CAPRES

REPORT

WAYS TO ENHANCE POSTSECONDARY ACADEMIC PERSISTENCE AND SUCCESS

FALL 2015

Consortium d'animation sur la persévérance et la réussite en enseignement supérieur (CAPRES)
Université du Québec
475, rue du Parvis
Québec (Québec) G1K 9H7
Phone: 418 657-4349
Email: info@capres.ca
Website: www.capres.ca

How to cite this report:

Vasseur, François (2015), *CAPRES Report – Ways of Enhancing Postsecondary Persistence and Success*, Quebec City, CAPRES. From the CAPRES website: http://www.capres.ca/dossiers/des-pistes-pour-accroitre-la-reussite-et-la-perseverance-a-leducation-superieure/

December 2015

Table of Contents

Background

Context out of which this report emerged

In the early 1960s, Quebec recognized that postsecondary studies were critical to its development and the human, social, and economic progress and wellbeing of individuals, communities, and society at large. By creating CEGEPS and the Université du Québec network and taking measures to promote and facilitate access to higher education and training, Quebec enabled an increasing proportion of young people and adults to continue their education at the postsecondary level. Although access is still a central issue in Quebec, as elsewhere, the province's CEGEPS and universities now face the challenge of welcoming students from a wide variety of communities and academic backgrounds.

The advances made since the 1960s have not, however, resulted in a higher proportion of students who graduate, despite the attention governments and schools have paid to this objective and despite the considerable effort and money invested. This is why increasing success rates has become a key issue in the past 15 years, as well as a responsibility, target, or challenge—depending on your point of view—for higher education.

Schools must and can do better, according to the experts. However to do so, they must take a good hard look at their conceptions, references, guidelines, plans, strategies, and actions with regard to academic persistence and success.

Therefore CAPRES thought it would be useful to provide an overview of current progress on academic persistence and success at the postsecondary level.

Definition of success in this report

This report is based on a particular concept of success. Before reading the main themes covered by the report, follow this link for a brief definition.

Report Content

The report is made up of five sections: four on the main issues to consider in enhancing academic success and a fifth section presenting the views of three influential experts. Each section includes a bibliography.

Section 1 | **Student resources that promote academic persistence and success**

This first section discusses student resources that appear the most effective in increasing postsecondary academic persistence and success.

Section 2 |**Teaching and learning for student development and academic success**

The second section highlights the aspects of teaching and learning that seem to have a considerable, long-term impact on student engagement, progress, development, and success.

Section 3 | **How study programs contribute to academic success**

The third section covers the efficacy of study programs, i.e., how they are designed, developed, and implemented to help students integrate, engage in their learning, make steady progress toward achieving training objectives, develop in many different ways, and take charge of their own futures.

Section 4 | **Academic success at the institutional level**

The fourth section looks at the characteristics of schools with high student success rates in term of their vision, planning, and actions.

Section 5 | **The keys to successful postsecondary education according Hattie, Kuh, and Tinto**

The fifth section is different. It concludes the report by giving a brief presentation of the views of three influential experts, John Hattie, George Kuh, and Vincent Tinto, on postsecondary education and the keys to its success.

The four main themes in this report are linked. Their conception and content are based on certain orientations and choices made by the author.

Author of the report

CAPRES asked François Vasseur, a teaching and learning expert, to design and write this report. He started his career as a CEGEP teacher and then served as a personal academic advisor before working as an educational advisor for twenty years. Mr. Vasseur has focused extensively on what is known as competency-based learning, which he helped implement in the CEGEP system. He has frequently provided expert advice on the development of education systems, particularly in North Africa, and learning assessment. Now retired, Mr. Vasseur does consulting work for a number of stakeholders in the postsecondary education system.

Student resources that promote academic persistence and achievement

| Section 1 of 5 |

An oft-cited claim in academic achievement plans and postsecondary student support policies is that students are key actors in their own learning. Students, we are told, should be our prime focus in seeking to spur academic persistence and success. We should:

- Explore what resources students have at their disposal to advance their learning
- Determine under what conditions students are most likely to tap in to these resources
- Examine, identify, and deploy means to enrich, develop, and consolidate these resources
- Determine how students use their resources and what helps or hinders them

But above all, we must clarify as much as possible **which resources contribute the most to postsecondary academic achievement and how they affect academic persistence and success independently, reciprocally, or in combination**. This is the focus of the first section of this *CAPRES Report* which suggests ways to enhance academic persistence and success at the postsecondary level. This section will seek to lay out as accurately as possible the key resources available to students to promote academic achievement.

Eight main student characteristics have been identified. According to numerous recognized studies and action research reports, they are all essential determinants of academic persistence and achievement for most postsecondary students, as the brief summary of each will demonstrate. Their presence and stage of development in students can be observed and evaluated—for training purposes—at different stages in their postsecondary education.

Eight key resources for academic achievement

First resource | Readiness for postsecondary studies

Readiness for postsecondary studies **covers not only the knowledge students have acquired and their previous academic performance, but also—and importantly—their study skills**. Although proper preparation makes it easier to adjust to university, it explains only about 25% of student performance in the first year of college or university.

> *Proper preparation appears to have a smaller impact on academic persistence and success than what students actually experience at school and in their programs.* – Adelman, 1999

Study skills

Study skills include the ability to set objectives, create a good learning environment, minimize distractions, plan and organize learning and make efficient use of time, do research, develop and assess one's understanding and use of the subjects under study, track progress, and ask for help when needed. These skills draw on students' intellectual curiosity, just like basic skills such as reading, writing, information processing, judgment, and analytical skills (Purdie and Hattie 1999; Schunk and Mullen, 2013).

Second resource | Ability to alter mental representations

Learning involves comparing your existing knowledge with the new information being taught and reorganizing or **adapting that knowledge in light of lessons learned**. Misconceptions representations or conceptions and the inability to correct them properly are one of the main causes of academic failure (Chi, 2008; Vosniadou and Panagiatis, 2013; Vosniadou, Vamvakoussi and Skopeliti, 2008). Students who have developed their critical thinking skills and are used to organizing, questioning, and assessing their knowledge are more likely to succeed (Linnenbrink and Pintrich, 2002).

Third resource | The growth mindset

Students' belief in their capacity to grow intellectually has a direct, positive influence on their self-esteem and academic persistence and success (Blackwell, Trzesniewski. and Dweck, 2007; Good, Aronson and Inzlicht, 2003).

It helps students to stay motivated, learn in depth, focus on the process and strategies they use to learn and regulate their learning, analyze difficulties they encounter and their causes, and redouble their efforts rather than being overwhelmed by their mistakes or deviations from their academic path. Studies show the great importance and benefit of this state of mind and the associated behaviors for all students, but especially those who face persistent stereotypes, such as female students in science and mathematics or students from communities with little representation in higher education (Aronson, Fried and Good, 2002; Aronson and Steele, 2005; Blackwell et al., 2007; Dar-Nimrod and Heine, 2006; Good et al., 2003; Good, Rattan and Dweck, 2007).

Fourth resource | Students' goals

Educational goals

Educational goals refer to **why students** enroll in a program of study. The more these goals are based on a thorough orientation process, the more likely it is that students will view achieving them as vital, as realistic and appropriate to the educational framework, and as a reason to stay in school and succeed academically.

Learning goals

These goals refer to the general direction of learning. Students **looking to acquire knowledge and skills** and to master their subjects are open to new experiences, are motivated about and interested in learning objects (Grant and Dwek, 2003; Martin, 2013a), and make the required effort to learn and process in depth what is being taught in order to thoroughly understand it and use it when called upon (Covington, 2000). They know how to learn from their research and experiences and do not give up when they encounter obstacles, difficulties, or challenges, even if they feel a lack of personal efficacy (Martin, 2013a).

Students may also **pursue performance goals**, such as getting high marks, being the best, or realizing their potential (Covington, 2000). Such students also invest time and effort in their studies to achieve these goals.

Both these types of goals are associated with success (Durik, Lovejoy, and Johnson, 2009; Linnenbrink-Garcia, Tyson, and Patall, 2008), but students who pursue only performance goals seem to be more emotionally vulnerable and likely to learn superficially (Okun et al., 2006), which is why **a mixed approach** (positive goals of mastery and performance) **appears to be more appropriate** and likely to produce better results (Daniels et al., 2008; Diseth and Kobbeltvedt, 2010; Morisano and Locke, 2013; Pintrich and al., 2003).

Personal best goals

Students' goals (Hattie, 2009; Locke and Latham, 2002; Martin, 2006, 2011 and 2013b; Martin and Liem, 2010) are associated with **their specific aspirations**, namely the qualitative results they wish to attain in each course or the improvement/progress they wish to achieve. These goals depend on the students' educational and learning goals, the perceived usefulness of each course, their student situation, and their belief in their abilities and growth potential.

Students who set high, clear goals that are important to them are more committed to developing the required abilities and skills, look for and use learning strategies and activities appropriate to their goals, avoid distractions more effectively, are more persistent in the face of difficulties, and appreciate school more. The higher the students' goals and the harder they are for them to achieve, the more they seem to influence academic success (Morisano and Locke, 2013).

Fifth resource | Self-perception and sense of academic self-efficacy

There are close ties and reciprocal effects between academic achievement and students' positive perception of themselves as being in a particular field, discipline, or course, regardless of age, sex, background, or culture (Green, Nelson, Martin and Marsh, 2006; Marsh and Seaton, 2013; Marsh, Trautwein, Lüdtke, Köller, and Baumert, 2005; Seaton, Marsh, and Craven, 2009; Valentine, DuBois, and Cooper, 2004). The more students **attribute their successes to personal factors**, the more these successes help increase the sense of academic self-efficacy (Ferla, Valcke, Cai, 2009). The more students believe in their academic self-efficacy (Bong, Skaalvik, 2003), the more they are likely to succeed.

The feeling of academic self-efficacy, i.e., the belief or **the conviction that one can do what is required** to achieve the desired results (Schunk, 1991), plays an essential role in academic achievement (DeWitz, Woolsey, and Walsh, 2009; Multon, Brown, and Lent, 1991). Students with a strong feeling of self-efficacy (Bong, 2013) show a greater desire to accomplish complex tasks, learn more efficiently, are less anxious, work harder, (Pintrich and De Groot, 1990), and are more perseverant (Multon, Brown and Lent, 1991). A feeling of academic self-efficacy is also key to students' ability to control their learning, namely observe and analyze their performance, assess its quality, and make adjustments (Zimmerman, Bandura, and Martinez-Pons, 1992).

A terminology issue

Most of the student resources covered in this report, like many others that could have been included, are often grouped under the term "non-cognitive skills." These include attitudes, states of mind, abilities, strategies, and behaviors, which themselves make up different, more or less permeable sets such as the concept of intelligence (e.g., Dweck et al.'s "growth mindset"); general, generic, or non-technical skills (e.g., soft skills); social-emotional skills; "21st century skills"; or personality or character traits (e.g., Duckworth et al.'s "Big Five" or their notion of "grit").

The term "non-cognitive skills" poses at least three problems: it says what its objects are not, rather than what they are; it gives the mistaken impression that these objects are not related to or are the opposite of cognition; and it does not offer, contrary to the pursued aim, an alternative vision of student development.

< > *Students' belief in their ability to successfully carry out academic tasks appears to contribute more to achievement than proper preparation for postsecondary education.*

-Bandura and Locke, 2003; Poyrazil, Arbona, Nora, McPherson, and Pisecco, 2002.

Sixth resource | Personality traits

Conscientiousness

Conscientious students are more likely to be motivated and committed, to work hard, and to be responsible, organized, meticulous, disciplined, persistent, self-controlled, and dedicated to academic achievement (Bidjerano and Dai, 2007; Hart, Stasson, and Mahoney, 2007; Higgins, Peterson, Pihl, and Lee, 2007; Komarraju, 2013; Komarraju, Karau, and Schmeck, 2009; McCann, Duckworth, and Roberts, 2009; Noftle and Robins, 2007; Richardson and Abraham, 2009).

Very conscientious students **make thorough use of in-depth learning methods** that help them to develop the skills, abilities, and competencies targeted by the training and to achieve a high level of academic achievement, but only if learning is assessed at a complex taxonomic level (Duff, Boyle, Dunleavy, and Ferguson, 2004). Chamorro-Premuzic and Furnham (2008) found that students with lower cognitive skills can succeed by being very conscientious and students with higher cognitive skills succeed less well if they are not conscientious. Kappe and Van der Flier (2010) showed that being conscientious is closely linked to attendance in class, skill development, active participation in group activities, and successful completion of a thesis.

< > *According to many researchers, student conscientiousness is the strongest and most consistent predictor of academic success.* - Conard, 2006

Grit and relevant character strenghts

Grit, i.e., willpower and tenacity (Achtziger & Gollwitzer, 2008), refers to the ability to **keep focused on long-term goals** despite the long time spans involved, the considerable effort required, and the difficulties that may crop up (Duckworth et al., 2007).

The more students who are intensely interested in their chosen fields or determined to achieve distant goals show character strengths, the more they will associate their learning goals and specific goals with that goal and invest the necessary means, time and effort—in the form of continuous and intense voluntary training—in the achievement of those goals, and the higher their achievements and their degree of competence and performance will be (Duckworth, Kirby, Tsukayama, Berstein, and Ericsson, 2011; Vallerand et al., 2014).

Self-control

Self-control refers to the voluntary control of behavior, emotions, and attention in the face of temptations or immediate satisfaction that conflict with aims, goals, and objectives (Duckworth and Seligman, 2005; Duckworth and Steinberg, 2015; Maglio, Trope and Liberman, 2013).

Self-control has a daily effect on the duration and intensity of students' efforts to perform academic tasks and influences their marks and level of achievement.

Seventh resource | Social and emotional competence

Socially and emotionally competent students (CASEL, 2005) **are aware of their strengths, shortcomings**, and preferences. They recognize their emotions and what causes them, and control the effects of their emotions and how they manifest themselves (Elias et al., 1997). They are optimistic about their education and their future (Chamorro-Premuzic and Furnham, 2008). They maintain strong relationships with others (Wentzel, 1999 and 2009; Cornelius-White, 2007) and appreciate their student life.

Such students **use their self-control**, emotions, and values to set and meet academic goals. They are resilient and anticipate the consequences of their choices and actions. They use their social skills and their consideration for others to positively interact with students, teachers, and lecturers (Conard, 2006) and to learn from them (Cornelius-White, 2007; Wentzel, 1999 and 2009).

They take advantage of their ability to bring about and manage change and show initiative and leadership, while recognizing and solving problems that arise in the pursuit of their goals.

Eighth resource | Engagement

Students' study skills and ability to alter their representations clearly contribute to academic success. Developing, activating, and using these abilities depend on students' commitment to their education. Student engagement—the key to uccess for many students (Fredericks et al, 2004)—manifests itself as (Fredericks, 2013; Hughs, Luo, Kwok, and Loyd, 2008).

- A **feeling of belonging** to one's academic level, school, or program
- **Active participation by students** in their training: their involvement in learning activities and academic tasks, and the time and energy they spend on achieving the learning goals
- **Adoption of expected behavior:** compliance with rules and instructions, attendance in class, concentration, initiative, effort, persistence in the face of difficulties, and positive interactions with teachers[1] and other students.
- **Involvement by students** in school activities

Engagement, a catch-all term, is the interaction of a set of traits or attributes (Ackerman, 2013; Ackerman and Hegestad, 1997; Fredericks, Blumenfeld, and Paris, 2004; Marks, 2000) of both the student and the school he or she attends.

Conclusion

Upon entering CEGEP or university, students possess certain resources, which they may have developed to varying degrees. Students' level of awareness and ability to use these resources also vary. Helping students discover, examine, and evaluate their resources and recognize their importance, scope, and impact will help them stay and succeed in school. **By establishing students' profiles in this light** as soon as they begin their studies, we can better support and guide them on the road to academic achievement. A range of tools can be used, such as knowledge and skills assessments, psychometric tests, or "home-made" questionnaires on students' motivations regarding their education, academic paths, and learning styles.

A number of factors may or may not facilitate the deployment of these resources or increase their impact on students' futures:

- The features of the schools students attend
- Students' perceptions, thoughts, reactions, and actions during their postsecondary academic pathways
- Their reciprocal relationships with teachers, peers, and other staff members with whom they come in contact
- The characteristics of the educational activities in which they participate
- The content of the academic programs in which they are enrolled
- How the training is given
- The schools' efforts to promote academic persistence and achievement

The following sections on *ways of boosting academic persistence and success at the postsecondary level will illustrate these factors.*

[1] The term "teacher" includes professors, lecturers, and instructors.

TAKEAWAYS…

- Students learn based on what they know and what they do: a good basic education and strong study skills help them adapt to college and university studies.
- Learning consists of developing and changing. Students' belief in their intellectual capacities and ability to question and modify their conceptions based on what they are taught stimulates their learning.
- (See next page)
- Learning also consists of moving toward a goal: students' plans, objectives, and the results they want to achieve direct their learning.
- To learn, students need to mobilize their attitudes, tendencies, abilities, self-confidence, and self-efficacy, as well as their ability to apply themselves, strength of character, self-control, self-awareness, and communication and listening skills.
- Learning requires an engagement that calls on, strengthens, and enriches students' resources.
- Teaching, study programs, institutional visions and actions, and the competence and cooperation of staff involved in helping students academically, all have considerable impact on the use and development of these resources and on how they contribute to each student's success.

Teaching and learning for student development and academic success

| Section 2 de 5 |

A number of studies and research projects on learning and postsecondary academic achievement have shed light on what goes on in the classroom. Some looked at **the teachers and the impact of their varying roles** on student development and achievement (Ross, 2013). Others have examined **student engagement in the classroom** and the developmental and academic impacts of their interactions with teachers and their peers (Barnett, 2010; Carini, Kuh, Klein, 2006; Engstrom and Tinto, 2007). Yet many studied **classroom activities** and their effectiveness in meeting postsecondary learning goals and helping students to realize their potential (Hattie, 2009). As a whole, they reveal the many dimensions of teaching that mobilize and enhance student resources, promote overall student development, and help students to not only do well in the classroom but also achieve their personal training goals. This chapter covers these dimensions with respect to coursework .

Five key learning, development, and academic achivement factors are discussed:

- Designing **courses** to promote student engagement and development and to help students meet their training goals
- **Facilitating learning** in a way that engages and enriches student resources and helps students integrate, transfer, and deepen their learning
- **Exploit and enrich student resources** using a group learning approach so as to help each student develop, progress, take ownership of the course content, and meet course outcomes
- **Supporting** students in their development and efforts to successfully complete the course and meet their training goals
- **Giving them the means** to take charge of their learning, development, and success.

Listing these dimensions in sequential order can be misleading. **These five dimensions make up a system and are in constant interaction.**

First factor | Courses designed and planned to promote student development and achievement

High learning objectives

Establishing **high-level terminal learning outcomes** and convincing students that achieving these outcomes is desirable, important, and relevant boosts student engagement and facilitates their development and academic persistence and achievement (Acee and Weinstein, 2010; Dubeau and al., 2015; Hulleman et al., 2010; Morisano and Locke, 2013; Schunk and al., 2008).

Course planning based on the desired learning outcomes

Backward course design (Wiggins and McTighe, 2005) - identifying the desired learning outcomes (results) and establishing curricular priorities (essential questions and enduring understanding), then determining acceptable evidence of the achievement of the desired results, and planning learning experiences and instruction - has pronounced effects on student motivation, effort, development, and achievement, provided the students buy in to the plan and that it is appropriate and effectively implemented. Similarly, an effective, well-established course flow—regular without being routine—promotes engagement and maximizes the time devoted to learning (Fredericks, 2013; Pianta et al., 2002).

A clear representation of what success means

Learning assessment tasks, learning objects, criteria, assessment times and conditions, requirements for success at different levels of achievement, and how to determine to what extent course outcomes or desired results have been met must be clearly outlined by the teacher and experimented with by students from the beginning of the course. This **provides students with benchmarks** that help them plan their learning, analyze their own development, and advance toward their objectives. If used properly by both teachers and students, these benchmarks contribute to informed, sustained student engagement.

Courses structured to promote student development and success

The mind develops in response to intellectual challenges and disequiblibrium (Adey and Shayer, 2013): Establishing **course flows that present gradual challenges** or bring about progressive changes in ways of thinking, doing, and being is beneficial (Adams and Engelmann, 1996; Gauthier et al., 2013). The objectives must be precise, appropriate to students' situations, and proximal. Progress toward meeting terminal goals is measured such that students can experience a series of successes, learn from their mistakes, and increasingly do without support, all of which increases their self-confidence and sense of academic self-efficacy.

Competency-building occurs in successive, overlapping stages:

- **Representation of** what students must—or want to—achieve and their situations with regard to this goal
- **Familiarization** with the task or activity to master, activation of existing resources, and examination of the results of their deployment
- **Development of new resources,** consolidation and enrichment of acquired knowledge and skills, integration of increasingly appropriate ways of thinking, doing, and being
- **Use of what has been learned** in diverse situations and continuous adjustment of patterns of thought, action, transfer, and conduct

Using this list of stages to inform, organize, and guide learning helps students develop their cognitive skills, integrate new learnings, persevere, and achieve a higher level of success (Arief et al., 2013; Bong, 2013; Fox, 2013; Gauthier et al., 2013; Hattie, 2009).

Courses structured to promote integration of learnings

From the perspective of thinking skills, the student's integration of the basic objects of a course—understanding them, connecting them, integrating them long-term, and constructing ready-to-use mental structures—is guided and facilitated by the use of revelatory or interrogative statements that serve as a framework for teaching and learning.

For example, courses organized around key ideas (Wiggins, 2010)—statements to check, questions to explore, problems to analyze and solve, connections to make, situations or phenomena to examine and interpret—activate students' thinking, motivate their quest for meaning, foster in-depth learning, stimulate both engagement with and questioning of prior learning, and encourage personal use of what is learned. Such courses promote students' cognitive development.

In terms of know-how, students are more successful when **training is given at different times and spread over a longer period.** When concepts and processes are learned at different times and over longer periods and are overlapped with each other rather than learned successively in brief, intense spurts as is usually the case, students distinguish the concepts and processes more and more clearly, recognize better and better the situations in which each or a combination of them should be used, remember more and more quickly and easily what they have learned and deploy it more and more effectively (Cepeda et al, 2008; Karpicke and Blunt, 2011; Kornell and Bjork 2008; Simon, 2013).

Second factor | Teaching methods that stimulate and consolidate learning

Learning activities and assessment tasks that spur students to excel

Student engagement is greater in courses that provide them with **interesting activities and tasks**, i.e. activities tasks they consider important, significant, and stimulating, that foster commitment, and that they see as a challenge, useful, and beneficial to their development or the achievement of their academic or personal aims (Dubeau, Frenay, Samson, 2015; Pianta et al., 2002; Schunk et al., 2008; Schunk and Mullen, 2013).

