned faculty and staff" (1987, p. 176). Tinto's assertion is empirically reinforced by research indicating that first-year students who could name a college-affiliated individual to whom they might turn to for help with a personal problem were more than twice was likely to return for their sophomore year than students who could not (Levitz and Noel, 1989).

One of the first large-scale studies to highlight the importance of personal validation was a national survey of retention officials at 947 postsecondary campuses, both two-year and four-year, who were asked: "What makes students stay?" The survey-response option to this question most frequently selected was "a caring faculty and staff" (Beal and Noel, 1980). Terenzini, et al. (1996) reached a similar conclusion, based on their national research on students' transition to college: "The formal and informal mechanisms by which an institution sends subtle signals to students about how valued they are should be reviewed and revised to provide early validation for students" (p. 9). This holds true for all students, but it's particularly true for underrepresented students who come from families without a college-going tradition (Rendón-Linares & Muñoz, 2011). Research shows that for these students, personal validation or prerequisite for engagement—i.e., when they feel validated, they become engaged (Rendón, 1994). As Rendón and Garza (1996) note: "To challenge students at higher levels . . . will require getting closer to students, including valuing their past experiences, helping them negotiate the transition to college, and liberating them from invalidating beliefs they may hold" (p. 301)

**Practices that Promote the Principle of *Personal Validation***

* First-year *convocation* ceremonies in which members of the college community assemble to personally welcome and celebrate new students' entry into higher education

* Advisors, instructors, and support staff who learn the *names* of their students, make them feel known (refer to them by name), and know *about them* (e.g., their career goals, educational plans, and personal interests)

* *Personalized correspondences* with students that identify them by name, recognize them for their efforts and accomplishments, and acknowledge their achievement of educational milestones (e.g., personal e-mail messages congratulating students for their co-curricular contributions, attaining academic excellence, or regaining good academic standing following academic probation)

* Seeking out *student perceptions, feelings, and feedback* about their campus experience (e.g., satisfaction surveys, opinion polls, and focus groups)

* Maximizing *student representation* on campus committees and policy-forming bodies (e.g., student government, student life committee, or student engagement taskforce)

**End-of-first-year event* that celebrates students' completion of their critical freshman year, including an award ceremony for outstanding first-year academic and co-curricular achievements

**2. Self-Efficacy, Growth Mindset, & Grit.** Success is maximized when students believe: (a) they can *influence or control* their educational fate, (b) their intelligence isn't "fixed" but can be "grown," and (c) that positive academic outcomes are achieved through personal *effort, perseverance,* and *resilience* (Aronson, Fried, & Good, 2002; Bandura, 1977, 1997; Chemers, Hu, & Garcia, 2001; Csikszentmihalyi, 1990; Dweck, 2000, 2006; Duckworth, 2016; Duckworth & Kern, 2011; Elias, & Loomis, 2002; Multon, Brown, & Lent, 1991; Paunesku, et al., 2015; Rendón & Garza, 1996; Solberg, et al., 1993; Weiner, 1986, 2000).

Meta-analyses of multiple research findings show that academic self-efficacy is a very potent predictor of student retention and academic achievement (GPA) (Robbins, et al., 2004), particularly for underrepresented students (Zajacova, Lynch, & Espenshade, 2005; Vuong, Brown-Welty, & Tracz, 2010). Research also reveals that students from underrepresented groups, in particular, benefit from self-efficacy interventions designed to promote development of a growth mindset (Aronson, Fried, & Good, 2002).

**Practices that Promote the Principle of *Self-Efficacy, Growth Mindset, and Grit***

Drawing from decades of research on his theory of self-efficacy, Bandura (1997) identified the following as key conditions for developing self-efficacy.

* *Positive expectations*: receiving verbal affirmation from others that success is achievable and that previous performance can be improved. This condition can be created by supplying students with constructive *feedback* that:

(a) construes ability as an acquirable skill and identifies specifically what students need to be do to improve their future performance

(b) highlights educational progress and development of personal competencies relative to previous levels of performance, and

(c) builds on performance-evaluation practices that base grades on achievement of absolute standards (criterion-referenced grading)—as opposed to grading schemes that evaluate students in relation to one another—grading "on a curve" (norm-referenced grading).