Students learn better and in more depth when tasks enable them to **use their new knowledge and skills** in situations that are as authentic as possible and that both challenge and consolidate what they have learned. Such situations lead students to explore different ways of thinking and doing, promote an in-depth understanding of the learning objects and accentuate the development of thinking and information-processing skills (Fredericks, 2013; Pianta et al., 2002).

Teaching methods that foster in-depth learning

Active methods promote student engagement. Activities that are directed, guided, and led by the teacher are generally deemed more beneficial, even at the postsecondary level—at least in the beginning stages of learning and training—than approaches where students act completely autonomously.

Teaching methods and activities that challenge student knowledge and **stimulate thinking** lead students to acknowledge that they are responsible for their own learning and encourage them to use in-depth learning strategies. This type of approach and these kinds of activities increase students' understanding and feeling of academic self-efficacy, develop their reasoning and language skills, and reveal and correct their misconceptions, thus helping them to succeed, achieve higher marks, and become more autonomous.

An overview of teaching methods and activities that support student development and in-depth learning

Questioning students

Asking students high-order questions develops their understanding, reasoning (Graesser et al., 1996), and problem-solving abilities, (Reisbeck, 1988), and creativity (Stenberg, 1987), and consolidates learning (Pashler et al., 2007). Relevant and cognitively challenging questions help students process learning objects. They also activate and asses knowledge and encourage students in their attempt to understand, analyze, and judge whether they have learned enough to answer the questions properly (Craig, 2013).

Inducing cognitive conflicts

Asking students to issue predictions, explain phenomena, formulate their own explanatory models (Vosniadou and Tsoumakis, 2013), and present contrary evidence or contradictory data (Clement, 2008), getting them to explicitly demonstrate the nature of their misconceptions via key course concepts (Guzzetti et al., 1993), and discussing with them what they have learned enriches and consolidates their understanding as well as their thinking and language skills (Cash and Hamre, 2013).

Using analogies

Using or asking for analogies between the unfamiliar concept under study and a more familiar one in another domain, while clearly explaining the similarities—and their limitations—between the two concepts (Dagher, 1994; Duit, 1991) allows teachers to not only better guide knowledge construction, but also to highlight a common learning process—conscious or unconscious comparisons between the known and the unknown—and the associated comprehension, reasoning, problem-solving, and decision-making mechanisms.

Getting students to develop mind maps, web charts or graphical process models

Mapping concepts or processes supports in-depth learning at all teaching levels. Organizing concepts and actions in a logical order and accurately determining their interactions enhances students' self-esteem and confidence in their own learning. The difficulties they encounter reveal learning gaps and make it easier to correct them (Novak, 2013).

Enabling independent thinking and action

Encouraging students to explore various individual ways of resolving problems and performing tasks and asking them to demonstrate the validity of their strategies and solutions—in short giving them a professional level of independence and responsibility—helps them understand and process the learning objects (Anderman, 2013; Boggiano et al., 1993; Pianta et al., 2002; Stefanou et al., 2004) providing they are well prepared to meet this challenge and are properly supported.

Third factor | Using the power of cooperative or collaborative learning

Cognitive development is a **social process that is stimulated by teacher-guided students discussions** (Adey and Shayer, 2013; Johnson and Johnson, 2013; Shayer 2003; Shernoof and Csikszentmihalyi, 2009). This is why active learning is usually cooperative. Properly prepared, well-structured, and effective cooperation among students—positive interdependence, individual and collective responsibility, interactions that help everyone progress, recognition of individual contributions, emphasis on the understanding and integration of learning objects and on each

student's progress toward achieving the training goals (Esmonde, 2009; O'Donnell, 2006; Webb, 2013; Webb and Palincsar, 1996)—promotes greater social and academic engagement. Cooperation fosters a more positive attitude to tasks; heightens the importance of successfully completing them; spurs student involvement, concentration, and effort in performing tasks; and promotes academic persistence (Schunk et al., 2008). Cooperation improves learning, enables students to achieve a higher level of reasoning and problem-solving, boosts their sense of academic self-efficacy, and enhances their success and the transfer of learning (Johnson and Johnson, 2013; Webb, 2013).

Observing, clarifying, and **comparing ways of thinking and doing**, exploring different points of view, thinking collectively, and gathering additional information help students develop their thinking and judgment, as well as their understanding of the learning objects and the restructuring of knowledge (Barron, 2000; Chi, 2000; O'Donnel, 2006). They can also help students develop new knowledge, i.e., knowledge that none of the students had before they began working together.

This is true for small teams in a course, **cooperative learning**, and learning communities of students in the same cohort of a program of study. In all cases, support and mutual encouragement among students are beneficial to everyone's success, regardless of their initial resources, to the extent that:

- Students are trained in how to cooperate
- Activities are well structured
- Teams or groups are supported (Lou, 2000)

Fourth factor

The important role support plays in student development, persistence, and success

The notion of support encompasses the teacher–student relationship, the teacher as competent role model, formative assessment, and resulting feedback and feedforward.

The impact of teacher-student interactions on student engagement, development, and success

Helpful, stimulating interactions with teachers assist students in achieving higher marks (Cadima and al., 2010; Cash and Hamre, 2013).

Teachers who establish and maintain sustained personal relationships with students increase student engagement. **Paying attention to students** helps create and maintain a climate of mutual trust and cooperation. Encouragement from the teacher, expressions of caring, reminders of past achievements, recognition of students' progress and potential, and belief in their ability to develop and succeed increase their level of positive self-perception and sense of academic self-efficacy. A positive student perception of the support they get from the teacher increases their engagement (attendence and class participation), learning, level of mastery and performance, marks, and satisfaction with the course (Cornelius-White, 2007; Davis, 2013; Pianta et al., 2002; Schunk et al., 2008; Schunk and Mullen 2013; Wentzel, 2009).

The contribution of the teacher's mentoring role to student development and success

Teachers also support student success in their capacity as role models.

Teachers enhance student success by **using their expertise** with regard to their course's learning objects to help students set realistic goals adapted to their situations and get them to develop their own learning strategies for these goals (Marsh and Craven, 2005; Marsh and Seaton, 2013; Morisano and al. 2010; Schunk et al., 2008; Schunk and Mullen, 2013).

Explicitly and accurately representing the **mental—cognitive and metacognitive—and material approaches** to performing coursework and presenting, in an ongoing exchange with students, not only what is being done but why, when, and how it is should be done, have positive effects on students' confidence in being able to accomplish the tasks as well as their understanding, organizing, and application of the learning objects (Ayres and Sweller, 2013).

The major impact of formative assessment and feedback-feedforward on student progress, development, learning, and achievement

Frequent formative learning assessment during teaching and learning activities (Ruiz-Primo, Furtak, 2007; Fox-Turnbull, 2006) and timely feedback-feedforward to help students develop and make adjustments (Marsh and Craven, 2006; Marsh and Seaton, 2013; Temperley, 2013) are among the most effective and beneficial means of improving students' learning and marks (William and Leahy, 2007). **Formative assessment and feedback-feedforward** have a positive impact on students' self-perception, motivation, and academic persistence—especially when combined with effort and improvement (Marsh and Craven, 2006; Schunk and al., 2008; Schunk, Locke, 2013)—as well as on the degree to which they take charge of their own learning, their use of active learning strategies (Brookhart, 2007), their attention and understanding, and their academic success and final marks.

Frequent formative assessment allows professors to adapt their teaching to students' learning characteristics.

What to give feedback on and what information it should contain

Complete and appropriate feedback (Black and William, 1998; Brookhart, 2007; Karpinski, D'Agostino, 2013):

- Informs students about their learning (*where they are at with respect to what they should have learned and to what extent they have met the objectives at a given stage in the course*)
- Helps students understand the expected results (*what the results will be if they continue developing and progressing in the same manner*)
- Enables students to evaluate their progress (*how their situation has changed since the previous feedback or the beginning of the course*)

- Sheds light on the causes of their positive outcomes and difficulties (*what they have done, how they did it, and the reasons for what was observed*)
- Suggests ways to improve (feedforward: *what they can do and how they can progress, develop, and do better*)

Fifth factor | Benefits of teaching metacognition and encouraging reflexive learning

The more teaching is based on a combination of applicative and reflective approaches, the more it benefits learning.

Helping students clarify and **state their personal goals** for a course can improve their academic achievement (Morisano et al., 2010). Teaching them to set achievement and strive to achieve them even if they have difficulty doing so can strengthen their motivation and foster greater persistence (Morisano and Locke, 2013).

Asking students **to identify the external resources**, as well as the knowledge, skills, abilities, and strategies in terms of planning, executing, monitoring, and adapting the efforts required to efficiently perform a given task contributes to their success.

Explicitly teaching them **to use these strategies** has positive effects on student achievement and marks (Baker, 2008; Brown, 1987; Flavell, 1979; Hacker et al. 2009).

Getting students to observe themselves—or their peers—in their learning activities and **increase their awareness of the mental processes** they use helps them self-regulate these processes (Adey and Shayer, 2013; Bong, 2013), helps them to better appreciate their intellectual potential, encourages them to work harder and persevere, and assists them in developing, maintaining, or reinforcing their sense of academic self-efficacy (Dweck and Henderson, 1988).

Helping students **identify the causes** of their academic results and think about the strategies they used, their efficacy, and what has an effect on their efficacy gives them better control over their progress, development, and success (Baker, 2013; Marsh and Craven, 2006; Marsh and Seaton, 2013).

TAKEAWAYS

Student resources at the beginning of a course, as well as the course itself in all its dimensions, form an initial set of factors that influence how well students do in their postsecondary studies. This dynamic system is briefly described as follows, based on the selected studies and research projects:

- The more teachers and students coordinate their plans, goals, and objectives
- The more courses are designed and perceived as student development activities
- The more the approaches, methods, and strategies used solicit, deploy, strengthen, and enrich students' individual resources
- The more classroom teaching involves a cooperative approach and the sharing of resources to help everyone grow and meet the course goals
- The more numerous and appropriate the opportunities are for individually taking ownership of the learning objects, and integrating them, both within oneself and in one's practice
- The more teachers pay attention to students' progress, development, and needs with respect to the course outcomes, the more they guide them along their learning path
- The more students will have what they need to take charge of their learning, development, and success
- And the bigger the benefits for the students themselves, their teachers, their schools, and their missions, society, and students' fields of study

How programs of study contribute to academic success

| Section 3 of 5 |

The definition of successful training in this report encompasses three interrelated dimensions: **student** engagement in their own learning, student **development** during training, **and student academic achievement**.

Training is successful if it:

1. Leads students to **link personal and academic goals** and devote the time, means, and effort required to achieve them with confidence, willpower, and tenacity
2. Enables students to **significantly progress** at each stage along the way and develop and integrate the multidimensional abilities and skills required by postsecondary studies in general and their program of study in particular
3. Satisfies students, spurs them to achieve **their personal goals and broad expected learning outcomes** at the highest possible level by the end of their program, and reinforces their capacity and desire to apply the benefits of their training in all spheres of life.

The first section of this report sets out students' key personal resources and the significant impact they have on how well students succeed in their studies.

The essential components, properties, and effects of teaching that is focused on student development and academic achievement were described in the second section.

This third section discusses **how postsecondary programs of study affect academic achievement**. It is divided into two parts.

1. The first part describes measures that help students persist and succeed in the first semester or year of a study program.
2. The second part discusses achievement from the angle of the program of study itself.

Part 1 Promoting academic persistence and success through measures taken in the first semester or year

For forty years, the success of students in their first semester or year and their re-enrolment in the third semester have been key issues for schools. To meet this challenge, schools have had to make a greater effort to accommodate students during this stage of their training and strive to better equip them for the requirements of postsecondary education. The measures that have been gradually put in place and that are widely used are:

1. Specific, because they are intended for students in their **first semester or year**
2. Complementary, because they are almost always **in addition to the** training provided in the program of study and require considerable additional human and financial resources
3. Limited, because they usually **focus on the most common difficulties** experienced by students and typical gaps in their preparation for postsecondary education.

The **seven measures** below are among the most common and follow on each other to promote successful transition to postsecondary studies.

First measure | Identify at-risk students

Issue

Some first-year students are more likely than others to drop out in the first semester or year or encounter difficulties that threaten their academic persistence and success. **If they are identified early,** they can be supported more effectively during this key stage.

Method

Early screening of at-risk students is based on **data gathered before** or upon their entry to the program and on reliable risk indicators. The data and indicators usually relate to:

- Previous academic achievements
- General profile: sociability, family support, open-mindedness, financial situation, training constraints
- Academic characteristics: study habits, certainty about their choice of program, interests, training and career plans, confidence in their potential, predisposition to drop out or fail, self-predicted academic difficulties
- Receptiveness to the requirements of the school or program of study : a low level of receptiveness can indicate overconfidence in their abilities, predict resistance to offers of support, and increase the probability that the student will drop out or fail (Herr and Richter, 2009).

Impact

These students are **followed more closely** or are invited to meetings to review their situation and offer them appropriate support to help them start their postsecondary studies on the right foot.

< > *Other sources: Belcheir, 2001; Laird, Chen and Kuh, 2008; Miller, 2009; Reason, Terenzini, and Domingo, 2006; Roos, 2012; Taylor and McAleese, 2012; Tinto, 2011 and 2012; Zhao and Kuh, 2004.*

Second measure | Foster the intellectual and social integration of new students

Issue

The changes students experience when they move to a higher level of education and start a program of study can result in their feeling disorientated, stressed, and isolated. Not only do they have to familiarize themselves with the new academic level, the program of study itself, the school's mode of operation, and available services, they also have to find their place in their cohorts and class groups and develop a sense of belonging to this new learning and living environment. **If the various dimensions of this change are taken into account,** conditions can be created that promote successful integration in the program of study.

Method

The first session—or first part of the session—is dedicated to **welcoming and integrating new students**. Teachers and Student Services staff spend part of their time focusing on factors that help students successfully integrate:

- Recognition by the students **that their presence in the program is important** and worthwhile
- **Forging of significant relationships**—formal and informal, intellectual and social—among students, between students and teachers, and between students and Student Services staff
- Establishment of **realistic expectations** about various aspects of academic and social life within the program and school through frequent discussions with teachers and more advanced students
- Acquisition of **essential academic benchmarks:** guidelines, program requirements and structure, rules governing academic life, program-related learning and living environments, services and resources, available support and how to access it, and daily life in the program

- Recognition by students that their intentions, goals, values, needs, interests, skills, and abilities match those of the program, with the help, for example, of activities to strengthen **a sense of belonging** to the program
- Equipping of students to **perform the core learning tasks** specific to the program

Impact

Successful integration helps increase the odds that students will complete their first year in the program of study.

< > *Other sources: Berger and Milem, 1999; Bersand Smith, 1991; Elkins, Braxton, and James, 2000; Gloria and Robinson Kurpius, 2001; Hoffman et al., 2002; Metz, 2004.*

Third measure | Prepare students to continue on to postsecondary studies and be successful at them

Issue

During their first semester, students reinforce their goals and engagement and develop their habits and ways of doing things. Although most students consider themselves well prepared for postsecondary studies before or upon entry to the program, many realize in the first weeks that this is not the case.

Helping new students acquire or **develop the resources they need** and learn how to use them can contribute significantly to their academic persistence and success.

Method

Developmental activities (Hunter and Linder, 2005; Lippman et al., 2008; Upcraft, Gardner, and Barefoot, 2005) are often included in or added to the program of study at this stage. They are generally aimed at enriching and consolidating student resources, and ensuring the resources are used effectively: (see section 1 of this report)

- A clear, in-depth vision of their orientation, training plans, and learning goals and their alignment with program requirements or the practice of the targeted profession (Getzlaf et al., 1984; Lippman et al., 2008; Schreiner, 2009 and 2013; Tinto, 1987; Yindra and Brenner, 2002; Zhai and Monzon, 2001)
- A strategic training plan and academic and personal goals
- The ability to process, use, and communicate information for the desired purposes and appropriate to the situation (Adelman, 2004; Purdie and Hattie, 1999; Schunk and Mullen, 2013; Wang et al., 2012; Zmuda and Bradshaw, 2013)

- An aptitude for planning, organizing, and performing academic activities and tasks (Wang et al., 2012; Zmuda and Bradshaw, 2013)
- Study, research, and writing skills
- Self-awareness and awareness of others, the ability to establish significant and beneficial relationships (Seal et al. 2010; Wang et al., 2012; Zmuda and Bradshaw, 2013)
- Ability to adapt to new situations, open-mindedness, and emotional regulation (Blanc, DeBurhr, and Martin, 1983; Seal et al., 2010; Zmuda and Bradshaw, 2013)
- Critical thinking, judgment, ability to contextualize and construct rational arguments (Ahuna and Gray Tinnesz, 2006; Behar-Horenstein and Niu, 2011)
- Use of feedback and reflection to adjust one's thinking and actions (Zmuda and Bradshaw, 2013)
- Habit of using available services, resources, and support, as needed

Impact

Activities to develop these resources can have a **positive impact on students' academic persistence and success, grades, overall average, and likelihood they will graduate** (Goodman and Pascarella, 2006; Pascarella and Terenzini, 2005; Scrivener, Sommo and Collado, 2009; Tobolowsky, Cox, and Wagner, 2005; Zeidenberg, Jenkins, and Calcagno, 2009; Wang, et al., 2012). Their impact is greater and more certain (Kuh et al., 2005; Tinto, 2012) if:

- The activities meet students' needs (Attewell and al., 2006; Millar and Tanner, 2011; Strayhorn, 2009) in their entirety (Jenkins, Zeidenberg, and Kienzl, 2009; Wang et al., 2012; Wyatt and Bloemker, 2013)
- What students do and learn during these activities is aligned with that of "regular" courses in the first semester or year of the program of study (Ahuna and Gray Tinnesz, 2006; Engstrom and Tinto 2007; Friedman and Alexander, 2007; Henscheid, 2004; Hunter and Linder, 2005; Perin, 2011; Porter and Swing, 2006; Swing, 2002 and 2003)
- The activities are led jointly by more advanced students, teachers, and Student Services staff, all of whom are well prepared
- Enough time, in total and on a weekly basis, is allotted to developing skills and abilities
- A step-by-step, active and cooperative learning method is used (Zmuda and Bradshaw, 2013)
- Students participate in the activities right to the end (Attewell et al., 2006; Bettinger and Long, 2005)

< > *Other sources: Reason, Terenzini, and Domingo, 2006, 2007; Roos, 2012; Wild and Ebbers, 2002*

Fourth measure | Set up learning communities

Issue

Meaning and identity are built through **interaction**. Fostering intellectual and social interaction around learning objects and learning outcomes can strengthen student engagement, spur their development, and increase their sense of being valued, and thus contribute to their wellbeing.

Method

This interaction can take the form of **learning communities** of students enrolled in the same class groups in at least two common, interrelated courses. Often one course will cover concepts and the other will be for acquiring necessary skills. Students learn together within the community, **sharing their in-depth understanding of the learning objects and work methods** and jointly integrating and applying them. They are assisted by teachers or other instructors and resource persons associated with Student Services, who stimulate their engagement and support them in their efforts to successfully complete the course and their postsecondary studies.

Impact

Research shows that first-year students **feel more encouraged to persist and succeed, are better supported in doing so, and develop more quickly, both intellectually and socially** if they belong to a community that responds to their needs and is focused on their success. Student involvement in this type of community has an overall beneficial effect on their engagement in their studies, the degree to which they integrate what they have learned, and their level of achievement. It also encourages them to adopt more effective learning strategies and habits, enriches and consolidates their generic skills, gives them a favourable perception of the program of study, and leads to greater satisfaction with regard to their training.

This is particularly true in learning communities that ensure the wellbeing of all its members, where facilitators are engaged and readily available to the students, and where activities are closely ties to course outcomes.

< >

Sources: Barab and Duffy, 2000; Henscheid, 2004; Inkelas et al., 2007; Kuh et al., 2008; Lichtenstein, 2005; Pike, Kuh, and McCormick, 2011; Rocconi, 2011; Schreiner and Nelson, 2013; Taylor et al., 2003; Tinto, 1998; Wurtz, 2014; Zhao and Kuh, 2004.

Fifth measure | Support new students through mentoring

Issue

Students in their first semester or year often feel at sea—their experience with postsecondary studies is limited and they have not yet fully adapted to the school and program of study. **Getting to know the students**, understanding their needs and concerns, and discovering their ways of thinking and reacting equip mentors to help them take control over the situations they are experiencing and make appropriate choices.

Method

A mentor—a teacher, a member of Student Services, or a more advanced peer—can assist during this time by sharing their experience, supporting new students psychologically and emotionally, helping them determine their learning goals and strategies, and advising and encouraging them. Mentorship can meet a variety of needs by:

- Informing new students about program requirements
- Helping them develop their learning skills
- Helping them find their way around school
- Encouraging them to take advantage of available services and resources
- Reducing their anxiety about how to pursue and succeed in their studies

Impact

Done properly and with the right focus, mentoring **helps students recognize problems more quickly, find viable solutions, seek out appropriate assistance, and overcome their difficulties**. It can boost students' feeling that they are valued and important, increase their satisfaction with their training, strengthen their confidence in their own potential, enhance their engagement and persistence, and thus help them earn higher grades.

< > *Sources: Andrews and Clark, 2011; Barnett, 2010; Bonin, 2013; Campbell and Campbell, 1997; Casey, 2013; Coles, 2011; Crisp, 2009; Dixon Rayle and Chung, 2007; Eby et al., 2009; Gloria and Robinson Kurpius, 2001; Goff, 2011; Hansford and Ehrich, 2013; Minor, 2007; Muckert, 2002; Rodger and Tremblay, 2003; Schlosser and Gelso 2001; Schlosser et al., 2003; Skahill, 2002; Stonebraker, 2006; Terenzini, Pascarella and Blimling, 1996.*

Sixth measure | Monitor and support struggling students

Issue

Many students encounter pitfalls or show signs of major obstacles to their success during their first semester or year. **Quickly identifying** these students and providing the necessary assistance at the right moment paves the way for a more harmonious academic experience.

Method

Academic monitoring of first-year students **is based on high-quality data** collected by teachers and other professionals on attendance, grades, progress and development indicators, compliance with rules, worrisome behavior, and academic background. The data is interpreted using benchmarks such as common difficulties experienced by students in the program, their causes, and key characteristics of students who drop out or fail. The monitoring system can also provide an outlet for students to express their needs and problems.

The academic monitoring system is **linked to academic management systems and student-dedicated platforms**. The data is consolidated, analyzed, summarized, and stored more quickly and easily, and messages to students are included in the data processing.

Impact

If the detection and response system is well designed, is efficiently organized, and leads to appropriate action (initial contact, a meeting to analyze the situation, suggestions or recommendations, support, intensive or extensive monitoring) conducted properly at the appropriate time, it can **enhance academic persistence and success in struggling students who are willing to take advantage of it**. These students appreciate the support they are given, which promotes their personal, social, and academic development.

< > *Sources: Belcheir, 2001; Herr and Richter, 2009; Laird, Chen et Kuh, 2008; Miller, 2009; Reason, Terenzini and Domingo, 2006; Roos, 2012; Taylor and McAleese, 2012; Tinto, 2011 and 2012; Zhao and Kuh, 2004.*

Seventh measure | Provide supplementary learning opportunities

Issue

Courses in the first semester or year can lay the groundwork for the rest of the program or be obstacles on the road to graduation. If the course objects are **learned in depth and well integrated**, the student is more likely to successfully complete the rest of the program. However, the scale, unfamiliarity, or complexity of the learning objects can discourage many students and convince them that they are incapable of assimilating them.

Method

Many colleges and universities offer or impose **weekly supplementary learning activities** associated with these courses. The success of these activities appears to be based on six factors:

- An informal learning environment, separate from the courses in question
- Facilitators—teaching staff or more advanced peers—who are competent with respect to the learning objects and trained to exercise their role
- Weekly meetings between facilitators and those teaching the courses regarding upcoming learning objects and students' performance
- A positive approach focused on mastering the learning objects rather than on catching up
- Use of active and cooperative learning approaches
- Activities led by students to enhance understanding of the learning objects, handle questions about the learning objects, solve practical problems, and experiment with adapted learning strategies

Impact

Weekly supplemental learning activities **lower the dropout and failure rate** in related coursesand **boost the overall success rate and the value and scope of learning** of the students who participate.

< > *Sources: Blanc, DeBuhr, and Martin, 1983; Brantley, n. d.; Dawson et al., 2014; Ribera, BrckaLorenz, and Ribera, 2012; Wild and Ebbers, 2002.*

Conclusion on interventions in the first semester or year - Part 1

Well designed and well implemented, these **seven measures** benefit students who take advantage of them. However, they have several serious limitations. First, they are **complementary to the program of study** and are usually **intended only for students in their first semester or year**. Second, many of these measures are designed to **mitigate the effects of gaps** either in student preparation or the program of study rather than draw on student resources and improve the relevance and effectiveness of the program. Even the recent emphasis on boosting new students' engagement in their studies and using high-impact teaching practices is treated as an adjunct to encourage academic persistence and achievement rather than an essential component of the program.

Part 2 Making the program of study the heart and the engine of academic success and achievement

The relative success of measures for students in the first semester or year has served to focus attention on more advanced students too:

- How can second-year students be helped with engagement, progress, development, and persistence?
- What can senior students be offered so that they are better equipped for life after graduation and more satisfied with their college or university experience?
- What can be done to prevent certain students from feeling abandoned and finding their training in subsequent years less compelling?

< > *Sources: Bowen, Chingos and McPherson, 2009; Schreiner and Pattengale, 2000; Stuart Hunter et al., 2009; Tinto, 2012; Tobolowsky and Cox, 2007.*

These issues raise a point about such special measures: **If they are necessary at all stages of the program, why not change the program itself?** This line of questioning leads naturally to another vision of successful training, one also inspired by observations on student development, research on integration of learning, studies on program approaches, and expectations about the quality of postsecondary training and the competence of students graduating from these programs. The resulting approach is much less common in schools than the first approach. However, the bases of the vision and the components of the approach are well known. Their impact, although poorly documented, also appears to be significant enough to warrant attention.

First component | Recognizing and mobilizing student resources

Issue

Students are more heterogeneous than ever. To ensure all students get the most out of their studies, we must first **know what resources and assets they have**. In their personal, social, and academic lives, students develop interests and abilities, engage in assimilating certain learning objects, show willpower and tenacity in achieving certain goals, and have experiences that strengthen and hone a variety of skills. **Identifying and using this potential and these resources** promotes student development and academic success (Kinzie, 2005; Pintrich, 2003).

Schreiner and his co-authors (2000, 2009, 2010, 2011, and 2013) focused particularly on three dimensions and five interconnected aspects of student potential.

- The **academic dimension** comprises engaged learning and academic determination. Engaged students focus their learning on academic and personal goals. They connect their learning opportunities with their interests and plans as well as the outcomes of their program of study. This encourages them to study the learning objects in depth, discuss what they have learned, and use them whenever possible. Determined students are proactive and tenacious and invest time and effort on a daily basis to progress and devlop. They use a strategic learning approach that is adapted to their situation and goals.
- The **intrapersonal dimension** relates to the student's long-term vision, confidence in his or her future and control over it, sources of satisfaction, and ability to put everyday events into perspective.
- The **interpersonal dimension** encompasses the creation and maintenance of significant relationships, openness to others and those who are different, and social engagement. It includes friendships students have established or will establish and their membership in one or more communities. It is related to students' interactions, social contributions, and growth when in contact with others.

Many other researchers, including Conley et al. (2005, 2007, 2009), add to this profile the students' **intellectual resources**: research and critical thinking skills, concern for precision and accuracy, and tolerance of ambiguity, as well as their creativity and analytical, interpretive, reasoning, problem-solving, and oral and written communication skills.

Method

These student resources can be used and developed during training in **the following ways** according to Schreiner at his co-authors:

- Identifying students' plans, goals, and objectives as soon as they start the program and helping them align them with those of the program of study and understand how the training can contribute to their development should have a positive impact on their engagement
- Basing training activities on students' **plans and interests** as often as possible reinforces their engagement
- Discussing with students at the beginning of the program about their academic and other **motivations**, their achievements in various fields, the factors that contributed to those achievements, the means they used to accomplish them, and the difficulties they encountered can increase their academic determination and confidence in the future and encourage them to adopt a long-term vision
- Emphasizing students' achievements during their training and reminding them of the reasons for their success when they encounter problems can boost their self-confidence, help them accept that not everything will be smooth sailing, encourage them to remain proactive and tenacious and to use appropriate learning strategies to overcome obstacles, push them to put the required time and effort into deepening and integrating their learning, and remind them to ask for needed support
- Regularly examining with students what they learn from and teach others, what they have accomplished with other people, and what they have gained from it can increase their engagement in their studies, their efforts to help their peers, their responsiveness to inputs from their environment, their involvement in program enrichment activities, and their use of what they have learned outside school.

More generally,

- Reviewing with students their generic skills and the beneficial use they have made or could make of them in different situations
- Teaching them to use their strengths to develop or consolidate other personnal resources
- Convincing them to attribute their accomplishments to specific, controllable causes

Helping them to be optimistic about their future in the program

Impact

Identifying students' strengths helps **guide and support them in their learning process**. In terms of the program and the students usually admitted to it, this **sheds light on how the training should be given** by providing information on the students' general abilities when they enter the program, issues around how they can develop their resources, and ways they can meet program outcomes.

Adopting an optimistic outlook on their own development and academic success has a considerable positive impact on their ability to succeed, their grades, their persistence, and their progress. This impact is likely to go beyond the effect that the student's background, gender, and preparation for postsecondary education may have on their success (Schreiner).

Second component | Identifying and referring to the program's expected training outcomes

Issue

One of the essential functions of higher education is **to help students develop the modes and patterns of thought**, action, and conduct that form the basis of professional practice in their fields of study (Entwistle, 2007).

Another function is to ensure that **students acquire cross-disciplinary for thought**, action, and conduct (Behar-Horenstein and Niu, 2011; Conley, 2013; LEAP, 2007; Lumina Foundation, 2011; National Leadership Council for Liberal Education & America's Promise, 2007).

A third function is to **develop students' ability to use these resources** as well as external resources to carry out the activities of their personal, social, and professional lives and handle the situations in which these activities take place.

Method

It is generally recognized that **broad expected outcomes must be defined for the postsecondary education** and for the training provided in a program of study. While there are differing views on how precisely these broad outcomes should be defined or the form they should take—from a list of statements to a detailed portrait of the graduate—the overall definition should be consistent with the three functions and quite similar from one author to another:

- Description of the functions and roles for which the training prepares students
- Integration of an organized foundation of conceptual and methodological knowledge that ensures that graduates beginning their careers have a solid grounding in their chosen fields
- In-depth understanding of the key principles and ideas on which thought, action, and conduct in the program's field are based
- Use of methods, techniques, and key tools for practicing in the chosen field
- Ability to analyze and interpret essential aspects of the chosen field of study and professional activity and to represent complex realities, which entails collecting, evaluating, comparing, and analyzing a large amount of varied data

- Ability to identify, mobilize, and use the necessary resources in a controlled, coordinated way to accomplish tasks and handle situations specific to the field of study and the social and professional roles graduates will have to play
- Ability to organize and conduct their work in different contexts and situations, based on their self-management, thinking, communication, relationship, and problem-solving skills as well as their judgment, creativity, willpower, tenacity, and ability to cooperate, adapt, commit, learn, and develop

Impact

The two main effects of determining the broad expected outcomes of the program are discussed in the literature.

On the one hand, **the desire to achieve these results, to become the person who is described, can motivate students,** boost their engagement, encourage them to invest the time and effort and do the necessary training to achieve success, lead them to focus their learning and learning activities on this end, and promote the integration of learning, both personally and in their work.

On the other hand, the adoption of these broad outcomes by the bodies and stakeholders involved in the program of study should result in the design, **development, and implementation of a coherent and continuous learning trajectory** focused on achieving these outcomes and, therefore, on the necessary student development.

< >

Sources: Aitchison et al., 2006; Barab and Duffy, 2000; Barnett and Coate, 2005; Barnett, Parry, and Coate, 2001; Barrow et al., 2010; Bass, 2012; Biggs, 2003; Bransford et al., 2000; Chin and Brown, 2000; CEDEFOP, 2009; Knight, 2003; Lahiff and O'Farrell, 2009; Land et al., 2005; Leonard and Penick, 2000; Litzinger et al., 2011; Liu, 2015; National Academy for Academic Leadership, n. d.; Parker, 2003; Pearsall, Skipper, and Mintes, 1997; Pintrich, 2003; Prideaux, 2000; Spady, 1988; Spady and Marshall, 1991; Suskie, 2009; Watermeyer, 2011; Wiggins and McTighe, 2005

Third component

Designing, structuring, developing, and organizing a program to achieve the broad expected academic and student development outcomes

Issue

Achieving the broad expected outcomes of in-depth, integrated learning does not happen automatically (Boshuizen, 2010). **It is gradual and takes time and a structured, coordinated development approach** (AAC&U, 2007; Bransford et al., 2000; Claxton, 1998; NAAL, n. d.; Vosniadou and Panagiatis, 2013). A program of study can be designed and developed to achieve

such broad outcomes and successful training in all its dimensions (Barab and Duffy, 2000; Spady, 1988; Spady and Marshall, 1991).

The approach must be **comprehensive and systemic**. It must integrate and align (Knight, 2003; Litzinger and al., 2011) the:

- Broad expected outcomes
- Resources students normally have when they enter the program
- Learning approach
- Baseline activities in the program and the contexts in which they are conducted
- Program's broad themes or thrust
- Fields covered by the program, their logic, and their potential contributions
- Required and potential training locations and models and their properties
- Varied cultures, competencies, and resources of faculties, departments, teachers, and other staff members involved in the program

The approach must also be **developmental.** It must define the broad outcomes in the students' developmental trajectories, which extend throughout their training (Ambrose, 2010; Bass, 2012; Bruner, 1996).

Lastly, it must be **interdisciplinary and equip students for professional life.** Training is based on the ideas and higher principles required to reflect and practice in the program's field of activity or on learning and accomplishing work-related tasks. Contributions from various fields are subject to this framework, fit into it, and coordinate with it (Barrow et al., 2010; Bruner, 1996; Litzinger and al., 2011; Prideaux, 2000; Watermeyer, 2011).

Method

The training approach for a program based on this vision starts with planning the learning and teaching outcomes. The resulting plan **(schematic diagram)** generally specifies the:

- Main stages in the training, i.e., a semester, or more often, a year
- Outcomes to achieve at the end of each stage—in relation to the broad outcomes expected at the end of the training—from the following angles:
- Modes and patterns of thought, action and conduct the students must integrate, and what precisely they can accomplish by using them
- Development to a certain degree of cross-disciplinary tools for thought, action and conduct, and how students can put them to use
- Tasks that students can carry out and related performance criteria
- Key learning objects in each course and the scope and limitations of their integration and utilization
- Links between courses in the same stage and in different stages
- Activities that promote integration personally and professionally, combining what is learned in the various courses

Planning is aimed at **developing training that is as coherent as possible and that is well adapted to the students' characteristics and to the broad expected outcomes**. A coherent program is one in which courses, teaching, and learning and assessment activities are selected, situated, designed, and intertwined in such a way that they allow for the deepening and continuous integration of learning, optimize student development, and maximize opportunities and degree of achievement of the broad expected outcomes (Ambrose, 2010; Beane, 1995; Hubball and Burt, 2004; Hubball and Gold, 2007; Oliver et al., 2008; Ornstein and Hunkins, 1988; Stark and Lattuca 1997).

Within the same stage of a program, the approach is to **bring training components together** and combine, structure, and integrate learning (Ornstein and Hunkins, 1988). Analyzing a major theme, examining similar phenomena from different angles, performing a work-related function or carrying out certain program-related tasks bridges the gap between courses and serves as an anchor for structured integration.

From one stage to the next, students are called on to deepen their learning, enrich their resources, consolidate their skills and abilities, and enhance their ability to use them. From this point of view, the program of study **enables students to achieve the broad expected outcomes** of the training (Thijs and van den Akker, 2009). In a spiral curriculum, for example, the learning objects are revisited, examined in more depth, compared, integrated, and used more and more fully and at increasingly complex levels from one stage to the next until the broad training outcomes are achieved (Barrow et al., 2010; Bruner, 1996; Dixon, Clark and DiBiasio, 2000; Howard, 2007; Sheppard et al., 2009).

In this approach to training, **programs of study are considered as living** and learning environments. Particular attention is paid to creating a friendly and productive environment: places to meet, discuss, and give feedback among students and with teachers; comfortable, well-sited work areas; and easy and continuous access to training resources.

Impact

The impacts of this training approach have been studied very little, probably because it is **still recent and not yet widely implemented** outside the fields of health and engineering and because work has focused on the approach's foundations as well as on the methods and conditions leading to its adoption, implementation, and use in managing programs of study.

Ambrose (2010) assserts that it **motivates** students to progress and develop, intensifies their learning, and boosts their **confidence** in the quality and efficacy of their training and their **sense of control** over their learning. Bransford, Brown, and Cocking (2000) indicate that this approach informs students about what aspects of their learning they need to improve and encourages them to progress through voluntary training activities. A number of authors consider that it should lead to **more in-depth, better integrated learning** that is more easily deployed in a manner that is better adapted to the situation in hand (Bransford et al., 2000; Greeno, Collins and Resnick, 1996; Howard, 2007; Ornstein and Hunkins, 1988.) Studies in the United States on the impact of such an approach in primary and secondary schools (see, for example, Newmann et al., 2001) demonstrate its positive effects on student development and academic success.

Other effects, related to how training is conducted and how programs of study are managed, are frequently mentioned:

- **The precise, and at the same time, comprehensive vision that each teacher who participates** in the training may have of the program, what its outcomes are, and what is expected, taught, learned, implemented, and evaluated at each stage in the training and in each course
- The use of training plans as a **framework** for evaluating and continuously improving the program of study or managing misunderstandings about the role, scope, and limitations of a course in the program
- **Reduced likelihood of the course requirements** being lowered, the training outcomes being preempted, or the course purpose being gradually and involuntarily strayed from.

< >

Other sources: Abate, Stamatakis, and Haggett, 2003; Aitchison and Giles, 2006, Ambrose, 2013; Biggs, 1996 and 2003; Clouder, 2005; Cousin, 2006; Davis, 2011, Dixon, Clarke, and DiBiasio, 2000; Fraser and Bosanquet, 2006; Graham, 2012, Harden, 2001; Heger, 2011; Hussey and Smith, 2003; Knight, 2001; Kress, 2000; Liu, 2015; Lunenburg, 2001; McKimm, 2010; Meyer and Land, 2005; Meyers and Nulty, 2009; Oliver and Hyun, 2011; O'Neill, 2010; Oxley, 2008; Parker, 2003; Parsons and Beauchamp, 2012; Pearsall, Skipper, and Mintzes, 1997; Pinar, 2004; Prideaux, 2007; Sahlberg, 2006; Shin et al., 2009; Southern Connecticut State University, 2011, Totté, Huyghe, and Verhagen, 2013; Van den Akker, 2007 and 2010; Wolf, 2007

Fourth component | Designing learning activities that are consistent with this vision and approach

Issue

Students develop their understanding, their cognitive and practical skills, and their thinking, behavioral, and situational abilities through learning activities that are **relevant, significant, and motivating** (Ambrose et al. 2010; Biggs, 2003; Knight, 2003; Lesh et al., 2000; Litzinger, 2011; Pintrich, 2003).

Relevant activities are:

- Consistent with the broad outcomes to be achieved by the end of the program or a particular stage in the program
- Adapted to what students have learned and will learn
- Designed to enable students to grow and understand and apply the learning objects

They are **significant** if what the students achieve has a major positive impact on them or on their environment and if they integrate and learn in depth.

They are **motivating** if:

- They match students' interests
- They reinforce students' goals
- They take place in a stimulating environment that supports students' learning
- Students believe they can successfully plan and conduct them

Motivation is essential to student development when the expected outcomes require in-depth assimilation and application of the learning objects. Such activities ensure that students are stimulated by what they are learning and continue to think about it outside class. Indeed, learning does not happen on command (Boshuizen, 2010; Knight, 2001) and the transfer of learning does not occur automatically (Ambrose et al., 2010).

At each stage, **the program must offer numerous opportunities for learning and applying what is learned** (Knight, 2003, Spady, and Marshall, 1991). These opportunities must form a balanced, coordinated whole (Ambrose et al., 2010):

Activities that promote conceptual and practical assimilation of learning objects
Activities that align learning objects on a personal (construction and integration of complex patterns of thought, action, and conduct) and practical level, i.e., training that enables students to use the learning objects more and more easily and appropriately to carry out entire, complex, contextualized tasks

Both these types of activities should also lead students to gradually and systematically develop the generic skills targeted by the training until they achieve the level of mastery expected of a graduate of the program (Litzinger, 2011).

Method

Activities that are consistent with the vision have a number of common traits (Fink, 2007; Kuh, 2008):

- They involve **understanding ideas** and essential principles, and **mastering basic methods** and processes (Hake, 2002; Litzinger, 2011)
- They encourage students to carry them out with **the intention to learn and progress**, that is, to become aware of the scope and limitations of their current understanding and actions and to use approaches that enable them to consolidate and enhance that understanding and capacity for action (Bransford et al., 2000)
- They include 1) **planning** how the task will be learned and executed, 2) **performing the task** by examining and enhancing what they have learned, and 3) **modeling** in retrospect the knowledge and processes necessary to effectively perform the task
- They generate **rich and frequent interactions and feedback** among students and with teachers about the learning objects and the task itself
- They encourage students to **explore possible situations** and conditions for using learning objects (Vermunt, 1996; Wierstra et al., 2003).

Activities aimed at the construction and integration of complex thought, action and behaviour patterns as well as the mastery of professional tasks should also:

- Be performed **in real-life situations**, i.e., tasks set by different bodies, departments, or businesses and conducted in the workplace in the performance of a function while in contact with members of these environments or in collaboration with them
- **Involve a rich, complex, real-life problem** that requires students to 1) mobilize, link, deploy, and deepen numerous and varied key learnings 2) develop and use their capacity to analyze the situation or problem and determine its nature and dimensions and 3) question themselves about the knowledge and methods required to accomplish the mission or task

- **Lead to three types of results**: 1) Accomplishment of the mission or task; 2) a shareable, reusable, modifiable model of how a similar mission or task can be was accomplished; and 3) reflection on the patterns of thought, action, and conduct necessary to deal with any similar situation as well as on the particularities of the situation and the unique ways it should be dealt with
- **Include a public dimension**, whether with regard to the presentation and discussion of the results or the implementation of achievements.

< > *Ambrose et al., 2010; Becher, 1999; Coleman and Keep, 2001; Diefes-Dux et al. 2009; Knight, 2003; Kuh, 2008; Litzinger et al., 2011; Prosser and Trigwell, 1999; Reynolds and Skilbeck, 1976; Trowler and Knight, 2000; Wenger, 1998*

Impact

Students who focus on developing their competencies, abilities, and skills in the classroom feel that they belong more in the program, invest in their studies outside the classroom more, and are more likely to persist, improve their academic performance, and graduate (Barnett, 2010; Carini, Kuh and Klein, 2006; Coghlan, Fowler and Messel, 2009; Engstrom and Tinto, 2007; Graunke and Woosley, 2005; Harris, 2006; Hoffman et al.,2003Kinzie, 2005; Kuh et al., 2005). **Engagement has an even more positive impact on the academic performance and persistence of students deemed less well prepared to study in the program** (Cruce et al., 2006; Kuh et al. 2008).

Motivation and commitment lead students to regularly devote the time and effort necessary not only to carry out the training activities and tasks properly (Pike, 1991), but also to **develop their "expertise"** with regard to these tasks. They also spur them to **seek assistance** or cooperation to help them better integrate the learning objects. In return, in-depth learning motivates students to invest and build on what they have learned in and out of school (Kuh, 2008; Ryan & Deci, 2000).

< > *Other sources: Ackerman, 2013; Booth et al., 2013; Diefes-Dux and Imbrie, 2008; Dixon, Clark, and DiBiasio, 2000; Hansman, 2001; Kuh, 2003; Kuh et al., 2006; Liu, 2015; Martone and Sireci, 2009; NSSE, 2006; Nelson Laird, Chen, and Kuh, 2008; Perin, 2011; Tinto, 2012; Van den Akker, 2010; Van Gog, 2013; Vosniadou and Panagiatis, 2013; Watermeyer, 2011*

Conclusion on the key role of study programs – Part 2

This vision of the program of study as the location and driver of academic achievement and this approach to designing and conducting programs also face obstacles. They are demanding for the bodies that run the programs of study, limiting for departments and fields that take part in the training, and irksome to many teachers used to more freedom and individuality. This is probably partly why they have been very little used up to now outside the fields of health and engineering and have rarely been implemented fully enough and long enough to accurately assess their impact.

Nevertheless, this vision and approach incorporate all the dimensions of academic achievement covered in this report, for all students at all stages of their training in their programs of study. They therefore appear to be the most promising avenues for reflection and action on postsecondary academic success.