* *Vicarious (modeling) experiences*—students observing other students who are successful, particularly others similar to themselves with whom they can identify. This condition is created by exposing students to successful peers with whom they can identify (e.g., tutors, mentors, and young alumni), as well as students who have demonstrated grit by bouncing back from setbacks and converting them to comebacks (e.g., students who recovered from academic probation and achieved academic success).

* *Moderately challenging tasks* that create an optimal level of stress—which students perceive as stimulating, not threatening or anxiety-provoking. This condition is created through use of "scaffolding" practices, such as the following:

(a) *College-entry assessments* that place newly admitted students in courses or programs that are moderately challenging and commensurate with their entry-level skills

(b) *Summer bridge* programs for students who are academically under-prepared or at-risk at college entry

(c) *First-year experience programs* and *first-year seminars* that provide new students with extended support beyond new-student orientation, helping them meet college-transition challenges throughout their critical first year in college

(d) Students develop an *early educational plan* for achieving their personal and professional goals that includes identifying anticipated challenges and resources for meeting those challenges

(e) Collaboration between *course instructors* and *academic-support service professionals* to facilitate timely *referral* of students in need of academic support

(f) Providing students with checklists for, and samples of, successful performance (e.g., checklists of criteria they can use as performance guides and samples of excellent student work they can use as models to emulate)

(f) *Early-feedback* practices that alert students about improving the quality of their work performance before it eventuates academic failure (e.g., formal early-alert/early-warning systems; midterm-grade reports; early, low-stakes testing or non-graded practice

assignments that students can use to identify performance strengths they should replicate and weakness they should rectify)

(g) Careful attention to *course pre-requisites* and *co-requisites* to ensure that students have the requisite skills needed to succeed in more advanced courses

(h) *Supplemental instruction* in first-year courses that have disproportionately high failure and withdrawal rates

(i) Early identification and recruitment of *high-achieving* students to *honors* programs that provide them with optimal challenge and encourage their involvement in peer tutoring

**3. Finding Meaning and Purpose.** Students are more likely to succeed when they find *meaning or purpose* in the undergraduate experience—when they appreciate the *significance* of their college education and make *relevant* connections between academic learning, their current life, and their future goals (AAHE, ACPA, & NASPA, 1998; Ausubel, 1978; Daloz, 2012; Fink, 2013; Kuh & O'Donnell, 2013; Mezirow, 2000; Nash & Murray, 2010; Palmer, 2000; Parks, 2000; Ryan & Deci, 2000; Winkelmes, 2013; Wlodkowski, 1998).

In what was likely the first book explicitly devoted to the topic of increasing student retention, Lee Noel offered the following observation—based on his extensive experience consulting with colleges and universities nationwide: "As the bottom line, we find that student re-enroll when they are having a substantive learning and personal growth experience that they can relate to their future development and success" (1985, p. 2). Noel's observation is supported by classroom-based research at both the secondary and postsecondary level demonstrating that students' academic motivation and academic performance increase significantly when they see the personal relevance of course concepts and course assignments (Hulleman & Harackiewicz, 2009; Hyungshim, 2008). Winkelmes, 2013). This has been found to be particularly true for underrepresented and first-generation students (Winkelmes, 2013).

**Practices that Promote the Principle of *Finding Meaning and Purpose***

* Intentionally and proactively articulating to students the meaning and value of *general (liberal) education* and the benefits (fiscal and personal) of a *college degree*—for example, academic advising, first-year seminars, and by exposure to alumni who've benefited from the college experience

* Explicitly articulating *why* course content should be learned (e.g., its relevance to personal and professional success)

* Helping students make meaningful *connections between separate courses and across different disciplines*—for example, interdisciplinary courses/programs, team-taught

courses, and learning communities in which participating faculty intentionally integrate content taught in their separate courses)

* Helping students make meaningful connections between *academic* learning and *experiential* learning (e.g., course-integrated service learning and leadership development)

* Creating connections between the *curriculum* and *co-curriculum*—for example, course-integrated assignments in which students connect their class work with co-curricular experiences on or off campus

* Academic advising that helps students clarify their *educational goals* and connect their current academic experience with their future life plans

* Collaboration between academic departments, academic advising and career counseling services to help students discover meaningful connections between *majors and careers*

* First-year seminars that actively engage students in the process of *educational planning*—for example, via assignments that require them to develop an integrated plan that includes general education, an academic major, experiential learning, and career preparation