TAKEAWAYS

SEVEN PRIORITY MEASURES TO TAKE IN THE FIRST SEMESTER OR YEAR:

- Identify at-risk students
- Foster the intellectual and social integration of new students
- Prepare students to continue and successfully complete their postsecondary studies
- Set up learning communities
- Support students through mentorship
- Monitor and support struggling students
- Offer supplemental learning opportunities

THE FOUR COMPONENTS OF ACADEMIC SUCCESS:

- Recognizing and mobilizing student resources
- Identifying and referring to the program's expected training outcomes
- Designing, structuring, developing, and organizing a program to achieve the broad expected academic and student development outcomes
- Creating learning activities that are consistent with this vision and approach

Academic success at the institutional level

| Section 4 of 5 |

When entering a postsecondary institution, students have some of the personal resources they will need to successfully complete their training and achieve the program's broad expected outcomes. Each can progress and develop. How well they progress and develop, how their training plans evolve and take concrete form, and to what extent they achieve the aims of higher education will depend in part on their academic determination and engagement, their belief in their potential, their capacity to use all the means at their disposal, and the satisfaction they find in their studies.

Other factors will also influence their future. Some of these factors depend on their teachers. Belief in students' ability to succeed; courses designed with a view to student development and structured to promote student integration of learning objects; use of teaching methods that engage students and solicit thought, action, and reflection; a context that fosters cooperative learning; and attentive, enlightening, positive support coupled with constructive and actionable feedback are all ways to guide student learning and mobilize, reinforce, and enhance their resources.

The program's contribution to academic persistence and success is also essential. How students are welcomed to the program and the emphasis placed on their development both influence their futures. Identifying their interests, plans, expectations, and needs; facilitating their integration into the program; helping them at the start of their studies to properly identify their resources and to strengthen and enrich them; advising, guiding, and supporting them in their studies; and introducing them to a learning community focused on personal development all give meaning to their presence in the program, reinforce their academic determination, stimulate their engagement, and boost their confidence in their ability to succeed and in their academic self-efficacy.

Students' ability to progress, assimilate learning objects, and achieve expected learning outcomes is promoted by programs of study developed and applied in the same way as **training programs.**

Such programs of study **have three essential components**:

→A clear description of the social and work-related expectations of the program and the characteristics of students generally admitted to them

→ An explicit description of their broad outcomes

→ A systemic and coherent developmental training path

From a development perspective, the same learning objects are often used to develop **skills** and, at higher levels and in more complete sequences and more complex projects, expand **abilities**. They are also used in different contexts and situations to construct **competencies**. From a systemic perspective, everything that students need to learn is **precisely situated and closely linked** in the training. With regard to consistency, the training path is **organized in stages**, based on a realistic vision of students' ability to achieve the training outcomes and an overall view of the learning objects required to meet these outcomes.

This vision of success and these measures to promote success depend on the school. This is no doubt why in many countries, institutions of higher education are expected to establish policies, rules, or plans to direct, guide, and support measures promoting academic persistence and

achievement. Once implemented, they must also be evaluated for relevance and effectiveness with a view to improvement.

This section is the first of two that characterize **how schools that are the most effective at ensuring academic achievement design and implement their intiatives**. The second—section 5 of this report—covers the professional development of teaching teams, a key factor in enhancing academic achievement. The first highlights eight major possible reasons for the success of certain schools in this matter.

Reason 1 | The school's commitment to students' academic success

Schools' progress in this area appears to be due mainly to their mentality (Kuh et al., 2005; Tinto, 2012). Certain schools have developed a **culture of learning and academic persistence and success** thanks to strong leadership and a common approach. It is based on:

- A shared, analytical vision of what learning and academic persistence and achievement are, what they require, and what promotes them
- A long-term commitment to increasing them
- Recognition of the cooperation required to do so
- Sustained support for the measures selected and implemented
- Methodical analysis of their results
- Ongoing evolution in practices and approaches through documentation, innovation, and adaptation

< > *Sources: Barefoot, 2004, 2011; Carey, 2005a, 2005b; Kuh et al., 2005; McLeod and Young, 2005; Tinto, 2012*

Reason 2 | Basic principles guiding reflection and action

These schools strive to **promote the overall development of students** and ensure that program objectives are met and students' personal training plans succeed. They include academic persistence and success in this framework. (Barefoot, 2004, 2011; Kuh et al., 2005; Tinto, 2012)

They recognize that meeting these goals requires considerable financial and human resources on a long-term basis (Barefoot, 2004 and 2011; Kuh et al., 2005).

They give students, collectively and individually, what they need to succeed, by including in their programs of study **activities aimed at continuous development** of the abilities, skills, attitudes, and habits required for success.

< > *Sources: Adelman, 2004; Attewell et al., 2006; Barefoot, 2004 and 2011; Goodman and Pascarella, 2005; Kuh et al., 2005; Pascarella and Terenzini, 2005; Scrivener, Sommo, and Collado, 2009; Tobolowsky, Cox, and Wagner, 2005; Upcraft, Gardner and Barefoot, 2005; Windham, 2006; Zeidenberg, Jenkins, and Calcagno, 2007.*

These schools consider themselves responsible for **getting students to take full advantage of the services** available to them.

< > *Sources: Barefoot, 2004 and 2011; Community College Survey of Student Engagement, 2008; Gaffner and Hazler, 2002; Gordon, 2007; Gordon, Habley, and Grites, 2008; King and Kerr, 2005; Tagg, 2003; Upcraft, Gardner, and Barefoot, 2005; Ward-Roof, 2010; Ward, Trautvetter, and Braskamp, 2005; Zhao and Kuh, 2004.*

For this purpose they:

- Use student tutors
- Value and support positive interactions between teachers and students
- Link the training to all available student services

< > *Sources: Barefoot, 2004, and 2011; Gloria and Robinson Kurpius, 2001; King and Kerr, 2005; Skahill, 2002; Tinto, 2012.*

The challenges associated with meeting these goals, as well as data on student experiences at the school, their progress, and the results of their training, are **opportunities for schools to question what they do** and sources of reflection and ideas for taking action (Barefoot, 2004, and 2011; Belcheir, 2001; Kuh et al., 2005; Laird, Chen, and Kuh, 2008; Pettit and Prince, 2010; Prince et al., 2010; Reason, Terenzini and Domingo, 2006; Tinto, 2012; Zao and Kuh, 2004).

Ongoing assessment of the school's progress toward its goals serves many purposes, including updating programs of study and courses, changing the learning climate and environment, and improving services (Barefoot, 2004 and 2011; Kuh et al., 2005; Tinto, 2012).

Reason 3 | High expectations and standards with regard to students and their education

These schools know that setting and applying **high standards** promote student development and academic achievement (Arum and Roska, 2010; Kuh et al., 2005; Kuh et al., 2007; Nelson, Laird, Chen, and Kuh, 2008). Training at these schools **encourages students to improve and excel** (Barefoot, 2004 et 2011; Tinto, 2012): It is based on high order activities, leads to true integration of learning, and to be judged successful requires the attainment of standards consistent with higher education (Kuh et al., 2005).

These schools tell students clearly, precisely, and frequently what they must do and demonstrate to succeed, and they ensure that the training and services provided are and remain consistent with those expectations (Kuh et al., 2005; Tinto, 2012).

Reason 4 | A learning context favorable to attaining the outcomes

These schools **create contexts that enrich learning** and training. High quality learning facilities, partnerships and collaborative projects with organizations and businesses, and use of external resources ensure that programs encourage students to engage in their studies (Kuh et al., 2005; Oseguera and Rhee 2009; Tinto, 2012).

Student development is enhanced by significant interaction between teachers, professionals, and students regarding ideas, ways of thinking, practices, and projects. It is supported by a **variety of methods** and measures in the program of study (Hausmann et al., 2007; Kuh et al., 2005; Tinto, 2012).

Reason 5 | A clear vision of the strong points and shortcomings in student training and support

Schools that are the best at supporting academic achievement carefully analyze their situations (Kuh et al., 2005; Tinto, 1987 and 2012). They conduct a **continuous longitudinal assessment** of their performance in terms of academic persistence and success. They look at student characteristics and their academic progress at the school. They analyze the perceptions of students, teachers, and professionals regarding the students' development and experience at the school. They search for and examine the aspects, situations, actions, and events that result in major positive or negative effects on student persistence, on how well outcomes are met, and on the level of satisfaction of everyone involved, including students, teachers, and professionals (Carey 2005a, b; Jenkins, 2006; Kuh et al. 2005).

These schools examine their situations from **different points of view** from the perspective of:

→ Student needs

→ The effectiveness of programs of study and student services

→ The various training steps (Barefoot, 2004 and 2011; Tinto, 1987 and 2012)

They use a recursive approach to detect recurrent patterns.

They **identify required changes** by determining the nature and scope of the programs of study and the categories of students who could benefit from them (Kuh et al., 2005; Tinto, 2012). **They look at** how other schools have successfully implemented measures to meet the identified needs.

Reason 6 | Relevant, realistic, comprehensive academic success plans

These schools also develop appropriate success plans, i.e., those that address the main controllable causes of student dissatisfaction, lack of progress, inadequate development, lack of perseverance, or failure to graduate through **intentional, impactful measures** and that seek to benefit from factors proven to ensure goals and outcomes are met (Carey, 2005a, b; Jenkins, 2006; Kuh et al., 2005; Tinto, 2012).

They also design comprehensive plans that affect a broad spectrum of students, teachers, and professionals involved in teaching, learning, and student services that **encompass all dimensions of the student experience** at the school, and that clearly indicate when and in what context measures will be implemented (Kuh et al., 2005; Tinto, 2012).

They also make sure that the plans are **realistic and adapted** to the school's culture and resources (Tinto, 2012).

Reason 7 | Methodical, well-organized implementation of the success plans

These schools are also notable for their ongoing, effective implementation of their success plans (Bailey and Alfonso, 2005; Bailey and al., 2005; Carey, 2005b; Jenkins, 2006; Kuh et al., 2005; Tinto 2012).

An **individual or committee** coordinates measures and creates mechanisms of information sharing, consultation, and feedback among the entities or bodies concerned. These entities and bodies are represented by key people, who implement a variety of specific measures, encourage their colleagues to get involved, and report on the progress and results of the measures.

Successful implementation of a success plan often depends on **small structures** centered around recognized individuals. This management method also encourages ongoing implementation of

success plans. Sporadic, top-down measures engender resistance and cynicism in staff and students (Carey, 2005b; Kuh et al., 2005; Tinto, 2012).

These schools also rigorously **monitor implementation of their** success plans (Kuh et al., 2005). Using relevant, reliable data, they regularly gauge the impact that measures are having. This gives them an overall view that enables them to identify any quick adjustments that must be made. This also allows them to better guide the plan's evolution and the long-term measures it contains (Kuh et al., 2005; Ryan, 2004).

Reason 8 | Special support for certain categories of students

The desire or need to promote access to higher education presents special challenges for schools regarding the integration and academic persistence and success of **categories of students** who up till now were proportionately less numerous and whose particular requirements received less attention. Apart from students with disabilities, who are not discussed here, these include students in transition, first generation students, mature students, students from cultural communities traditionally underrepresented in higher education, and foreign students. Schools have analyzed these categories of students and have implemented strategies that support integration and academic persistence and success.

A way to help students in transition to successfully enter a study program

An increasing percentage of students have to pass remedial courses to be admitted to the program of study of their choice or to achieve the level of literacy and numeracy required to pursue and complete postsecondary studies.

Schools have noted that **such remedial courses** generally appear to be **of little benefit**, both over the short term (successful completion of these courses and introductory courses in the program of study) and long term (college or university credits, postsecondary graduation, and employability). They have also observed that very little research has been done on what influences how effective these courses are.

< > *Sources: Attawell et al., 2006; Bahr, 2010; Bettinger and Long, 2009; Boatman and Long, 2010; Calcagno et al., 2007; Calcagno et Long, 2008; Hawley and Chiang, 2013; Long and Boatman, 2013; Martorell and Mc Farlin, 2011.*

The success plans of these schools often provide for a detailed analysis of the parameters and results of their students' enrollment in such courses. They also contain provisions to make these courses more effective (Tinto, 2012). The several positive experiences to date, though not yet fully substantiated, can serve as a basis for how to frame such provisions. For example, having an approach **that adjusts to the specific needs of students** may not only increase the pass rate of such courses, it can also help students to develop a firmer grasp of the abilities being taught, to

have a more positive perception of themselves as students, and to improve their academic self-efficacy, all of which is essential to students' later success. Here are a few promising features of such an approach (Tinto, 2012):

- Courses aligned with the programs of study to which they give access
- Coordination of remedial courses when the successful completion of two or more successive or concurrent courses are required for admission to a program of study
- Use of teachers who have a high level of competency with respect to teaching the course's learning objects and supporting students (Neeley and Parades, 2007)
- Frequent motivating and intellectually stimulating interactions between teachers and students in the classroom (Biswas, 2007; Visher et al., 2010)
- Cognitive and socioemotional support appropriate to students' needs outside the classroom
- Flexible training methods adapted to different students or groups of students (Biswas, 2007; Visher et al., 2010)

Measures that meet the needs of different categories of students

Schools have also recognized the **more pressing needs** of adult or first generation students as well as foreign students and those from cultural communities traditionally underrepresented in higher education. These schools know that adequately responding to these needs boosts student integration, satisfaction, and persistence.

They have identified **five decisive factors** that promote academic persistence:

- The social ease these students have or develop during the first months of study
- Their academic determination and engagement
- Their involvement in school activities
- Their feeling of academic self-efficacy
- Their resilience

Success plans at these schools include measures and methods aimed at these students and factors.

For example, because these students often lack what they need to persist and succeed in their new academic environment, they are offered individual or group **support** in the first semester or year. Support and followup also make it easier for them to integrate. **Attention is paid to their well-being and how well they are adapting**, and opportunities are provided to meet other students, explore extracurricular activities, or join interest groups.

Meetings with a variety of professionals help them **clarify their training plans**, assess the importance of these plans in their lives, look at how to achieve their goals, and realize the possible impact of their plans on their priorities and their various activities. These meetings can also reinforce their **sense of belonging** to higher education in general and their programs of study in particular, and strengthen their desire to successfully complete their studies.

The meetings enable students to identify the personal and external resources they need and the adjustments they may have to make to successfully complete their training plans. This make them more confident and assured.

Support from teachers in analyzing their academic achievements, interpreting their results, and identifying the causes helps them develop or maintain a positive perception of themselves and their potential and increases their academic efficacy and persistence.

< > *Sources: Andraga, Pamphile, and Thompson, 2012; Buhr and al., 2010; Long, 2009; Miller Brown, 2002; Roos, 2012; Schreiner et al., 2011.*

Conclusion

Effective school engagement in academic success can be described by three key words: desire, knowledge, and ability.

The **desire to**:

- Create a community committed to student success
- Give this community an ambitious mission encompassing the integration of students into the institution, their well-being and development, the attainment of high-level goals and outcomes, adequate preparation of students for their roles as citizens and professionals, the ability of students to take charge of their subsequent development, and their satisfaction with their educational, social and cultural experience
- Ensure that the community designs and implements the means to achieve such a mission
- Ensure that each component and body accomplishes this mission within its own jurisdiction

Knowledge of:

- Which personal resources help students succeed the most
- Which teaching and student support methods are the most effective in promoting student engagement in learning, mobilizing and enhancing their resources, and nourishing and developing their thought, action, and reflection
- Which principles for developing programs of study are the most effective in helping students progress, develop their abilities, and structure their learning based on how it will be used, and mobilize and develop what they have learned based on their experience
- The situation of each student at different stages of their training, what they have learned, their expectations and needs, and how to guide, stimulate, and support their growth
- The situation of the school and each of its components and bodies, as well as their main assets and stumbling blocks, and how to help them progress and reinforce their strengths

Ability to:

- Organize the operation of the school to meet success goals and plan work in light of acquired knowledge
- Have an informed, coordinated impact on key student success factors in each component and body
- Use the necessary means to do this effectively on an ongoing basis
- Bring everyone on board
- Take an informed look at the impacts of the measures and the necessary organizational and scheduling changes

At this level of institutional engagement, professional practice and development communities focusing on academic success play an important role and have a major impact. The last section in this report, section 5, will address this issue.

The keys to successful postsecondary education according to Hattie, Kuh, and Tinto

| Section 5 of 5 |

The National Commission on Higher Education Attainment[3] in the United States, in a report released in early 2013[4], argued, not surprisingly, that teachers play a central role in the quality of education and academic success. It urged college and university leaders to invest in the professional development of all teachers and ensure that they had the pedagogical skills necessary to support their students' learning.

The New Teacher Project[5], in a document published in August 2015[6], states that professional development programs and activities at the primary and secondary school levels do not result in a clear improvement in teacher effectiveness. It concluded that we do not know how to help teachers improve. The organization found that schools must clearly define in what ways teachers need to develop their skills and what results are expected of them, and must help teachers accurately assess their own performance and progress. They need to systematically evaluate the effectiveness of their development approaches, strategies, and activities, as well as explore and experiment with new ones, and fund activities based on their impact.

The need for professional development and more effective teaching according to Hattie

In two texts published in 2015[7], Hattie[8] expresses this key idea: "The minimum goal of education, when rightly expressed, should be for all students to make at least a year's progress for a year's input, no matter where they start." He goes on to say that to reach this goal, students' learning must be significantly enhanced and the marked differences in teaching efficacy within each school

3 The goal of the National Commission on Higher Education Attainment, created in late 2011, is to chart a course for significantly increasing student persistence and academic success at U.S. colleges and universities. It comprises representatives from the following organizations: The American Council on Education, the American Association of Community Colleges, the American Association of State Colleges and Universities, the Association of American Universities, the Association of Public and Land-grant Universities, and the National Association of Independent Colleges and Universities.

4 In early 2013, the commission published an open letter to college and university leaders in the U.S. criticizing the unacceptable loss in human potential represented by the high percentage of college and university students who never make it to graduation and calling on decision-makers at these institutions to make graduation a top priority. The commission indicated three major courses of action: 1) A firm public commitment by these leaders to increase the number of students who graduate, without restricting access to higher education or lowering the quality of the training provided or the degrees issued; 2) the collection and use of relevant data on student characteristics and their path to higher education, and 3) more efficient use of human and financial resources.

5 The New Teacher Project (TNTP) is a U.S. organization that offers schools consultation and support services to enhance the quality of training and help teachers be more effective.

6 *The Mirage: Confronting the Hard Truth About Our Quest for Teacher Development* discusses the findings of a study on three representative U.S. school districts. It looked at 10,000 teachers, 500 decision makers, and 100 professionals involved in professional development programs and activities to which approximately 19 full days and nearly $18,000 per teacher had been devoted annually. Numerous measures were used to evaluate the impacts. The study showed that despite efforts, most teachers did not appear to improve significantly from year to year, even though many were still lacking essential teaching skills. The search for significant variables did not reveal common traits among teachers who improved or the programs and activities in which they had enrolled.

7 The two texts are entitled: *What doesn't work in education: The politics of distraction*and What works best in education: The politics of collaborative expertise.
8John Hatties is a professor and director of the Melbourne Education Research Institute at the University of Melbourne, assistant director of the Science of Learning Research Centre, created jointly by the Australian Council for Educational Research and the Queensland Brain Institute at the University of Queensland, author of Visible Learning and Visible Learning for Teachers, co-author of Visible Learning and the Science of How We Learn, and co-editor of the International Guide to Student Achievement. These works discuss teaching and learning in compulsory schools, but is relevant to this report.

must be reduced. Addressing this variability, he adds, and raising the effectiveness of all teachers should significantly increase both the success of their teaching and the degree of student achievement.

He considers that the key to this change lies in forming a group of competent, inspired, dedicated teachers, professionals, and administrators at each school who work together to optimize the impact of teaching on the progress and development of all students. He argues that in every school and throughout the school system there exists extensive expertise that can be recognized, cultivated, valued, pooled, and mobilized to enhance the competence and effectiveness of all teachers, and thereby the learning of all students. This expertise includes effective treatment of learning objects, creation of a climate conducive to learning, belief in students' potential, monitoring of students' progress, and feedback beneficial to their development.

According to Hattie (2015b), **there are eight steps that must be undertaken and completed in each school.** These steps are presented in a slightly different order here.

The first step is for teachers and school administrators to work together and pool their collective expertise to ensure that each student progresses significantly every year.

The second step is to agree on what it means to make significant progress during a school year. Aiming for the same targets, having shared expectations about the effects of teaching on students, and adopting the same benchmarks for assessing student progress and growth should make daily teaching decisions by teachers in the same field or stage of education more consistent.

The third step is to ensure that expectations about student development and progress are high, yet realistic. Teachers' expectations, Hattie reminds us, have a big impact on student development. Believing in each student's potential, stimulating them, and encouraging them to excel is critical to their progress.

Designing, producing, and using learning assessment tools that provide accurate and precise information about the multidimensional abilities developed and integrated by students in each course and the use they can make of it is essential, but insufficient. The fourth step in the process also involves drawing up forms to track the effects of teaching on learning in each course.

The fifth and sixth stages concern the professional development of teachers and, more specifically, their diagnostic, intervention, and evaluation competencies. According to Hattie, a teacher's expertise in the classroom is based on the ability to:

- Recognize each student's achievements and those of the group as a whole, and to characterize their willingness to learn, their commitment to learning, and their successes and difficulties
- Balance activities aimed at basic learning with those intended to deepen it, and using approaches, methods and strategies adapted to different situations
- Evaluate learning and the efficacy of teaching activities and discuss the findings

Building and effectively using these competencies requires the integration of recognized knowledge about teaching and learning. Therefore professional development, led and supported

by a group of local experts, should focus on the most effective practices, conditions conductive to their use, and adaptation of the practices to perceived needs.

Determining the impact of professional development activities and measures on the progress of both teachers and students is the seventh step in the process. Examining this impact is one of the responsibilities of the expert group at each school. This must be carried out in a collaborative spirit and its aim must be to highlight progress, adjust professional development programs, and improve teaching practices.

The eighth and last step is undoubtedly the most difficult. It relates teacher autonomy to student progress, and is based on the distinction between expert teachers who make a significant contribution to their students' progress and whose mentality and practices should serve as examples, and teachers whose impact on learning is low and who need help honing their expertise and effectiveness. Hattie believes that groups of expert teachers and their concerted action can stimulate collective engagement to professional development and improved learning, foster commitment to knowledge about effective teaching, and inspire all teachers to change their pedagogical vision and practice.

This type of clinical approach, Hattie concludes, is aimed at getting a better understanding of teaching effectiveness and calls on those involved to share evidence of teaching efficacy, reflect on its causes, and question the impact of their own practices. It requires that a climate of trust and a spirit of collaboration be established and maintained to critically examine the impacts of teaching on student progress in each field, discipline, and course, as well as the commitment of all to a process of research, development, experimentation, and evaluation. Furthermore, school administrators must provide the opportunities, conditions, and resources for teachers to support each other in their efforts to become more proficient, more effective teachers.

The professional development of teachers for improved learning and success: the contribution of study programs and course evaluation according to Kuh and his co-authors.

In a recent book[9], Kuh[10] and numerous coauthors report on their work on evaluating to what extent key postsecondary training outcomes have been achieved.

His publications put forward the idea that assessing training and training outcomes should be part of professional development within professorial communities, departments, and program committees. In such communities, discussions and information sharing about learning and teaching efficacy spur the development of collective expertise. To this end, assessments and their findings

9 Using Evidence of Student Learning to Improve Higher Education.

10 George D. Kuh is professor emeritus and former associate dean of Indiana University Bloomington, adjunct research professor at the University of Illinois, president of the Association for the Study of Higher Education, director of the Center for Postsecondary Research, the National Survey of Student Engagement, and the Strategic National Arts Alumni Project, and codirector of the National Institute for Learning Outcomes Assessment. He has authored or coauthored numerous books and papers on student engagement, high-impact practices, assessment activities, and activities to improve postsecondary schools and on college and university culture.

must be used to focus the attention and reflection of these bodies and their members on key issues, for example:

- Breadth and depth of student learning
- Relevance and efficacy of the methods they use to grasp learning objects
- Training steps in which students progress and develop the most and those that motivate them the least or pose greater difficulties for them
- Connections students make between learning objects or between theory and practice, and knowledge they have trouble relating to or putting into practice
- Teaching methods and strategies that speed their progress and development
- Learning situations and activities that help them engage more richly and effectively
- Students' conceptions that facilitate or hinder their integration of ideas and basic principles
- Feedback that accelerates the development of skills and abilities
- Use of technology that promotes learning

However, using the findings of program of study assessments to offer professional development to teachers, improve training, or enhance student success—in number and quality—is not such an easy thing to do, write Reese and Hutchings in one of the chapters of the book.

Schools should be aware that assessments of this nature may raise fears about presumed or potential consequences for the schools in question and their members. They can be seen as challenging the responsibilities, expertise, and autonomy of teachers, departments, faculties, or program committees, or their practices. For this reason, the authors recommend that faculties and departments be asked to help design such assessments. Such collaboration requires that (a) faculty, department, and program committee authority over the training of students be respected; (b) their commitment to learning and the quality of training in their disciplines, fields and areas of practice be used to best advantage; and (c) their research skills be called on. It also requires that the basic purpose of any such assessment be kept in mind, i.e., to evaluate the effects of training so that the necessary informed adjustments can be made to its design, development, and implementation. Lastly, it requires that the school culture and climate be considered. The authors conclude that these prerequisites are essential to ensuring that the school and its members participate willingly in the assessment, and more importantly, take an active part in the resulting measures.

Apart from the quality and variety of approaches for assessing how effective the teaching and training are as well as the validity of the conclusions from the analyzed data, Reese and Hutchings point to two key factors that are incentives for schools to take into account the results of assessments on the effectiveness of a program of study, training in particular a field, or teaching in a specific discipline or course:

- The data must answer questions the committees, faculties, departments, and teachers themselves have asked
- The questions must be important enough for those actors to accept the answers even when they are contrary to their beliefs about teaching and learning or their professional practices (see also Wieman, Perkins, and Gilbert, 2010).

If these prerequisites are not met, it is not possible for the assessment to fully play its role in stimulating and nourishing reflection on learning and achievement and how these outcomes respond to training approaches and teaching practices. When these prerequisites are in place, faculties, departments, and program committees are more likely to

- Analyze their situation and needs objectively
- Request the necessary support to understand situations, explore issues, and learn new practices
- Set up mechanisms for sharing best practices and success stories
- Adjust teaching and training based on data and progress to date

Kuh and his co-authors mention another key factor for improving training: cooperation between teachers and students within faculties, departments, and disciplines. A collective approach to reflecting on each other's expectations; on learning itself; on the breadth and depth of learning in the program of study and courses; on the teaching and learning contexts, approaches, and strategies most beneficial to students' progress and development; as well as on broader issues of integration and inclusion does much to promote the evolution of conceptions and practices.

What makes professional development programs successful in schools with high student success rates

Bates (2011) focused on another topic discussed by Kuh and his co-authors: professional development conceptions and practices in colleges and universities that have higher student success rates and combine high research expectations with a culture of teaching excellence. For her doctoral thesis, she examined the perceptions of those responsible for professional development programs at 13 schools by asking them questions about the factors that have an impact on the effectiveness of their programs.

She looked at the characteristics of effective teaching identified by Pascarella and Terrenzini (2005): a student development perspective, planning and organization of courses to achieve expected outcomes, use of active and collaborative learning approaches, activities involving thinking skills, and close relationships and frequent interactions with students.

She also used recognized features of professional development programs that encourage the adoption or reinforcement of effective teaching practices: their ownership by faculties, departments, and other groups of participants; consistency of their objectives and learning objects with school guidelines; encouragement and support offered by schools; an approach based on engagement and progress of groups and their members; investigation of all dimensions of education; assessment of the impacts of development programs and activities from a number of angles and using a variety of means (Gibbs, 2002; King and Lawler, 2003; Sorcinelli, 2002, 2007).

The schools Bates looked at make the professional development of groups and their members an essential means of continuous improvement in the training and success of students. Faculties, departments, disciplines, and administrators share the desire to offer the best possible training. Their relationships are based on respect, trust, cooperation, and support. Administrators encourage

teaching innovation and continuous improvement by providing moral, financial, and organizational support to new teachers, disciplines, departments, faculties, and program teams engaged in professional development activities. Robinson (2010a, b) says that such administrators emphasize continuous improvement of teaching and learning. They nourish high expectations regarding schools, teachers, students, and other staff members involved in education and student services and communicate them clearly and discuss them frequently. They create a welcoming and stimulating educational and working environment. They promote and support professional development. They participate not only in development activities, but also in the planning, implementation, and assessment of programs of study. They help set up and manage structures and networks aimed at ensuring objectives are met.

All of the people Bates interviewed recognized the major positive impact of involving teacher and professional bodies and groups in the design and development of programs and activities and consider it to be one of the key reasons for their success. The same applies to cooperation among teachers from different disciplines, which they believe encourages the formation of cooperation and support networks.

On looking at their program objectives and professional development activities, it is clear that their intention is mainly to improve student learning. Other closely related objectives are to increase the effectiveness of and the value associated with teaching, create contexts conducive to student learning, and expand the repertoire of teaching approaches and strategies that participants can use successfully.

Participant involvement and mutual support and assistance from administrators play a key role in achieving these objectives. Other contributing factors include discussions among participants about how they design programs of study and courses, the approaches they take in the classroom, and their students' learning.

How well objectives have been met is assessed based on participants' changing perceptions and practices, the impact of activities on program of study and course development and delivery, students' improved learning, and participants' attitudes about the usefulness of development activities.

The interviewees believe that these programs and activities influence the culture of all faculties and departments as well as teaching practices across programs of study and disciplines. The involvement of teacher groups, their reflection on effective teaching, and their commitment to continuous improvement feed into discussions about the outcomes of programs of study and courses and the challenges of achieving them, and about teaching approaches and methods and learning activities that promote student progress and development. These discussions encourage collaboration within the entity and strengthen team spirit. Mutual support, a shared vision of the targeted outcomes or changes, the collective will to achieve them, and confidence in the group's ability to do so encourage experimentation with new ways of doing things, boost individual commitment and persistence, and increase the chances of success.

An overall view of the conditions conducive to the success[11] of professional development programs for teachers[12]

In a paper prepared for the U.S. National Commission on Higher Education Attainment, Rhoades (2012) presents faculties and departments and their members as essential to student development and fulfilment. He argues that recognizing the considerable positive impact they can have on success, both in terms of the percentage of students who graduate and to the extent to which the broad expected outcomes of each program of study are achieved, should make them more committed to training students (see also Mooney and Reder, 2008) and continuously enhancing the effectiveness of their actions.

Tinto (2011 and 2012) touches on several characteristics of effective teaching: coherent programs of study where learning progresses in line with program outcomes and student characteristics; high expectations of teachers; activities engaging students in an in-depth and situated learning processes; frequent formative assessment and feedback-feedforward enabling students to adjust and progress, and support for learning. Effectiveness is itself the result of learning. Tinto goes on to say that while many college and university teachers demonstrate considerable pedagogical competence, they are the only group in the entire school system that has not been systematically trained to teach. Any long-term institutional strategy to improve student success should therefore (see also Tinto and Pusser, 2006) place strong emphasis on the professional development of teachers and other staff involved in student learning and development.

However, while the positive direct and indirect impacts of teacher professional development programs and activities on learning and student success have been demonstrated[13], not all have this effect. Numerous authors have studied what is necessary to make it effective. Below is a brief discussion of their conclusions.

It would appear that the main prerequisite for the success of a professional development program is that it be part of a vision of the school's future to which the staff adhere and which is a source of motivation for them. The emergence of a common cause linked to the quality of training, student development, and the enhancement of student learning and success (Kuh et al., 2005; Umbach and Wawrzynski, 2005) requires strong, unifying leadership from administrators, exercised collegially by the institution's various bodies (Bandura 1997; Goddard and Goddard, 2001). Expressing and propagating such a collective goal can transform the institution into a learning organization (Macpherson, 2007), increase teachers' sense of belonging to the institution, lead them to clarify their professional goals, and increase their confidence in their ability to change their practices. The actions

11 Success refers to strong participation by teachers in professional development programs, increased training effectiveness, better learning, and a higher level of student success.

12 References to teachers in the following pages include professionals involved in teaching, study programs, learning, and student development.

13 See Adams, 2000; Beach and Cox, 2009; Braxton, Bray and Berger, 2000; Caena, 2011; Condon et al., to be published in 2016; Cox, 2003; Daly, 2011; Denecker, 2009; Fishman et al., 2003; Holmgren, 2005; Kuh et al., 2005; Macpherson, 2007; McShannon et al., 2006; O'Meera, 2005; Perez and McShannon, 2002; Rhoades, 2012; Rodgers, Christie, and Wideman, 2014; Teacher Training Center for International Educators, 2007; Tinto, 2011 and 2012; Umbach and Wawrzynski, 2005; Walter and Briggs, 2012.

of influence wielders aimed at professional development and improved student learning can heighten cooperation among teachers, the catalyst it would appear for getting them involved in activities, particularly those involving reflection (Geijsel et al., 2009; Goddard, Hoy, and Woolfolk Hoy, 2000 and 2004).

Leadership also presupposes analysis and interpretation of the data collected on various aspects of the progress, growth, success, and satisfaction of students by school, program of study, field, discipline, category of student, and so on. A research-based approach that examines cause-and-effect relationships, reflects on the desired outcomes and the appropriate actions to achieve them, and questions attitudes, conceptions, skills, and practices conducive to student development and success is essential. It encourages teachers and professionals to acknowledge their responsibility for student development, the students' overall experience at school, and students' academic success. What's more, it provides a critical look at the common ideas and myths about students, learning, and academic success that cause disillusionment and defeatism (Hattie, 2015a; Ross and Gray, 2006).

Leadership should also help individuals, faculties, departments, program committees, and professional teams supporting teachers or students set appropriate and realistic goals leading to immediate success and greater competence and effectiveness (Gibson, 2001; Ross and Gray, 2006).

A prerequisite of success is the involvement of organizations and their members in planning, setting up, conducting, and evaluating professional programs and activities. This spurs long-term commitment to achieving the goals and mobilizing the resources they acquire (Minter, 2009; Walter, and Briggs, 2012).

With respect to development programs and activities, organizations also need to be involved in promoting cooperation among teachers coordinators, directors, and professionals providing services related to research and pedagogical development, programs of study, and student learning and progress who share interests, work with the same students, address similar challenges, or aim for complementary outcomes. Moreover, when organizations cooperate in situated and concerted approaches to research, situation and needs analysis, identification of learning objects and development activities, experimentation with new practices, assessment of measures and their outcomes, and adjustment and fine-tuning of practices conducive to student learning and success, this enriches the results, contributes to consistency, and enhances the benefits (Amundsen et al, 2005; Cox and Richlin, 2004; Kuh et al., 2005; Macpherson, 2007; Rhoades, 2012; Tinto and Pusser, 2006; Tinto, 2012; Walter and Briggs, 2012).

When such groups and communities thrive and survive, this has other advantages:

- They help make professional development an ongoing improvement process (Kuh et al., 2005; Minter, 2009, Reder, 2007; Tinto, 2012).
- They change beliefs about student development, learning, and teaching (Brownlee & Berthelsen, 2005; Schommer-Aikens, 2002) and deepen understanding of learning objects (Minter, 2009; Reder, 2007)

- They accentuate the group's sense of efficacy and in turn that of each member (Goddard and Goddard, 2001; Goddard, Hoy, and Woolfolk Hoy, 2000 and 2004)
- They encourage administrators to explicitly and publicly support their work (Mooney and Reder, 2008).

Highlighting the impact of these groups stimulates the creation of new communities and the knock-on effect results in the involvement of new members and the emergence of new leaders (Walter and Briggs, 2012).

A third condition is to develop a sound overall framework—based on recognized multidimensional research findings—that is coherent in terms of student development and learning, effective teaching, and success. This framework serves to guide situational analyses and data interpretation, validate resulting conclusions, help identify needs and objectives in terms of development and improvement, orient the design and implementation of professional development programs and activities, and inform the application of the outcomes of these programs and activities. It also serves as a basis for developing frameworks that are better adapted to the situations of different units (Tinot, 2012).

Although limited to teaching and learning, the framework could include several broad categories (Amundsen et al., 2005; Caena, 2011; Kane et al., 2010) under which key factors contributing to effective teaching and student success could be included. Below is a very small sample.

Representations of learning, teaching, and success and the conduct they lead to or should lead to

Guideline
Focus on critical thinking and reasoned construction of the principles, beliefs, and values underpinning conceptions and practices.

Objects
- Teachers' expectations of students
- Knowledge about students, their plans, goals, interests, progress, background, and resources
- Perception of students' expectations with regard to their teachers at different stages in their training
- Teachers' belief in students' ability to succeed and their interest in student development
- Teachers' conceptions and beliefs about knowledge, learning, teaching, and success
- Teachers' attitudes and behavior toward students
- The nature and quality of teachers' interactions with students and the support they provide

Outcomes
- Representation of one's situation as a teacher and that of the group
- Understanding of the impacts of all these factors on teaching guidelines and goals, learning assessment, the extent to which training goals have been met, and student confidence,

satisfaction, motivation, determination, engagement, learning, persistence, sense of self-efficacy, and development.
- Integration of practices and ways of thinking that promote student learning, development, and success
- Use of these practices and ways of thinking in teaching

Teacher competencies

Guideline
Focus on the teaching, reinforcement, and enrichment of pedagogical competencies

Objects
- Desing, development, organization, implementation, and evaluation of programs of study
- Course desing
- Preparation of teaching and learning activities
- Creation and maintenance of conditions conducive to learning
- Teaching of concepts, approaches, strategies, methods, techniques, and attitudes
- Facilitation and activation of learning
- Guidance and support for teaching approaches
- Learning assessment
- Assessment of teaching and learning activities

Outcomes
- Critical assessment of one's own competencies and current practices and those of the group
- Representation of the principles and methodology behind these professional acts
- References to these principles and approaches when discussing or carrying out these acts
- Development of individual and group ability to act appropriately, based on established outcomes, student resources and characteristics, and the teaching and learning context

Teaching approaches, methods, and strategies and learning activities

Guideline
Focus on proficiency with regard to teaching approaches, methods, and strategies and learning activities that draw on and develop students' thinking and action skills, spur their engagement, and lead to active, cooperative, in-depth learning they can use in real-life situations.

Objects
Teaching approaches, methods, and strategies and learning activities that have these qualities
The choice is based on the priorities and guidelines of the particular school, program of study, or discipline and on an analysis of the beneficiaries' situations and the contexts in which they work, the needs identified by the teachers or groups, and the expectations expressed by the students with whom they work.

Outcomes
- Representation of the principles and conditions of their effective use
- Representation of the impacts of their effective use on student motivation, confidence, engagement, sense of self-efficacy, learning, and success, achievement
- Gradual development of a broad repertoire of approaches, methods, strategies, and activities that the teacher and group can draw on
- Ability to use these approaches, methods, strategies, and activities in an appropriate manner on the ground and discuss the appropriateness of their use
- Ability to use them in a controlled way
- Ability to use them effectively and adapt their use to specific situations
- Ability to assess the appropriateness and effectiveness of their use and adapt it as needed

Schools, programs of study, fields, and disciplines

Guideline

Focus on learning and achievement through:
- Informed management of programs of study
- Dovetailing of situations, aims, priorities, and the plans of the particular school, faculty, department, and discipline
- Proficiency in teaching the discipline's learning objects in the programs of study in which the discipline is present

Objects
- Examination and improvement of programs of study from the following angles: the broad expected outcomes of the training and whether they are attained, the training path and progression, student persistence and success, the salient features of student development and competencies at key stages in their training, and the factors explaining them
- Design and execution of the plan developed by the faculty, department, or discipline, based on the institutional framework and an analysis of the entity's situation
- Planning and practice of teaching to promote learning and success in relation to the discipline's basic principles and concepts, the context in which they are learned and used, preconceptions, and didactic contributions regarding their learning

Outcomes
- A clear, accurate vision of situations and priorities with respect to improving learning, persistence and success in the school, programs of study, departments, and disciplines
- Identification and structuring of professional development activities and of measures to modify programs of study and adapt teaching to improve learning, persistence, and success
- Participation and cooperation in designing and making the necessary changes, evaluating their impacts, and improving training outcomes.

Conclusion

Making the training of students, their success, and their achievement of high-level outcomes specific to higher education the main or a major mission of an institution calls for the establishment, implementation, and monitoring of a professional development plan in each faculty, program of study, department, discipline, and unit associated with student learning and progress. The success of these plans and that of students require the involvement and cooperation of the various bodies and their members, who also need to think, act, and learn together (Amundsen, 2005). Professional development, and its corollary, the development of student resources, appear to be key to improving success, and the quality of this success, in colleges and universities (Rhoades, 2012). This cannot occur without the cooperation of teachers and their professional colleagues, or without aiming measures at the places where success happens: programs of study, classes, student services, and learning, learning support, and teaching development centers.

Bibliography

Section 1

Achtziger, A., Gollwitzer, P. M. (2008). *Motivation and volition during the course of action*. In J. Heckhausen, H. Heckhausen (Ed.), *Motivation and action*. London: Cambridge University Press. Downloadable from https://psych.nyu.edu/gollwitzer/10_Achtziger_Gollwitzer_motivation_and_volition.pdf

Ackerman, P. L. (2013). *Engagement and Opportunity to Learn*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Ackerman, P. L., Heggestad, E. D. (1997). *Intelligence, personality, and interests: Evidence for overlapping traits*. Psychological Bulletin, 121.

ACT. (2015). *College Choice Report, Part 3, Persistence and Transfer – A Profile of 2013 ACT-tested High School Graduates*. ACT. Downloadable from http://www.act.org/collegechoice/13/pdf/CollegeChoiceRpt-2013-Part3.pdf

Adelman, C. (1999). *Answers in the Tool Box. Academic Intensity, Attendance Patterns, and Bachelor's Degree Attaiment*. Education Publications Center. Downloadable from http://files.eric.ed.gov/fulltext/ED431363.pdf

Ainley, M., Hidi, S., Berndorff, D. (2002). *Interest, learning, and the psychological processes that mediate their relationship*. Journal of Educational Psychology, 94. Downloadable from http://www.unco.edu/cebs/psychology/kevinpugh/motivation_project/resources/ainley_etal02.pdf

Anderman, L. H. (2013). *Academic Motivation and Achievement in Classrooms*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Aronson, J., Fried, C. B., Good, C. (2002). *Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence*. Journal of Experimental Social Psychology, 38. Downloadable from http://www.foothill.edu/attach/1474/views_of_intelligence.pdf

Aronson, J., Steele, C. M. (2005). *Stereotypes and the Fragility of Academic Competence, Motivation, and Self-Concept*. In A. Elliot, C. S. Dweck (Ed.) *The handbook of competence and motivation*. New York: Guilford. Downloadable from http://www.physics.emory.edu/faculty/weeks//journal/aronsonsteele05.pdf

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bandura, A., Locke, E. A. (2003). *Negative Self-Efficacy and Goal Effects Revisited*. Journal of Applied Psychology, 88 (1). Downloadable from http://www.uky.edu/~eushe2/Bandura/Bandura2003JAP.pdf

Berea, A., Tsvetovat, M., Daun-Barnett, N., Greenwald, M., Cox, E. (2015). *A new multi-dimensional conceptualization of individual achievement in college*. Decision Analytics Journal, 2 (3). Downloadable from http://www.decisionanalyticsjournal.com/content/pdf/s40165-015-0012-8.pdf

Bidjerano, T., Dai, D. Y. (2007). *The relationship between the big-five model of personality and self-regulated learning strategies*. Learning and Individual Differences, 44.

Black, A. E., Deci, E. L. (2000). *The effects of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: A self-determination theory perspective*. Science Education, 84. Downloadable from http://sdtheory.s3.amazonaws.com/SDT/documents/2000_BlackDeci.pdf

Blackwell, L., Trzesniewski, K., Dweck, C. S. (2007). *Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and intervention*. Child Development, 78. Downloadable from http://mtoliveboe.org/cmsAdmin/uploads/blackwell-theories-of-intelligence-child-dev-2007.pdf

Bong, M. (2013). *Self-Efficacy*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Bong, M., Skaalvik, E. M. (2003). *Academic self-concept and self-efficacy: How different are they really?* Educational Psychology Review, 15 (1). Downloadable from http://www.researchgate.net/publication/225996278_Academic_Self-Concept_and_Self-Efficacy_How_Different_Are_They_Really

Chamorro-Premuzic, T., & Furnham, A. (2003). *Personality traits and academic examination performance*. European Journal of Personality, 17. Downloadable from http://www.cin.ufpe.br/~ssj/Personality%20Traits%20and%20Academic%20Examination%20Performance.pdf

Chamorro-Premuzic, T., Furnham A. (2003). *Personality predicts academic performance: evidence from two longitudinal university samples*. Journal of Research in Personality, 37. Downloadable from http://www.sciencedirect.com/science/article/pii/S0092656602005780

Chamorro-Premuzic, T., Furnham, A. (2008). *Personality, intelligence and approaches to learning as predictors of academic performance*. Personality and Individual Differences, 44 (7). Downloadable from http://www.sciencedirect.com/science/article/pii/S0191886908000032

Chemers, M. M., Hu, L., Garcia, B. F. (2001). *Academic Self-Efficacy and First-Year College Student Performance and Adjustment*. Journal of Educational Psychology, 93 (1). Downloadable from http://sharepoint.ewu.edu/sites/facultyorganization/Shared%20Documents/SSRC/Acad.%20Self-Efficacy%20and%20First%20Year%20Students,%20Chemers.pdf

Chi, M. T. H. (2008). *Three types of conceptual change: Belief revision, mental model transformation, and categorical shift*. In S. Vosniadou (Ed.), *Handbook of research on conceptual change*. Hillsdale, NJ: Erlbaum. Downloadable from http://chilab.asu.edu/papers/Chi_concpetualchangechapter.pdf

Ciorbeaa, I., Pasaricaa, F. (2013). *The Study of the Relationship Between Personality and Academic Performance*. Procedia – Social and Behavioral Sciences, 78. Downloadable from

http://www.sciencedirect.com/science/article/pii/S1877042813008884

Coffman, D. L., Gilligan, T. D. (2002). *Social Support, Stress, and Self-efficacy: Effects on Students' Satisfaction*. Journal of College Student Retention: Research, Theory & Practice, 4 (1).