* *Reality-based* learning experiences (e.g., case studies, problem-based and project-based learning, role plays, and simulations) that prompt students to apply what they're learning to real-life contexts and situations

* *Senior-year experience* courses and programs that encourage students to reflect on their college experience, take stock of what they have learned, and apply it to their post-college decisions and transitions

**4. Active Involvement (Engagement).** Student success increases proportionately with the depth of student *involvement* in the learning process—i.e., the amount of *time* and *energy* that students invest in their college experience—both *inside* and *outside* the classroom (Astin, 1984, 1996, 1999; Chickering & Gamson, 1987; Christensen, Garvey, & Sweet, 1991; Kuh, et al., 2005; Kuh & O'Donnell, 2013; McKeachie, et al., 1986; National Institute of Education, 1984; Pace, 1980, 1990; Pascarella & Terenzini, 1991, 2005).

The research base supporting the principle of active involvement (student engagement) is so formidable that it has been referred to as the "grand meta-principle" of student learning (Cross, 1999). Following their voluminous and meticulous review of 2500 studies dating back to the late 1960s, Pascarella and Terenzini (1991) offered the following summary statement: "Perhaps the strongest conclusion that can be made is the least surprising. Simply put, the greater the student's involvement or engagement in academic work or in the academic experience of college, the greater his or her level of

knowledge acquisition and general cognitive development" (1991, p. 616). This finding holds true for both majority and minority students, even after controlling for students' college-entry characteristics (Kuh, et al., 2007).

One of the distinguishing characteristics of campuses with higher-than-predicted graduation rates is faculty use of engaging classroom pedagogy (Laird, Chen, & Kuh, 2008). Research also demonstrates that students who become actively involved in campus life and support services outside the classroom are more likely to complete college (Kuh, et al., 1994, 1995, 2005; Pascarella & Terenzini, 1991, 2005).

**Practices that Promote the Principle of *Active Involvement (Engagement)***

* Use of engaging, *student-centered* instructional practices, such as:

(a) Large-group (whole-class) discussions prompted by effective, open-ended questions

(b) Small-group discussions (pairs, triads, or quads) that allow all students—not just the most assertive or most verbal—to become more actively involved in the classroom

* Engaging students in academic support services through *intrusive* (college-initiated) outreach—i.e., delivering support *to* students, rather than passively waiting and hoping that students take advantage of these services on their own. For example, first-year experience courses that introduce new students to student-support professionals by bringing them to class as guest speakers, or by course assignments that require students to engage with key student-support services on campus

* Incentivizing and recognizing student involvement in campus life. For example, by offering a *co-curricular* or *student development transcript*—comparable to the traditional registrar-issued transcript of completed courses—that formally lists and documents students' co-curricular achievements can be sent to employers and graduate schools

* Involving students in university governance and college quality-improvement efforts by including
them on *campus committees* and *taskforces*.

**5. Reflection.** Student success is optimized when students *reflect* on their learning experiences, *think deeply* about them, and *transform* them into a form that connects with what they *already know* or have *previously experienced* (Baxter Magolda, 2004; Belenky, et al., 1986; Bransford, Brown, & Cocking, 2000; Bruner, 1990; Colley, Bilics, & Lerch, 2012; Dewey, 1933, 1938; Ewell, 1997; Flavell, 1985; James, 1890; Kahneman, 2011; Kolb, 1994; Piaget, 1972; Rogers, Kuiper, & Kirker, 1977; Svinicki, 2004; Symons & Johnson, 1997; Vygotsky, 1978).

Deep learning requires both *action* (engagement) and *reflection* (contemplation). Students need to: (a) "get into" it—i.e., get actively involved during the learning process and (b)

"step back" from it—i.e., reflect on what they learned after engaging in the process. Brain research reveals that active involvement and reflection are two distinctively different states of consciousness. Active involvement is a mental state characterized by beta waves—fast (high frequency), arrhythmical (irregular) brain waves that engage *attention*—which get information into short-term (working) memory. Reflection is a mental state characterized by slower (lower-frequency), rhythmical brain waves that promote *consolidation*—which enable the brain to retain information by transferring it from short-term to long-term memory and connecting it with already-stored knowledge (Bradshaw, 1995; Bligh, 2000; Willis, 2006).