Collaborative for Academic, Social, and Emotional Learning (CASEL). (2005). *Safe and sound: An educational leader's guide to evidence-based social and emotional learning programs* – Illinois edition. Chicago, IL: Author. Downloadable from http://www.eric.ed.gov/PDFS/ED505373.pdf

Conard, M. A. (2006). *Aptitude is Not Enough: How Personality and Behavior Predict Academic Performance*. Journal of Research in Personality, 40 (3). Downloadable from http://digitalcommons.sacredheart.edu/psych_fac/41/

Conley, D. T. (2007). *Redefining College Readiness*. Eugene, OR: Educational Policy Improvement Center. Downloadable from http://evergreen.edu/washingtoncenter/docs/conleycollegereadiness.pdf

Cornelius-White, J. (2007). *Learner-Centered Teacher-Student Relationships Are Effective: A Meta-analysis*. Review of Educational Research, 77 (1).

Covington, M. V. (2000). *Goal theory, motivation, and school achievement: An integrative review*. Annual Review of Psychology, 51. Downloadable from http://sohs.pbs.uam.es/webjesus/motiv_ev_autorr/lects%20extranjeras/annual%20review.pdf

Credé, M., Kuncel, N. R. (2008). *Study habits, skills, and attitudes: The third pillar supporting collegiate academic performance*. Perspectives on Psychological Science, 3. Downloadable from https://www.academia.edu/4733501/Study_Habits_Skills_and_Attitudes_The_Third_Pillar_Supporting_Collegiate_Academic_Performance

Daniels, L. M., Haynes, T. L., Stupnisky, R. H., Perry, R. P., Newall, N., Pekrun, R. (2008). *Individual differences in achievement goals: A longitudinal study of cognitive, emotional, and achievement outcomes*. Contemporary Educational Psychology, 33.

Dar-Nimrod, I., Heine, S. J. (2006). *Exposure to scientific theories affects women's math performance*. Science, 314. Downloadable from http://www.medicine.mcgill.ca/epidemiology/hanley/tmp/Applications/WomenMath.pdf

DeWitz, S. J., Woolsey, M. L., Walsh, W. B. (2009). *College student retention: An exploration of the relationship between self-efficacy beliefs and purpose in life among college students*. Journal of College Student Development, 50 (1). Downloadable from http://saweb.memphis.edu/sa_studentaffairs/pdfs/pd/nov12/Self-Efficacy_and_Retention.pdf

Diseth, A., Kobbeltvedt, T. (2010). *A mediation analysis of achievement motives, goals, learning strategies, and academic achievement*. British Journal of Educational Psychology, 80.

Duckworth, A. L., Carlson, S. M. (2013). *Self-regulation and school success*. In B. W. Sokol, F. M. E. Grouzet, U. Müller (Ed.), *Self-regulation and autonomy: Social and developmental dimensions of human conduct*. New York: Cambridge University Press. Downloadable from https://upenn.app.box.com/DuckworthCarlson

Duckworth, A. L., Eskreis-Winkler, L. (2015). *Grit*. In J. D. Wright (Ed.), *International encyclopedia of the social and behavioral sciences.* Oxford, UK: Elsevier. Downloadable from https://upenn.app.box.com/s/7e411uejn4y8f2urccq95y2m01lg604n

Duckworth, A. L., Gross, J. J. (2014). *Self-Control and Grit: Related but Separable Determinants of Success*. Current Directions in Psychological Science, 23 (5). Downloadable from https://upenn.app.box.com/s/67xypfb2zqtuacd1jrbh

Duckworth, A. L., Kern, M. L. (2011). *A meta-analysis of the convergent validity of self-control measures*. Journal of Research in Personality, *45* (3). Downloadable from https://upenn.app.box.com/DuckworthKern2011

Duckworth, A. L., Kirby, T. A., Tsukayama, E., Berstein, H., Ericsson, K. A. (2011). *Deliberate Practice Spells Success: Why Grittier Competitors Triumph at the National Spelling Bee*. Social Psychological and Personality Science, 2 (2). Downloadable from http://www.sas.upenn.edu/~duckwort/images/Social%20Psychological%20and%20Personality%20Science-2011-Duckworth-174-81.pdf

Duckworth, A. L., Peterson, C., Matthews, M. D., Kelly, D. R. (2007). *Grit: Perseverance and passion for long-term goals*. Journal of Personality and Social Psychology, 92 (6). Downloadable from http://www.sas.upenn.edu/~duckwort/images/Grit%20JPSP.pdf

Duckworth, A. L., Seligman, M. E. P. (2005). *Self-discipline outdoes IQ in predicting academic Performance of adolescents*. Psychological Science, 16. Downloadable from http://www.sas.upenn.edu/~duckwort/images/PsychologicalScienceDec2005.pdf

Duckworth, A. L., Steinberg, L. (2015). *Unpacking self-control*. Child Development Perspectives, *9* (1). Downloadable from https://upenn.app.box.com/s/lt2kgb5bnphrnzfvtmznloyqfb6wyu2g

Duckworth, A. L., Tsukayama, E., May, H. (2010). *Establishing Causality Using Longitudinal Hierarchical Linear Modeling: An Illustration Predicting Achievement From Self-Control*. Social Psychological and Personality Science, 1 (4). Downloadable from https://upenn.app.box.com/DuckworthTsukayamaMay
Duff, A., Boyle, E., Dunleavy, K., Ferguson, J. (2004). *The relationship between personality, approach to learning and academic performance*. Personality and Individual Differences, 36.

Durik, A., Lovejoy, C. M., Johnson, S. J. (2009). *A longitudinal study of achievement goals for college in general: Predicting cumulative GPA and diversity in course selection*. Contemporary Educational Psychology, 34.

Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House.

Dweck, C. (s. d). *The Mindset of a Champion*. Downloadable from http://www.sportscotland.org.uk/media/894520/the-mindset-of-a-champion-by-carol-dweck.pdf

Eccles, J. S. (1983). *Expectancies, values and academic behaviors*. In J. T. Spence (Ed.), *Achievement and achievement motives*. San Francisco, CA: Freeman. Downloadable from http://www.rcgd.isr.umich.edu/garp/articles/ecclesparsons83b.pdf

Elias, M. J., Zins, J. E., Weissberg, R. P., Frey, K. S., Greenberg, M. T., Haynes, N. M., Shriver, T. P. (1997). *Promoting social and emotional learning: Guidelines for educators*. Alexandria, VA: ASCD.

Eskreis-Winkler, L., Duckworth, A. L., Shulman, E., Beal, S. (2014). *The grit effect: Predicting retention in the military, the workplace, school and marriage*. Frontiers in Personality Science and Individual Differences, *5* (36). Downloadable from https://upenn.app.box.com/s/3021prq3f8euauyd0257

Eskreis-Winkler, L., Gross, J. J., Duckworth, A. L. (forthcoming). *Grit: Sustained self-regulation in the service of superordinate goals*. In K. D. Vohs, R. F. Baumeister (Ed.), *Handbook of self-regulation: Research, theory and applications*. New York, NY: Guilford. Downloadable from https://upenn.app.box.com/s/cbi1bgfrt93soakilk9cc2wcg9ml4kw9

Ferla, J., Valcke, M., Cai, Y. (2009). *Academic self-efficacy and academic self-concept: Reconsidering structural relationships*. Learning & Individual Differences, 19 (4). Consultable at http://users.ugent.be/~mvalcke/CV/selfeffiacy_selfconcept.pdf
Fredericks, J. A. (2013). *Behavioral Engagement in Learning*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Fredricks, J. A., Blumenfeld, P. C., Paris, A. H. (2004). *School Engagement: Potential of the Concept, State of the Evidence*. Review of Educational Research, 74 (1). Downloadable from http://ceep.indiana.edu/hssse/Fredricks.pdf

Furnham, A., Chamorro-Premuzic, T., McDougall, F. (2003). *Personality, cognitive ability and beliefs about intelligence as predictors of academic performance*. Learning and Individual Differences, 14. Downloadable from http://www.sciencedirect.com/science/article/pii/S1041608003000359

Furnham, A., Monsen, J., Ahmetoglu, G. (2009). *Typical intellectual engagement, Big Five personality traits, approaches to learning and cognitive ability predictors of academic performance*. British Journal of Educational Psychology, 79. Downloadable from http://www.pubfacts.com/detail/19245744/Typical-intellectual-engagement-Big-Five-personality-traits-approaches-to-learning-and-cognitive-abi

Goetz, T., Hall, N. C. (2013). *Emotion and Achievement in the Classroom*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Good, C., Aronson, J., Inzlicht, M. (2003). *Improving adolescents' standardized test performance: An intervention to reduce the effects of stereotype threat*. Applied Developmental Psychology, 24. Downloadable from http://static1.squarespace.com/static/550b09eae4b0147d03eda40d/t/5525f76be4b0ed8e0b3af31b/1428551531137/improving-adolescents-standardized-test-performance.pdf

Good, C., Rattan, A., Dweck, C.S. (2007). *Theories of intelligence influence females' sense of belonging, intent to continue, and achievement in math*. Unpublished data, Columbia University.

Grant, H., Dwek, C. (2003). *Clarifying achievement goals and their impact*. Journal of Personality and Social Psychology, 85, 541-553.

Grant-Vallone, E., Reid, K., Umali, C., Pohlert, E. (2003). *An Analysis of the Effects of Self-Esteem, Social Support, and Participation in Student Support Services on Students' Adjustment and Commitment to College*. Journal of College Student Retention: Research, Theory & Practice, 5 (3).

Green, J., Nelson, G., Martin, A. J., Marsh, H. (2006). *The causal ordering of self-concept and academic motivation and its effect on academic achievement*. International Education journal, 7 (4). Downloadable from http://files.eric.ed.gov/fulltext/EJ854309.pdf

Hall, M., Ponton, M. (2005). *Mathematics Self-Efficacy of College Freshman*. Journal of Developmental Education, 28 (3). Downloadable from http://files.eric.ed.gov/fulltext/EJ718579.pdf

Harackiewicz, J. M., Barron, K. E., Tauer, J. M., Elliot, A. J. (2002). *Predicting Success in College: A Longitudinal Study of Achievement Goals and Ability Measures as Predictors of Interest and Performance From Freshman Year Through Graduation*. Journal of Educational Psychology, 94 (3). Downloadable from https://www.psych.rochester.edu/research/apav/publications/documents/2002_HarackiewiczBarronTauerElliot_Predictingsuccessincollege.pdf

Hart, J. W., Stasson, M. F., Mahoney, J. M. (2007). *The big five and achievement motivation: Exploring the relationship between personality and a two-factor model of motivation*. Individual Differences Research, 5.

Hattie, J. (2009). *Visible Learning – A synthesis of over 800 meta-analyses relating to achievement*. Routledge.

Higgins, D. M., Peterson, J. B., Pihl, R. O., Lee, A. G. M. (2007). *Prefrontal cognitive ability, intelligence, Big Five personality, and the prediction of advanced academic and workplace performance*. Journal of Personality and Social Psychology, 93 (2). Downloadable from http://www.researchgate.net/profile/Jordan_Peterson2/publication/6194035_Prefrontal_cognitive_ability_intelligence_Big_Five_personality_and_the_prediction_of_advanced_academic_and_workplace_performance/links/0912f50e6ba814de7d000000.pdf

Huang, S. (2011). *Predicting Students' Academic Performance in College Using a New Non-cognitive Measure: an Instrument Design and a Structural Equation Exploration of Some Non-cognitive Attributes and Academic Performance*. Ohio State University. Downloadable from https://etd.ohiolink.edu/!etd.send_file?accession=osu1316097255&disposition=inline.

Hughes, J. N., Luo, W., Kwok, O.-M., Lloyd, L. K. (2008). *Teacher-student support, effortful engagement, and achievement: a 3-year longitudinal study*. Journal of Educational Psychology, 100 (1). Downloadable from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2705122/pdf/nihms83519.pdf

Kappe, R., van der Flier, H. (2010). *Using multiple and specific criteria to assess the predictive validity of the big five personality factors on academic performance*. Journal of Research in Personality, 44.

Komarraju, M. (2013). *Personality Influences*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Komarraju, M., Karau, S. J., Schmeck, R. R. (2009). *Role of the big five personality traits in predicting college student's academic motivation and achievement*. Learning and Individual Differences, 19.

Linnenbrink, E. A., Pintrich, P. R. (2002). *The role of motivational beliefs in conceptual change*. In M. Limon, L. Mason (Ed.), *Reconsidering conceptual change: Issues in theory and practice.* Dordrecht, Netherlands: Kluwer.

Linnenbrink-Garcia L., Tyson D. F., Patall, E. A. (2008). *When are achievement goal orientations beneficial for academic achievement? A closer look at moderating factors*. International Review of Social Psychology, 21. Downloadable from http://www.cairn.info/revue-internationale-de-psychologie-sociale-2008-1-page-19.htm

Locke, E. A., Latham, G. P. (2002). *Building practically useful theory of goal setting and task motivation*. American Psychologist, 57. Downloadable from http://faculty.washington.edu/janegf/goalsetting.html

Maglio, S. J., Trope, Y., Liberman, N. (2012). *Distance From a Distance: Psychological Distance Reduces Sensitivity to Any Further Psychological Distance*. Journal of Experimental Psychology: General. Downloadable from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.418.8902&rep=rep1&type=pdf

Marks, H. M. (2000). *Student Engagement in Instructional Activity: Patterns in the Elementary, Middle, and High School Years*. American Educational Research Journal, 37 (1). Downloadable from http://www.indiana.edu/~ceep/hssse/Marks.pdf

Marsh, H. W., Craven, R. G. (2006). *Reciprocal effects of self-concept and performance from a multidimensional perspective: Beyond seductive pleasure and unidimensional perspectives*. Perspectives on Psychological Science, 1 (2). Consultable at http://www.researchgate.net/publication/263334029_Reciprocal_Effects_of_Self-Concept_and_Performance_From_a_Multidimensional_Perspective_Beyond_Seductive_Pleasure_and_Unidimensional_Perspectives

Marsh, H. W., Craven, R. G. (2005). *A reciprocal effects model of the causal ordering of self-concept and achievement: New support for the benefits of enhancing self-concept*. In H. W. Marsh, R. G. Craven, D. M. McInerney (Ed.), *The new frontiers of self-research*, vol. 2. Greenwich, CT: Information Age. Previous version of document consultable at http://www.aare.edu.au/data/publications/2003/mar03755.pdf

Marsh, H. W., Seaton, M. (2013). *Academic Self-Concept*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Marsh, H. W., Trautwein, U., Lüdtke, O., Köller, O., Baumert, J. (2005). *Academic self-concept, interest, grades, and standardized test scores: Reciprocal effects models of causal ordering*. Child development, 76 (2).

Martin, A. J. (2013a). *Goal Orientation*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Martin, A. J. (2013b). *Goal Setting and Personal Best Goals*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Martin, A. J., (2011). *Personal best (PB) approaches to academic development: Implications for motivation and assessment*. Educational Practice and Theory, 33.

Martin, A. J., (2006). *Personal bests (PBs): A proposed multidimensional model and empirical analysis*. British Journal of Educational Psychology, 76.

Martin, A. J., Liem G. A. (2010). *Academic personal bests (PBs), engagement, and achievement: A cross-lagged panel analysis*. Learning and Individual Differences, 20.

McCann, C., Duckworth, A. L., Roberts, R. D. (2009). *Empirical identification of the major facets of conscientiousness*. Learning and Individual Differences, 19. Downloadable from https://upenn.app.box.com/MacCannDuckworth

Morisano, D., Locke, E. A. (2013). *Goal Setting and Academic Achievement*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Multon, K. D., Brown, S. D., Lent, R. W. (1991). *Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation*. Journal of Counseling Psychology, 38. Downloadable from https://www.academia.edu/1773479/Relation_of_self-efficacy_beliefs_to_academic_outcomes_A_meta-analytic_investigation

Nagaoka, J., Farrington, C. A., Ehrlich, S. B., Heath, R. D., et al. (2015). *Foundations for Young Adult Success – A developmental Framework*. The University of Chicago Consortium on Chicago School Research. Downloadable from http://www.wallacefoundation.org/knowledge-center/after-school/key-research/Pages/Foundations-for-Young-Adult-Success.aspx

Noftle, E. E., Robins, R. W. (2007). *Personality predictors of academic outcomes: Big five correlates of GPA and SAT scores*. Journal of Personality and Social Psychology, 93 (1). Downloadable from http://psychology.okstate.edu/faculty/jgrice/psyc4333/FiveFactor_GPA_JPSP.pdf

Okun, M. A., Fairholme, C., Karoly, P., Ruehlman, L. S., Newton, C. (2006). *Academic goals, goal process cognition, and exam performance among college students*. Learning and Individual Differences, 16.

Pajares, F. (1996). *Self-efficacy beliefs in academic settings*. Review of Educational Research, 66. Downloadable from http://www.uky.edu/~eushe2/Pajares/Pajares1996RER.pdf

Pintrich, P. R., De Groot, E. V. (1990). *Motivational and self-regulated learning components of classroom academic performance*. Journal of Educational Psychology, 82. Downloadable from http://web.stanford.edu/dept/SUSE/projects/ireport/articles/self-regulation/self-regulated%20learning-motivation.pdf

Pintrich, P. R., Conley, A. M., Kempler, T. M. (2003). *Current issues in achievement goal theory and research*. International Journal of Educational Research, 39.

Poyrazil, S., Arbona, C., Nora, A., McPherson, R., Pisecco, S. (2002). *Relation between assertiveness, academic self-efficacy, and social adjustment among international graduate students*. Journal of College Student Development, 43.

Purdie, N., Hattie, J. (1999). *The relationship between study skills and learning outcomes: A meta-analysis*. Australian Journal of Education, 43. Downloadable from http://www.aare.edu.au/data/publications/1995/hattj95279.pdf

Richardson, M., Abraham, C. (2009). *Conscientiousness and achievement motivation predict performance*. European Journal of Personality, 23.

Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., Carlstrom, A. (2004). *Do psychosocial and study skill factors predict college outcomes? A meta-analysis*. Psychological Bulletin, 130. Consultable at http://www.researchgate.net/publication/8685856_Do_Psychosocial_and_Study_Skill_Factors_Predict_College_Outcomes_A_Meta-Analysis

Schreiner, L. A. (2010). *The "Thriving Quotient" A New Vision for Student Success*. American College Personnel Association et Wiley Periodicals. Downloadable from http://www.wellesley.edu/sites/default/files/assets/departments/studentlife/files/thriving_overview.pdf

Schreiner, L. A., Kammer, R., Primrose, B., Quick, D. (2011). *Predictors of Thriving in Students of Color: Differential Pathways to College Success*. Downloadable from http://www.thrivingincollege.org/wp-content/uploads/2012/02/Schreiner-Kammer-Primrose-Quick-ASHE-paper-2011-2.pdf

Schreiner, L. A., McIntosh, E. J., Kalinkewicz, L., Propst Cuevas, A. E. (2013). *Measuring the Malleable: Expanding the Assessment of Student Success*. Downloadable from http://www.thrivingincollege.org/wp-content/uploads/2012/02/ASHE-Measuring-the-Malleable-Schreiner-et-al.-FINAL.pdf

Schreiner, L. A., McIntosh, E. J., Nelson, D., Pothoven, S. (2009). *The Thriving Quotient: Advancing the Assessment of Student Success*. Downloadable from http://thrivingincollege.org/Thriving_in_College/DL_files/TQ_ASHE_2009_1.pdf

Schreiner, L. A., Pothoven, S., Nelson, D., McIntosh, E. J. (2009). *College Student Thriving: Predictors of Success and Retention*. Downloadable from http://thrivingincollege.org/Thriving_in_College/DL_files/TQ_ASHE_2009_2.pdf

Schunk, D. H. (1991). *Self-efficacy and academic motivation*. Educational Psychologist, 26. Downloadable from http://libres.uncg.edu/ir/uncg/f/D_Schunk_Self_1991.pdf

Schunk, D. H., Mullen, C. A. (2013). *Study Skills*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Schunk, D. H., Mullen, C. A. (2013). *Motivation*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Seal, C. R., Naumann, S. E., Scott, A. N., Royce-Davis, J. (2010). *Social emotional development: a new model of student learning in higher education*. Research in Higher Education Journal, 10. Downloadable from http://www.aabri.com/manuscripts/10672.pdf

Seaton, M., Marsh, H. W., Craven, R. J. (2009). *Earning its plan in a pan-human theory: universality of the big-fish-little-pond effect (BFLPE) across 41 culturally and economically diverse countries*. Journal of Educational Psychology, 101 (2).

Sedlacek, W. E. (2011). *Using noncognitive variables in assessing readiness for higher education*. Readings on Equal Education, 25. Downloadable from https://cerpp.usc.edu/files/2013/11/UsingNCV-Sedlacek.pdf

Senko, C., Durik, A.M., Patel, L., Lovejoy, C.M., Valentiner, D. (2013). *Performance-approach goal effects on achievement under low versus high challenge conditions*. Learning & Instruction, 23.

Strayhorn, T. L. (2013). *Academic Achievement – A Higher Education Perspective*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Treagust, D. F. (2008). *Conceptual change: a discussion of theoretical, methodological and practical challenges for science education*. Cultural Studies of Science Education, 3 (2). Downloadable from http://web.uvic.ca/~mrchat/Springer/Treagust_Duit200b.pdf

Valentine, J. C., DuBois, D. L., Cooper, H. (2004). *The relations between self-beliefs and academic achievement: A systematic review*. Educational Psychologist, 39. Downloadable from http://people.cehd.tamu.edu/~vwillson/Videos/E642%20meta/Self%20Beliefs%20MA%20Valentine%202004_files/Valentine.pdf

Vallerand, R.J., Houlfort, N., Forest, J. (2014). *Passion for work: Determinants and outcomes*. In M. Gagné (Ed.), *Oxford Handbook of Work Engagement, Motivation, and Self-Determination Theory*. New York: Oxford University Press.

Von Culin, K., Tsukayama, E., & Duckworth, A. L. (2014). *Unpacking grit: Motivational correlates of perseverance and passion for long-term goals*. *Journal of Positive Psychology*, 9 (4). Downloadable from https://upenn.app.box.com/vonCulinTsukayama

Vosniadou, S., Panagiatis T. (2013). *Conceptual Change*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Vosniadou, S., Vamvakoussi, X., Skopeliti, I. (2008). *The framework theory approach to the problem of conceptual change*. In S. Vosniadou (Ed.), *Handbook of research on conceptual change*. Hillsdale, NJ: Erlbaum.

Vuong, M., Brown-Welty, S., Tracz, S. (2010). *The Effects of Self-Efficacy on Academic Success of First-Generation College Sophomore Students*. Journal of College Student Development, 51 (1). Downloadable from http://jamiesmithportfolio.com/EDTE800/wp-content/Self-Efficacy/Vuong.pdf

Weiner, B. (1985). *An attributional theory of achievement motivation and emotion*. Psychology Review, 92. Downloadable from http://www.researchgate.net/profile/Bernard_Weiner/publication/19257755_An_attributional_theory_of_achievement_motivation_and_emotion/links/5434140a0cf294006f734b2c.pdf

Wentzel, K. R. (1999). *Social-motivational processes and interpersonal relationships: Implications for understanding motivation at school*. Journal of Educational Psychology, 91.

Wentzel K. R. (2009). *Peers and academic functioning at school*. In K. H. Rubin, W. M. Bukowski, B. Laursen (Ed.), *Handbook of peer interactions, relationships, and groups*. New York: Guilford Press.

Zajacova, A., Lynch, S. M., Espenshade, T. J. (2005). *Self-Efficacy, stress, and academic success in College*. Research in Higher Education, 46 (6). Downloadable from https://www.princeton.edu/~tje/files/Self%20Efficacy%20and%20Stress%20Zajacova%20Lynch%20Espenshade%20Sept%202005.pdf

Zimmerman, B. J., Bandura, A., Martinez-Pons, M. (1992). *Self-motivation for academic achievement: The role of self-efficacy beliefs and personal goal setting*. American Educational Research Journal, 29. Downloadable from http://www.uky.edu/~eushe2/Bandura/Bandura1992AERJ.pdf

Zmuda, J., Bradshaw, C. P. (2013). *Social and Emotional Learning and Academic Achievement*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Section 2

Achtziger, A., Gollwitzer, P. M. (2008). *Motivation and volition during the course of action*. In J. Heckhausen, H. Heckhausen (Ed.), *Motivation and action*. London: Cambridge University Press. Downloadable from https://psych.nyu.edu/gollwitzer/10_Achtziger_Gollwitzer_motivation_and_volition.pdf

Ackerman, P. L. (2013). *Engagement and Opportunity to Learn*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Ackerman, P. L., Heggestad, E. D. (1997). *Intelligence, personality, and interests: Evidence for overlapping traits*. Psychological Bulletin, 121.

ACT. (2015). *College Choice Report, Part 3, Persistence and Transfer – A Profile of 2013 ACT-tested High School Graduates*. ACT. Downloadable from http://www.act.org/collegechoice/13/pdf/CollegeChoiceRpt-2013-Part3.pdf

Adelman, C. (1999). *Answers in the Tool Box. Academic Intensity, Attendance Patterns, and Bachelor's Degree Attaiment*. Education Publications Center. Downloadable from http://files.eric.ed.gov/fulltext/ED431363.pdf

Ainley, M., Hidi, S., Berndorff, D. (2002). *Interest, learning, and the psychological processes that mediate their relationship*. Journal of Educational Psychology, 94. Downloadable from http://www.unco.edu/cebs/psychology/kevinpugh/motivation_project/resources/ainley_etal02.pdf

Anderman, L. H. (2013). *Academic Motivation and Achievement in Classrooms*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Aronson, J., Fried, C. B., Good, C. (2002). *Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence*. Journal of Experimental Social Psychology, 38. Downloadable from http://www.foothill.edu/attach/1474/views_of_intelligence.pdf

Aronson, J., Steele, C. M. (2005). *Stereotypes and the Fragility of Academic Competence, Motivation, and Self-Concept*. In A. Elliot, C. S. Dweck (Ed.) *The handbook of competence and motivation*. New York: Guilford. Downloadable from http://www.physics.emory.edu/faculty/weeks//journal/aronsonsteele05.pdf

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bandura, A., Locke, E. A. (2003). *Negative Self-Efficacy and Goal Effects Revisited*. Journal of Applied Psychology, 88 (1). Downloadable from http://www.uky.edu/~eushe2/Bandura/Bandura2003JAP.pdf

Berea, A., Tsvetovat, M., Daun-Barnett, N., Greenwald, M., Cox, E. (2015). *A new multi-dimensional conceptualization of individual achievement in college*. Decision Analytics Journal, 2 (3). Downloadable from http://www.decisionanalyticsjournal.com/content/pdf/s40165-015-0012-8.pdf

Bidjerano, T., Dai, D. Y. (2007). *The relationship between the big-five model of personality and self-regulated learning strategies*. Learning and Individual Differences, 44.

Black, A. E., Deci, E. L. (2000). *The effects of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: A self-determination theory perspective*. Science Education, 84. Downloadable from http://sdtheory.s3.amazonaws.com/SDT/documents/2000_BlackDeci.pdf

Blackwell, L., Trzesniewski, K., Dweck, C. S. (2007). *Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and intervention*. Child Development, 78. Downloadable from http://mtoliveboe.org/cmsAdmin/uploads/blackwell-theories-of-intelligence-child-dev-2007.pdf

Bong, M. (2013). *Self-Efficacy*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Bong, M., Skaalvik, E. M. (2003). *Academic self-concept and self-efficacy: How different are they really?* Educational Psychology Review, 15 (1). Downloadable from http://www.researchgate.net/publication/225996278_Academic_Self-Concept_and_Self-Efficacy_How_Different_Are_They_Really

Chamorro-Premuzic, T., & Furnham, A. (2003). *Personality traits and academic examination performance*. European Journal of Personality, 17. Downloadable from http://www.cin.ufpe.br/~ssj/Personality%20Traits%20and%20Academic%20Examination%20Performance.pdf

Chamorro-Premuzic, T., Furnham A. (2003). *Personality predicts academic performance: evidence from two longitudinal university samples*. Journal of Research in Personality, 37. Downloadable from http://www.sciencedirect.com/science/article/pii/S0092656602005780

Chamorro-Premuzic, T., Furnham, A. (2008). *Personality, intelligence and approaches to learning as predictors of academic performance*. Personality and Individual Differences, 44 (7). Downloadable from http://www.sciencedirect.com/science/article/pii/S0191886908000032

Chemers, M. M., Hu, L., Garcia, B. F. (2001). *Academic Self-Efficacy and First-Year College Student Performance and Adjustment*. Journal of Educational Psychology, 93 (1). Downloadable from http://sharepoint.ewu.edu/sites/facultyorganization/Shared%20Documents/SSRC/Acad.%20Self-Efficacy%20and%20First%20Year%20Students,%20Chemers.pdf

Chi, M. T. H. (2008). *Three types of conceptual change: Belief revision, mental model transformation, and categorical shift*. In S. Vosniadou (Ed.), *Handbook of research on conceptual change*. Hillsdale, NJ: Erlbaum. Downloadable from http://chilab.asu.edu/papers/Chi_concpetualchangechapter.pdf

Ciorbeaa, I., Pasaricaa, F. (2013). *The Study of the Relationship Between Personality and Academic Performance*. Procedia – Social and Behavioral Sciences, 78. Downloadable from http://www.sciencedirect.com/science/article/pii/S1877042813008884

Coffman, D. L., Gilligan, T. D. (2002). *Social Support, Stress, and Self-efficacy: Effects on Students' Satisfaction*. Journal of College Student Retention: Research, Theory & Practice**,** 4 (1).

Collaborative for Academic, Social, and Emotional Learning (CASEL). (2005). *Safe and sound: An educational leader's guide to evidence-based social and emotional learning programs* – Illinois edition. Chicago, IL: Author. Downloadable from http://www.eric.ed.gov/PDFS/ED505373.pdf

Conard, M. A. (2006). *Aptitude is Not Enough: How Personality and Behavior Predict Academic Performance*. Journal of Research in Personality, 40 (3). Downloadable from http://digitalcommons.sacredheart.edu/psych_fac/41/

Conley, D. T. (2007). *Redefining College Readiness*. Eugene, OR: Educational Policy Improvement Center. Downloadable from http://evergreen.edu/washingtoncenter/docs/conleycollegereadiness.pdf

Cornelius-White, J. (2007). *Learner-Centered Teacher-Student Relationships Are Effective: A Meta-analysis*. Review of Educational Research, 77 (1).

Covington, M. V. (2000). *Goal theory, motivation, and school achievement: An integrative review*. Annual Review of Psychology, 51. Downloadable from http://sohs.pbs.uam.es/webjesus/motiv_ev_autorr/lects%20extranjeras/annual%20review.pdf

Credé, M., Kuncel, N. R. (2008). *Study habits, skills, and attitudes: The third pillar supporting collegiate academic performance*. Perspectives on Psychological Science, 3. Downloadable from https://www.academia.edu/4733501/Study_Habits_Skills_and_Attitudes_The_Third_Pillar_Supporting_Collegiate_Academic_Performance

Daniels, L. M., Haynes, T. L., Stupnisky, R. H., Perry, R. P., Newall, N., Pekrun, R. (2008). *Individual differences in achievement goals: A longitudinal study of cognitive, emotional, and achievement outcomes*. Contemporary Educational Psychology, 33.

Dar-Nimrod, I., Heine, S .J. (2006). *Exposure to scientific theories affects women's math performance*. Science, 314. Downloadable from http://www.medicine.mcgill.ca/epidemiology/hanley/tmp/Applications/WomenMath.pdf

DeWitz, S. J., Woolsey, M. L., Walsh, W. B. (2009). *College student retention: An exploration of the relationship between self-efficacy beliefs and purpose in life among college students*. Journal of College Student Development, 50 (1). Downloadable from http://saweb.memphis.edu/sa_studentaffairs/pdfs/pd/nov12/Self-Efficacy_and_Retention.pdf

Diseth, A., Kobbeltvedt, T. (2010). *A mediation analysis of achievement motives, goals, learning strategies, and academic achievement*. British Journal of Educational Psychology, 80.
Duckworth, A. L., Carlson, S. M. (2013). *Self-regulation and school success*. In B. W. Sokol, F. M. E. Grouzet, U. Müller (Ed.), *Self-regulation and autonomy: Social and developmental dimensions of human conduct*. New York: Cambridge University Press. Downloadable from https://upenn.app.box.com/DuckworthCarlson

Duckworth, A. L., Eskreis-Winkler, L. (2015). *Grit*. In J. D. Wright (Ed.), *International encyclopedia of the social and behavioral sciences.* Oxford, UK: Elsevier. Downloadable from https://upenn.app.box.com/s/7e411uejn4y8f2urccq95y2m01lg604n

Duckworth, A. L., Gross, J. J. (2014). *Self-Control and Grit: Related but Separable Determinants of Success*. Current Directions in Psychological Science, 23 (5). Downloadable from https://upenn.app.box.com/s/67xypfb2zqtuacd1jrbh

Duckworth, A. L., Kern, M. L. (2011). *A meta-analysis of the convergent validity of self-control measures*. Journal of Research in Personality, *45* (3). Downloadable from https://upenn.app.box.com/DuckworthKern2011

Duckworth, A. L., Kirby, T. A., Tsukayama, E., Berstein, H., Ericsson, K. A. (2011). *Deliberate Practice Spells Success: Why Grittier Competitors Triumph at the National Spelling Bee*. Social Psychological and Personality Science, 2 (2). Downloadable from http://www.sas.upenn.edu/~duckwort/images/Social%20Psychological%20and%20Personality%20Science-2011-Duckworth-174-81.pdf

Duckworth, A. L., Peterson, C., Matthews, M. D., Kelly, D. R. (2007). *Grit: Perseverance and passion for long-term goals*. Journal of Personality and Social Psychology, 92 (6). Downloadable from http://www.sas.upenn.edu/~duckwort/images/Grit%20JPSP.pdf

Duckworth, A. L., Seligman, M. E. P. (2005). *Self-discipline outdoes IQ in predicting academic Performance of adolescents*. Psychological Science, 16. Downloadable from http://www.sas.upenn.edu/~duckwort/images/PsychologicalScienceDec2005.pdf

Duckworth, A. L., Steinberg, L. (2015). *Unpacking self-control*. Child Development Perspectives, *9* (1). Downloadable from https://upenn.app.box.com/s/lt2kgb5bnphrnzfvtmznloyqfb6wyu2g

Duckworth, A. L., Tsukayama, E., May, H. (2010). *Establishing Causality Using Longitudinal Hierarchical Linear Modeling: An Illustration Predicting Achievement From Self-Control*. Social Psychological and Personality Science, 1 (4). Downloadable from https://upenn.app.box.com/DuckworthTsukayamaMay

Duff, A., Boyle, E., Dunleavy, K., Ferguson, J. (2004). *The relationship between personality, approach to learning and academic performance*. Personality and Individual Differences, 36.

Durik, A., Lovejoy, C. M., Johnson, S. J. (2009). *A longitudinal study of achievement goals for college in general: Predicting cumulative GPA and diversity in course selection*. Contemporary Educational Psychology, 34.

Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House.

Dweck, C. (s. d). *The Mindset of a Champion*. Downloadable from http://www.sportscotland.org.uk/media/894520/the-mindset-of-a-champion-by-carol-dweck.pdf

Eccles, J. S. (1983). *Expectancies, values and academic behaviors*. In J. T. Spence (Ed.), *Achievement and achievement motives*. San Francisco, CA: Freeman. Downloadable from http://www.rcgd.isr.umich.edu/garp/articles/ecclesparsons83b.pdf

Elias, M. J., Zins, J. E., Weissberg, R. P., Frey, K. S., Greenberg, M. T., Haynes, N. M., Shriver, T. P. (1997). *Promoting social and emotional learning: Guidelines for educators*. Alexandria, VA: ASCD.

Eskreis-Winkler, L., Duckworth, A. L., Shulman, E., Beal, S. (2014). *The grit effect: Predicting retention in the military, the workplace, school and marriage*. Frontiers in Personality Science and Individual Differences, *5* (36). Downloadable from https://upenn.app.box.com/s/3021prq3f8euauyd0257

Eskreis-Winkler, L., Gross, J. J., Duckworth, A. L. (forthcoming). *Grit: Sustained self-regulation in the service of superordinate goals*. In K. D. Vohs, R. F. Baumeister (Ed.), *Handbook of self-regulation: Research, theory and applications*. New York, NY: Guilford. Downloadable from https://upenn.app.box.com/s/cbi1bgfrt93soakilk9cc2wcg9ml4kw9

Ferla, J., Valcke, M., Cai, Y. (2009). *Academic self-efficacy and academic self-concept: Reconsidering structural relationships*. Learning & Individual Differences, 19 (4). Consultable at http://users.ugent.be/~mvalcke/CV/selfeffiacy_selfconcept.pdf

Fredericks, J. A. (2013). *Behavioral Engagement in Learning*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Fredricks, J. A., Blumenfeld, P. C., Paris, A. H. (2004). *School Engagement: Potential of the Concept, State of the Evidence*. Review of Educational Research, 74 (1). Downloadable from http://ceep.indiana.edu/hssse/Fredricks.pdf

Furnham, A., Chamorro-Premuzic, T., McDougall, F. (2003). *Personality, cognitive ability and beliefs about intelligence as predictors of academic performance*. Learning and Individual Differences, 14. Downloadable from http://www.sciencedirect.com/science/article/pii/S1041608003000359

Furnham, A., Monsen, J., Ahmetoglu, G. (2009). *Typical intellectual engagement, Big Five personality traits, approaches to learning and cognitive ability predictors of academic performance*. British Journal of Educational Psychology, 79. Downloadable from http://www.pubfacts.com/detail/19245744/Typical-intellectual-engagement-Big-Five-personality-traits-approaches-to-learning-and-cognitive-abi

Goetz, T., Hall, N. C. (2013). *Emotion and Achievement in the Classroom*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Good, C., Aronson, J., Inzlicht, M. (2003). *Improving adolescents' standardized test performance: An intervention to reduce the effects of stereotype threat*. Applied Developmental Psychology, 24. Downloadable from http://static1.squarespace.com/static/550b09eae4b0147d03eda40d/t/5525f76be4b0ed8e0b3af31b/1428551531137/improving-adolescents-standardized-test-performance.pdf

Good, C., Rattan, A., Dweck, C.S. (2007). *Theories of intelligence influence females' sense of belonging, intent to continue, and achievement in math*. Unpublished data, Columbia University.

Grant, H., Dwek, C. (2003). *Clarifying achievement goals and their impact*. Journal of Personality and Social Psychology, 85, 541-553.

Grant-Vallone, E., Reid, K., Umali, C., Pohlert, E. (2003). *An Analysis of the Effects of Self-Esteem, Social Support, and Participation in Student Support Services on Students' Adjustment and Commitment to College*. Journal of College Student Retention: Research, Theory & Practice, 5 (3).

Green, J., Nelson, G., Martin, A. J., Marsh, H. (2006). *The causal ordering of self-concept and academic motivation and its effect on academic achievement*. International Education journal, 7 (4). Downloadable from http://files.eric.ed.gov/fulltext/EJ854309.pdf

Hall, M., Ponton, M. (2005). *Mathematics Self-Efficacy of College Freshman*. Journal of Developmental Education, 28 (3). Downloadable from http://files.eric.ed.gov/fulltext/EJ718579.pdf

Harackiewicz, J. M., Barron, K. E., Tauer, J. M., Elliot, A. J. (2002). *Predicting Success in College: A Longitudinal Study of Achievement Goals and Ability Measures as Predictors of Interest and Performance From Freshman Year Through Graduation*. Journal of Educational Psychology, 94 (3). Downloadable from https://www.psych.rochester.edu/research/apav/publications/documents/2002_HarackiewiczBarronTauerElliot_Predictingsuccessincollege.pdf

Hart, J. W., Stasson, M. F., Mahoney, J. M. (2007). *The big five and achievement motivation: Exploring the relationship between personality and a two-factor model of motivation*. Individual Differences Research, 5.
Hattie, J. (2009). *Visible Learning – A synthesis of over 800 meta-analyses relating to achievement*. Routledge.

Higgins, D. M., Peterson, J. B., Pihl, R. O., Lee, A. G. M. (2007). *Prefrontal cognitive ability, intelligence, Big Five personality, and the prediction of advanced academic and workplace performance*. Journal of Personality and Social Psychology, 93 (2). Downloadable from http://www.researchgate.net/profile/Jordan_Peterson2/publication/6194035_Prefrontal_cognitive_ability_intelligence_Big_Five_personality_and_the_prediction_of_advanced_academic_and_workplace_performance/links/0912f50e6ba814de7d000000.pdf

Huang, S. (2011). *Predicting Students' Academic Performance in College Using a New Non-cognitive Measure: an Instrument Design and a Structural Equation Exploration of Some Non-cognitive Attributes and Academic Performance*. Ohio State University. Downloadable from https://etd.ohiolink.edu/!etd.send_file?accession=osu1316097255&disposition=inline.

Hughes, J. N., Luo, W., Kwok, O.-M., Lloyd, L. K. (2008). *Teacher-student support, effortful engagement, and achievement: a 3-year longitudinal study*. Journal of Educational Psychology, 100 (1). Downloadable from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2705122/pdf/nihms83519.pdf

Kappe, R., van der Flier, H. (2010). *Using multiple and specific criteria to assess the predictive validity of the big five personality factors on academic performance*. Journal of Research in Personality, 44.

Komarraju, M. (2013). *Personality Influences*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Komarraju, M., Karau, S. J., Schmeck, R. R. (2009). *Role of the big five personality traits in predicting college student's academic motivation and achievement*. Learning and Individual Differences, 19.

Linnenbrink, E. A., Pintrich, P. R. (2002). *The role of motivational beliefs in conceptual change*. In M. Limon, L. Mason (Ed.), *Reconsidering conceptual change: Issues in theory and practice*. Dordrecht, Netherlands: Kluwer.

Linnenbrink-Garcia L., Tyson D. F., Patall, E. A. (2008). *When are achievement goal orientations beneficial for academic achievement? A closer look at moderating factors*. International Review of Social Psychology, 21. Downloadable from http://www.cairn.info/revue-internationale-de-psychologie-sociale-2008-1-page-19.htm

Locke, E. A., Latham, G. P. (2002). *Building practically useful theory of goal setting and task motivation*. American Psychologist, 57. Downloadable from http://faculty.washington.edu/janegf/goalsetting.html

Maglio, S. J., Trope, Y., Liberman, N. (2012). *Distance From a Distance: Psychological Distance Reduces Sensitivity to Any Further Psychological Distance*. Journal of Experimental Psychology: General. Downloadable from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.418.8902&rep=rep1&type=pdf

Marks, H. M. (2000). *Student Engagement in Instructional Activity: Patterns in the Elementary, Middle, and High School Years*. American Educational Research Journal, 37 (1). Downloadable from http://www.indiana.edu/~ceep/hssse/Marks.pdf

Marsh, H. W., Craven, R. G. (2006). *Reciprocal effects of self-concept and performance from a multidimensional perspective: Beyond seductive pleasure and unidimensional perspectives*. Perspectives on Psychological Science, 1 (2). Consultable at http://www.researchgate.net/publication/263334029_Reciprocal_Effects_of_Self-Concept_and_Performance_From_a_Multidimensional_Perspective_Beyond_Seductive_Pleasure_and_Unidimensional_Perspectives

Marsh, H. W., Craven, R. G. (2005). *A reciprocal effects model of the causal ordering of self-concept and achievement: New support for the benefits of enhancing self-concept*. In H. W. Marsh, R. G. Craven, D. M. McInerney (Ed.), *The new frontiers of self-research*, vol. 2. Greenwich, CT: Information Age. Previous version consultable at http://www.aare.edu.au/data/publications/2003/mar03755.pdf

Marsh, H. W., Seaton, M. (2013). *Academic Self-Concept*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.
Marsh, H. W., Trautwein, U., Lüdtke, O., Köller, O., Baumert, J. (2005). *Academic self-concept, interest, grades, and standardized test scores: Reciprocal effects models of causal ordering*. Child development, 76 (2).

Martin, A. J. (2013a). *Goal Orientation*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Martin, A. J. (2013b). *Goal Setting and Personal Best Goals*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Martin, A. J., (2011). *Personal best (PB) approaches to academic development: Implications for motivation and assessment*. Educational Practice and Theory, 33.

Martin, A. J., (2006). *Personal bests (PBs): A proposed multidimensional model and empirical analysis*. British Journal of Educational Psychology, 76.