**Practices that Promote the Principle of *Reflection***

* Punctuating classroom lectures with *periodic pauses and questions* that ask students to think deeply about the content being presented

* "*Writing-to-learn*" assignments that encourage students to reflect on their academic learning experiences and relate them to their personal experiences (e.g., one-minute papers)

* Encouraging student *reflection on out-of-class learning experiences* (e.g., reaction papers and portfolios)

* Having students create *concept maps* and *graphic organizers* that prompt them to reflect and connect separate ideas into integrated concepts

**6. Social Integration.** Student success is facilitated by *interpersonal interaction, collaboration,* and formation of *relationships* between students and other members of the college community—peers, faculty, staff, administrators, and alumni (Astin, 1993; Berger & Luckman, 1967; Bruffee, 1993; Ewell, 1997; Feldman & Newcomb, 1969; Johnson, Johnson, & Smith, 1998; Pascarella & Terenzini, 1991, 2005; Ryan & Deci, 2000; Slavin, 1996; Tinto, 1993, 2012; Vygotsky, 1986).

Studies consistently show that students who become socially integrated into the campus community are more likely to complete their first-year of college and persist to degree completion (Pascarella & Terenzini, 2005; Tinto, 1993). Experiencing a sense of belongingness is particularly important for promoting the success of underrepresented students because they are more likely to face stereotypes and experience doubts whether they "fit in" the college community (Walton & Cohen, 2011).

In a classic, seven-year study of more than 2,300 graduating seniors at nine different colleges and universities, these soon-to-be graduates were asked about the experiences that contributed most to their college success. The top-two factors they cited were: (a) personal contacts with other students, and (b) personal contacts with faculty and staff (Willingham, 1985). Similar findings were reported by Astin (1993) who conducted a longitudinal study over a 25-year period that included a national sample of approximately 500,000 students and 1300 institutions of all types. He found that the frequency of

student-faculty and student-student interaction correlated significantly with *every* academic achievement outcome examined, including: college GPA, degree attainment, graduating with honors, and enrollment in graduate or professional school. A host of other studies demonstrate that student-faculty contact outside the classroom is positively associated with undergraduates' (a) academic achievement and cognitive development (Astin & Panos, 1969; Centra & Rock, 1970; Pascarella, 1980; Thompson, 2001; Wilson et al., 1975) (b) personal and social development (Endo & Harpel, 1982; Lacy, 1978; Lau, 2003; Pascarella & Terenzini, 1978; Reason, Terenzini, & Domingo, 2006), (c) perceptions of college quality and institutional commitment (Strauss & Volkwein, 2002; Theophilides & Terenzini, 1981), and (d) educational aspirations (Astin, 1993; Astin & Panos, 1969; Sax, Bryant, & Harper, 2005), including interest in pursuing advanced (graduate) degrees (Kocher & Pascarella, 1987; Pascarella, 1980; Stoecker, Pascarella & Wolfle, 1988).

Tinto (2012) identified four possible reasons why a sense of social membership and community promotes student success: (a) it provides new students with social support that eases their transition to college and reduces academic stress; (b) it enhances students' self-esteem which, in turn, strengthens academic performance; (c) it enables students to more readily access informal, college knowledge from their peers, which helps them navigate the postsecondary environment; and (d) it strengthens students' attachment and commitment to the college, which motivates them to remain enrolled.

**Practices that Promote the Principle of *Social Integration***

* *New-student orientation* programs that go beyond information dissemination and orientation to campus buildings to connect students with each other, with peer leaders, student support professionals, and college faculty

* *Common reading* or other common learning experiences (e.g., common film or common play) that provide students with a shared learning experience and a common topic of conversation

* *Learning communities* in which cohorts of students co-register for the same block of courses during the same academic term, giving them the opportunity to congeal into a supportive peer community

* *Small-group* work that connects students with their classmates (e.g., small-group discussions and group projects)

* *Collaborative and cooperative* learning experiences that transform group work into *teamwork* by having students assume interdependent roles, build consensus, and work together to create a common product

* Creating intentional *places or spaces* on campus for students to work with peers, peer tutors/mentors, advisors, and faculty (e.g., learning commons)

* Intentionally forming *affinity groups* among peers who share similar interests, goals, and experiences (e.g., commuter club, departmental clubs, special-interest groups)

* Incentivizing *student-faculty contact outside the classroom* (e.g., stipends for faculty to have meals with students or engage in out-of-class excursions with students)

* Increasing on-campus *employment* and *residential* opportunities that maximize the amount of time students spend on campus and interact with other members of the college community

* Using *social media* to create on-campus social networks—Facebook, Twitter, and "online purpose networks" (e.g., OrgSync)—campus-based online communities intentionally designed to support students' social integration by connecting them with campus "friends" such as: classmates, peer mentors, faculty, advisors, and student-support professionals.

**7. Self-Awareness (Self-Knowledge).** Students' prospects for success increase when they gain self-insight into and remain mindful of their: (a) learning strategies, styles, and habits, (b) ways of thinking, and (c) personal talents, interests, and values (AAHE, ACPA, & NASPA, 1998; Brooks, 2009; Buckingham & Clifton, 2001; Hart, 2004; Langer, 1997; Pintrich, 1995; Schön, 1987; Smith, 2011; Weinstein & Underwood, 1985; Willis, 2006; Zimmerman, 1990).

Research demonstrates that "successful students know a lot about themselves" (Weinstein & Meyer, 1991, p. 19). High-achieving students are aware of the thought processes and cognitive strategies they use while learning—they engage in "meta-cognition"—i.e., they think about how they are thinking (Weinstein & Underwood, 1985). Successful college students also engage in two other forms of mindfulness: (a) *self-monitoring*—they routinely check to see if they are deeply understanding what they're trying to learn (Weinstein, 1994), and (b) *self-regulation*—they adjust their learning strategies to accommodate the specific demands of different academic subjects (Pintrich, 1995).

**Practices that Promote the Principle of *Self-Awareness (Self-Knowledge)***

* Academic advising and career counseling strategies that stimulate students' self-awareness of personal *strengths (talents), interests and values*, and their implications for students' *major and career* choice

* Writing assignments that encourage students to *introspect* and reflect on their personal values and priorities (e.g., journaling for self-awareness)

* Having students complete self-assessment instruments that promote self-awareness of their *learning styles, habits, and strategies*

* Encouraging students to *self-monitor* their learning by asking them to periodically stop and check whether they're learning deeply (e.g., paraphrasing key concepts in their own words or explaining them to a classmate).

* Engaging students in *metacognition*—prompting them reflect on the thought processes they're using while learning and solving problems (e.g., via one-minute reflection papers, learning logs, or learning portfolios)

* Increasing student *awareness of effective learning strategies* by asking them to introspect and identify what they did to learn successfully, or what they did differently to improve their performance (e.g., Why do you think you were so successful this time? Could the same strategy be used again to promote future success?)

**Summary and Conclusion**

Research reviewed in this manuscript point to the conclusion that there are timeless and universal principles of student success. In sum, students are more likely to be successful when they:

(1) feel personally validated and sense that the college cares about them as individuals;
(2) believe that personal effort is primarily responsible for educational achievement and that college success is strongly influenced by individual determination and perseverance;
(3) develop a sense of purpose and perceive their college experience as relevant and meaningful;
(4) become engaged in the learning process and actively involved with campus resources;
(5) reflect on what their learning experiences and connect them to what they already know or have previously experienced; and
(6) become socially integrated (interpersonally connected) with other members of the college community; and
(7) are self-aware of the thought processes and cognitive strategies they're using while learning and are mindful of their personal talents, interests, and values when making educational and career decisions.

These seven principles may be used as touchstones or cornerstones for evaluating the effectiveness of instructional practices and student support programs. An evaluative grid or matrix could be created in which the seven principles are cross-hatched with key campus programs to assess how well the programs align with each principle. A "gap analysis" could then be conducted to identify whether programs need to more intentionally integrate certain principles (personal validation, social integration, etc.) into the program-delivery process.

The principles cited in this manuscript may also be used as guidelines for designing and delivering "best practices." Effective practices are built on effective principles; without the latter, the former remain theoretically groundless. Instead of accumulating independent initiatives and piling them atop existing institutional initiatives and professional responsibilities, these pervasive principles can be infused seamlessly into

existing campus programs and instructional practices. By so doing, campuses may begin to exert a systemic and synergistic effect on student success.

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