Martin, A. J., Liem G. A. (2010). *Academic personal bests (PBs), engagement, and achievement: A cross-lagged panel analysis*. Learning and Individual Differences, 20.

McCann, C., Duckworth, A. L., Roberts, R. D. (2009). *Empirical identification of the major facets of conscientiousness*. Learning and Individual Differences, 19. Downloadable from https://upenn.app.box.com/MacCannDuckworth

Morisano, D., Locke, E. A. (2013). *Goal Setting and Academic Achievement*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Multon, K. D., Brown, S. D., Lent, R. W. (1991). *Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation*. Journal of Counseling Psychology, 38. Downloadable from https://www.academia.edu/1773479/Relation_of_self-efficacy_beliefs_to_academic_outcomes_A_meta-analytic_investigation

Nagaoka, J., Farrington, C. A., Ehrlich, S. B., Heath, R. D., et al. (2015). *Foundations for Young Adult Success – A developmental Framework*. The University of Chicago Consortium on Chicago School Research. Downloadable from http://www.wallacefoundation.org/knowledge-center/after-school/key-research/Pages/Foundations-for-Young-Adult-Success.aspx

Noftle, E. E., Robins, R. W. (2007). *Personality predictors of academic outcomes: Big five correlates of GPA and SAT scores*. Journal of Personality and Social Psychology, 93 (1). Downloadable from http://psychology.okstate.edu/faculty/jgrice/psyc4333/FiveFactor_GPA_JPSP.pdf

Okun, M. A., Fairholme, C., Karoly, P., Ruehlman, L. S., Newton, C. (2006). *Academic goals, goal process cognition, and exam performance among college students*. Learning and Individual Differences, 16.

Pajares, F. (1996). *Self-efficacy beliefs in academic settings*. Review of Educational Research, 66. Downloadable from http://www.uky.edu/~eushe2/Pajares/Pajares1996RER.pdf

Pintrich, P. R., De Groot, E. V. (1990). *Motivational and self-regulated learning components of classroom academic performance*. Journal of Educational Psychology, 82. Downloadable from http://web.stanford.edu/dept/SUSE/projects/ireport/articles/self-regulation/self-regulated%20learning-motivation.pdf

Pintrich, P. R., Conley, A. M., Kempler, T. M. (2003). *Current issues in achievement goal theory and research*. International Journal of Educational Research, 39.

Poyrazil, S., Arbona, C., Nora, A., McPherson, R., Pisecco, S. (2002). *Relation between assertiveness, academic self-efficacy, and social adjustment among international graduate students*. Journal of College Student Development, 43.

Purdie, N., Hattie, J. (1999). *The relationship between study skills and learning outcomes: A meta-analysis*. Australian Journal of Education, 43. Downloadable from http://www.aare.edu.au/data/publications/1995/hattj95279.pdf

Richardson, M., Abraham, C. (2009). *Conscientiousness and achievement motivation predict performance*. European Journal of Personality, 23.

Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., Carlstrom, A. (2004). *Do psychosocial and study skill factors predict college outcomes? A meta-analysis*. Psychological Bulletin, 130. Consultable at http://www.researchgate.net/publication/8685856_Do_Psychosocial_and_Study_Skill_Factors_Predict_College_Outcomes_A_Meta-Analysis

Schreiner, L. A. (2010). *The "Thriving Quotient" A New Vision for Student Success*. American College Personnel Association et Wiley Periodicals. Downloadable from http://www.wellesley.edu/sites/default/files/assets/departments/studentlife/files/thriving_overview.pdf

Schreiner, L. A., Kammer, R., Primrose, B., Quick, D. (2011). *Predictors of Thriving in Students of Color: Differential Pathways to College Success*. Downloadable from http://www.thrivingincollege.org/wp-content/uploads/2012/02/Schreiner-Kammer-Primrose-Quick-ASHE-paper-2011-2.pdf

Schreiner, L. A., McIntosh, E. J., Kalinkewicz, L., Propst Cuevas, A. E. (2013). *Measuring the Malleable: Expanding the Assessment of Student Success*. Downloadable from http://www.thrivingincollege.org/wp-content/uploads/2012/02/ASHE-Measuring-the-Malleable-Schreiner-et-al.-FINAL.pdf

Schreiner, L. A., McIntosh, E. J., Nelson, D., Pothoven, S. (2009). *The Thriving Quotient: Advancing the Assessment of Student Success*. Downloadable from http://thrivingincollege.org/Thriving_in_College/DL_files/TQ_ASHE_2009_1.pdf

Schreiner, L. A., Pothoven, S., Nelson, D., McIntosh, E. J. (2009). *College Student Thriving: Predictors of Success and Retention*. Downloadable from http://thrivingincollege.org/Thriving_in_College/DL_files/TQ_ASHE_2009_2.pdf

Schunk, D. H. (1991). *Self-efficacy and academic motivation*. Educational Psychologist, 26. Downloadable from http://libres.uncg.edu/ir/uncg/f/D_Schunk_Self_1991.pdf

Schunk, D. H., Mullen, C. A. (2013). *Study Skills*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Schunk, D. H., Mullen, C. A. (2013). *Motivation*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Seal, C. R., Naumann, S. E., Scott, A. N., Royce-Davis, J. (2010). *Social emotional development: a new model of student learning in higher education*. Research in Higher Education Journal, 10. Downloadable from http://www.aabri.com/manuscripts/10672.pdf

Seaton, M., Marsh, H. W., Craven, R. J. (2009). *Earning its plan in a pan-human theory: universality of the big-fish-little-pond effect (BFLPE) across 41 culturally and economically diverse countries*. Journal of Educational Psychology, 101 (2).

Sedlacek, W. E. (2011). *Using noncognitive variables in assessing readiness for higher education*. Readings on Equal Education, 25. Downloadable from https://cerpp.usc.edu/files/2013/11/UsingNCV-Sedlacek.pdf

Senko, C., Durik, A.M., Patel, L., Lovejoy, C.M., Valentiner, D. (2013). *Performance-approach goal effects on achievement under low versus high challenge conditions*. Learning & Instruction, 23.

Strayhorn, T. L. (2013). *Academic Achievement – A Higher Education Perspective*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Treagust, D. F. (2008). *Conceptual change: a discussion of theoretical, methodological and practical challenges for science education*. Cultural Studies of Science Education, 3 (2). Downloadable from http://web.uvic.ca/~mrchat/Springer/Treagust_Duit200b.pdf

Valentine, J. C., DuBois, D. L., Cooper, H. (2004). *The relations between self-beliefs and academic achievement: A systematic review*. Educational Psychologist, 39. Downloadable from http://people.cehd.tamu.edu/~vwillson/Videos/E642%20meta/Self%20Beliefs%20MA%20Valentine%202004_files/Valentine.pdf

Vallerand, R.J., Houlfort, N., Forest, J. (2014). *Passion for work: Determinants and outcomes*. In M. Gagné (Ed.), *Oxford Handbook of Work Engagement, Motivation, and Self-Determination Theory*. New York: Oxford University Press.

Von Culin, K., Tsukayama, E., & Duckworth, A. L. (2014). *Unpacking grit: Motivational correlates of perseverance and passion for long-term goals*. *Journal of Positive Psychology*, 9 (4). Downloadable from https://upenn.app.box.com/vonCulinTsukayama

Vosniadou, S., Panagiatis T. (2013). *Conceptual Change*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Vosniadou, S., Vamvakoussi, X., Skopeliti, I. (2008). *The framework theory approach to the problem of conceptual change*. In S. Vosniadou (Ed.), *Handbook of research on conceptual change*. Hillsdale, NJ: Erlbaum.

Vuong, M., Brown-Welty, S., Tracz, S. (2010). *The Effects of Self-Efficacy on Academic Success of First-Generation College Sophomore Students*. Journal of College Student Development, 51 (1). Downloadable from http://jamiesmithportfolio.com/EDTE800/wp-content/Self-Efficacy/Vuong.pdf

Weiner, B. (1985). *An attributional theory of achievement motivation and emotion*. Psychology Review, 92. Downloadable from http://www.researchgate.net/profile/Bernard_Weiner/publication/19257755_An_attributional_theory_of_achievement_motivation_and_emotion/links/5434140a0cf294006f734b2c.pdf

Wentzel, K. R. (1999). *Social-motivational processes and interpersonal relationships: Implications for understanding motivation at school*. Journal of Educational Psychology, 91.

Wentzel K. R. (2009). *Peers and academic functioning at school*. In K. H. Rubin, W. M. Bukowski, B. Laursen (Ed.), *Handbook of peer interactions, relationships, and groups*. New York: Guilford Press.

Zajacova, A., Lynch, S. M., Espenshade, T. J. (2005). *Self-Efficacy, stress, and academic success in College*. Research in Higher Education, 46 (6). Downloadable from https://www.princeton.edu/~tje/files/Self%20Efficacy%20and%20Stress%20Zajacova%20Lynch%20Espenshade%20Sept%202005.pdf

Zimmerman, B. J., Bandura, A., Martinez-Pons, M. (1992). *Self-motivation for academic achievement: The role of self-efficacy beliefs and personal goal setting*. American Educational Research Journal, 29. Downloadable from http://www.uky.edu/~eushe2/Bandura/Bandura1992AERJ.pdf

Zmuda, J., Bradshaw, C. P. (2013). *Social and Emotional Learning and Academic Achievement*. In J. Hattie, E. M. Anderman (Ed.), *International Guide to Student Achievement*. Routledge.

Section 3

Abate, M. A., Stamatakis, M. K., Haggett, R. R. (2003). *Excellence in curriculum development and assessment*. American Journal of Pharmaceutical Education, 67 (3). Downloadable from: http://archive.ajpe.org/view.asp?art=aj670389&pdf=yes

Abner, B., Bartosh, O., Ungerleider, C., Tiffin, R. (2014). *Productivity implications of a shift to competency-based education: An environmental scan and review of the relevant literature*. Toronto: Higher Education Quality Council of Ontario. Downloadable from: http://www.heqco.ca/SiteCollectionDocuments/CBE%20Report-ENG.pdf

Ackerman, P. L. (2013). *Engagement and opportunity to learn*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Adelman, C. (2004). *Principal indicators of student academic histories in postsecondary education, 1972-2000*. Washington, DC: Institute of Education Sciences. Downloadable from: https://www2.ed.gov/rschstat/research/pubs/prinindicat/prinindicat.pdf

Adey, P., Shayer, M. (2013). *Piagetian approaches*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Ahuna, K. H., Gray Tinnesz, C., VanZile, C. (2006). *Methods of inquiry: Using critical thinking to retain students*. College Teaching, 54 (4). Also appeared in R. Hayes (Ed.), *Proceedings of the 5th National Symposium on Student Retention*. Buffalo, NY. Norman, OK: The University of Oklahoma. Downloadable from: https://studentsuccess.unc.edu/files/2012/11/Proceedings_of_the_NSSR-2009.pdf

Aitchison, K., Giles, M. (2006). *Employability and curriculum design*. Guides for Teaching and Learning in Archeology, 4. Downloadable from: https://www.heacademy.ac.uk/sites/default/files/Number4_Teaching_and_Learning_Guide_Employability.pdf

Ambrose, S. A. (2013). *Undergraduate engineering curriculum: The ultimate design challenge*. The Bridge, National Academy of Engineering, 43 (2). Downloadable from: https://www.nae.edu/File.aspx?id=88638

Ambrose S. A., Bridges M. W., DiPietro M., Lovett M. C., Norman M. K. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco: Jossey-Bass.

Andrews, J., Clark, R. (2011). *Peer mentoring works ! How peer mentoring enhances student success in higher education*. Engineering Education Research Group, Aston University, Birmingham. Downloadable from: https://www.heacademy.ac.uk/sites/default/files/Aston_What_Works_Final_Report_1.pdf

Association of American Colleges and Universities (AAC&U). (2002). *Greater expectations: A new vision for learning as a nation goes to college*. National Panel Report. Downloadable from: http://www.greaterexpectations.org/pdf/gex.final.pdf

Attewell, P., Lavin, D., Domina, T., Levey, T. (2006). *New evidence on college remediation*. The Journal of Higher Education, 77 (5). Downloadable from: http://knowledgecenter.completionbydesign.org/sites/default/files/16%20Attewell%20JHE%20final%202006.pdf

Barab, S. A., Duffy, T. (2000). *From practice fields to communities of practice*. In D. Jonassen, S. M. Land (Ed.), *Theoretical foundations of learning environments*. Mahwah, NJ: Erlbaum Associates. Downloadable from: http://www.it.uu.se/research/group/cetuss/Yrkesliv/moetesserie/barab_duffy.pdf

Barnett, E. A. (2010). *Validation experiences and persistence among community college students*. The Review of Higher Education, 34 (2). Downloadable from: https://www.middlesex.mass.edu/deanofstudents/downloads/studvalstudy.pdf

Barnett, R., Coate, K. (2005). *Engaging the curriculum in higher education*. Buckingham: SRHE et Open University Press.

Barnett, R., Parry, G., Coate, K. (2001). *Conceptualising curriculum change*. Teaching in Higher Education, 6 (4).

Barrow, M., McKimm, J., Samarasekera, D. D. (2010). *Strategies for planning and designing medical curricula and clinical teaching*. South-East Asian Journal of Medical Education, 4 (1). Downloadable from: http://seajme.md.chula.ac.th/articleVol4No1/MedEdP1_Mark%20Barrow.pdf

Bass, R. (2012). *Disrupting ourselves: The problem of learning in higher education*. Educause review. Downloadable from: https://net.educause.edu/ir/library/pdf/ERM1221.pdf

Beane, J. A. (1995). *Curriculum integration and the disciplines of knowledge*. The Phi Delta Kappan, 76 (8). Downloadable from: http://www.jstor.org/stable/20405413

Becher, T. (1999). *Professional practices: commitment and capability in a changing environment*. New Brunswick, NJ: Transaction Publishers.

Behar-Horenstein, L. S., Niu, L. (2011). *Teaching critical thinking skills in higher education: A review of the literature*. Journal of College Teaching and Learning, 8 (2). Downloadable from: http://www.cluteinstitute.com/ojs/index.php/TLC/article/viewFile/3554/3601

Belcheir, M. J. (2001). *Activities and perceptions of 1998-99 graduates*. Research Report 200101. Boise State University, Boise, ID. Downloadable from: http://files.eric.ed.gov/fulltext/ED480920.pdf

Berger, J., Milem, J. (1999). *The role of student involvement and perceptions of integration in a causal model of student persistence*. Research in Higher Education, 40 (6). Downloadable from: http://www.researchgate.net/profile/Jeffrey_Milem/publication/251175685_THE_ROLE_OF_STUDENT_INVOLVEMENT_AND_PERCEPTIONS_OF_INTEGRATION_IN_A_CAUSAL_MODEL_OF_STUDENT_PERSISTENCE/links/53f38f2d0cf2dd48950ef68a.pdf

Bers, T. H., Smith, K. E. (1991). *Persistence of community college students: The influence of student intent and academic and social integration*. Research in Higher Education, 32 (5).

Bettinger, E. P., Long, B. T. (2005). *Remediation at the community college: Student participation and outcomes*. New directions for Community Colleges, 129. Downloadable from: https://www.ets.org/Media/Research/pdf/conf_achgap_cc_long.pdf

Biggs, J. B. (1996). *Enhancing teaching through constructive alignment*. Higher Education, 32. Downloadable from: http://edukologija.vdu.lt/en/system/files/ConstrutivismAligment_Biggs_96.pdf

Biggs, J. B. (2003). *Aligning teaching for constructing learning*. The Higher Education Academy. Downloadable from: http://www.uai.cl/images/sitio/investigacion/centros_investigacion/innovacion_aprendizaje/literatura_especializada/Aligning_teaching_for_constructing_learning.pdf

Blanc, R., DeBuhr, L., Martin, D. C. (1983). *Breaking the attrition cycle: The effects of supplemental instruction on undergraduate performance and attrition*. Journal of Higher Education, 54 (1).

Bonin, E. (2013). *Effect of peer mentors on academic performances*. Rivier Academic Journal, 9 (2). Downloadable from: http://www.rivier.edu/journal/ROAJ-Fall-2013/J821-Bonin_DCLL.pdf

Booth, K., Cooper, D., Karandjeff, K., Purnell, R., Schiorring, E., Willett, T. (2013). *Student support (re) defined: What students say they need to succeed: Key themes from a study of student support*. www.rpgroup.org
Downloadable from: http://www.nocccd.edu/documents/ArticleAWhatStudentssaytheyNeed.pdf

Borwein, S. (2014). *The great skills divide: A review of the literature.* Toronto: Higher Education Quality Council of Ontario. Downloadable from: http://www.heqco.ca/SiteCollectionDocuments/Skills%20Part%201.pdf

Boshuizen, H. P. A. (2010). *Teaching for expertise: Problem-based methods in medicine and other professional domains*. In K. Anders Ericsson (Ed.), *Development of professional expertise: Toward measurement of expert performance and design of optimal learning environments*. New York, NY: Cambridge Press.

Bowen, W. G., Chingos, M. M., McPherson, M. S. (2009). *Crossing the finish line: Completing college at America's public universities*. Princeton, N.J.: Princeton University Press.

Bransford, J. D., Brown, A. L., Cocking, R. R. (2000). *How people learn: Brain, mind, experience, and school*. Expanded edition. National Academy Press, Washington, D.C.

Brantley, F. (s. d.). *Supplemental instruction – Working together to achieve success*. Developmental Education Resource Center. Downloadable from: http://www.cfder.org/uploads/3/0/4/9/3049955/supplemental_instruction__working_together_to_achieve_success.pdf

Bruner, J. (1996). *The process of education*. Cambridge, MA: Harvard University Press.

Campbell, T. A., Campbell, D. E. (1997). *Faculty/student mentor program: Effects on academic performance and retention*. Research in higher Education, 38 (6).

Carini, R. M., Kuh, G. D., Klein, S. P. (2006). *Student engagement and student learning: testing the linkages*. Research in Higher Education, 47 (1). Downloadable from http://www.oakland.edu/upload/docs/UG%20Education/Retention_Conference/Carini,%20Kuh%20&%20Klein.pdf

Casey, K. (2013). *Effectiveness of peer mentoring in first-year program classrooms*. Master's Theses. Downloadable from: http://scholarworks.sjsu.edu/cgi/viewcontent.cgi?article=7809&context=etd_theses

Chin, C., Brown, D. E. (2000). *Learning in science: A comparison of deep and surface approaches*. Journal of Research in Science Teaching, 37 (2). Downloadable from: http://ed5740.wikispaces.com/file/view/wk%206%20-%20Chen_Brown_sm.pdf

Clouder, L. (2005). *Caring as a 'threshold concept': transforming students in higher education into health(care) professionals*. Teaching in Higher Education, 10, 4. Downloadable from: http://www.researchgate.net/publication/233702709_Caring_as_a_%27threshold_concept%27_Transforming_students_in_higher_education_into_health_%28care%29_professionals

Coghlan, C., Fowler, J., Messel, M. (2009). *The sophomore experience: Identifying factors related to second-year attrition*. In R. Hayes (Ed.), *Proceedings of the 5th national symposium on student retention*. Buffalo, NY. Norman, OK: The university of Oklahoma. Downloadable from: https://studentsuccess.unc.edu/files/2012/11/Proceedings_of_the_NSSR-2009.pdf

Coles, A. (2011). *The role of mentoring in college access and success*. Research to practice brief. Downloadable from: http://www.wsac.wa.gov/sites/default/files/2014.ptw.(31).pdf

Collier, M. D. (2005). *An ethic of caring: the fuel for high teacher efficacy*. The Urban Review, 37 (4).
Conley, D. T. (2005). *College knowledge: What it really takes for students to succeed and what we can do to get them ready*. San Francisco: Jossey-Bass.

Conley, D. T. (2007). *Redefining college readiness, volume 3*. Educational Policy Improvement Center. Downloadable from: http://evergreen.edu/washingtoncenter/docs/conleycollegereadiness.pdf

Conley, D. T. (2013). *Rethinking the notion of "noncognitive"*. Education Week. Downloadable from: http://216.78.200.159/RandD/Education%20Week/Rethinking%20the%20Notion%20of%20%27Noncognitive%27%20-%20Conley.pdf

Conley, D., Lombardi, A., Seburn, M., McGaughy, C. (2009). *Formative assessment for college readiness: Measuring skill and growth in five key cognitive strategies associated with postsecondary success.* American Educational Research Association Annual Conference. San Diego, CA. Downloadable from: http://files.eric.ed.gov/fulltext/ED518767.pdf

Cousin, G. (2006). *An introduction to threshold concepts*. Planet, 17. Downloadable from: http://www.et.kent.edu/fpdc-db/files/DD%2002-threshold.pdf

Cowan, J., George, J. W., Pinheiro-Torres, A. (2004). *Alignment of developments in higher education*. Higher Education: The International Journal of Higher Education and Educational Planning, 48 (4).

Crisp, G. (2009). *Mentoring college students: A critical review of the literature between 1990 and 2007*. Research in Higher Education, 50, 6. Downloadable from: http://www.researchgate.net/publication/225402519_Mentoring_College_Students_A_Critical_Review_of_the_Literature_Between_1990_and_2007

Cruce, T. M., Wolniak, G. C., Seifert, T. A., Pascarella, E. T. (2006). *Impacts of good practices on cognitive development, learning orientations, and graduate degree plans during the first year of college*. Journal of College Student Development, 47 (4). Downloadable from: http://www.education.uiowa.edu/docs/default-source/crue-publications/47_4cruce.pdf?sfvrsn=0

Davis, B. W. (2011). *A conceptual model to support curriculum review, revision, and design in an associate degree nursing program*. Nursing Education Perspectives, 32, (6).

Dawson, P., van der Meer, J., Skalicky, J., Cowley, K. (2014*). On the effectiveness of supplemental instruction: A systematic review of supplemental instruction and peer-assisted study sessions literature between 2001 and 2010*. Review of Educational Research. Downloadable from: http://rer.sagepub.com/content/early/2014/06/19/0034654314540007.full.pdf+html?ijkey=N.P0ngMhXQ69E&keytype=ref&siteid=sprer

Deller, F., Brumwell, S., MacFarlane, A. (2015). *The language of learning outcomes: definitions and assessments.* Toronto: Higher Education Quality Council of Ontario. Downloadable from: http://www.heqco.ca/en-ca/Research/ResPub/Pages/The-Language-of-Learning-Outcomes-Definitions-and-Assessments-.aspx

Diamond, R. M. (1998). *Designing and assessing courses and curricula: A practical guide*. San Francisco: Jossey-Bass.

Diefes-Dux, H., Imbrie, P. K. (2008). *Modeling activities in a first-year engineering course*. In J. S. Zawojewski, H. Diefes-Dux, K. Bowman (Ed.), *Models and modeling in engineering education: Designing experiences for all students*. Rotterdam, The Netherlands: Sense Publishers.
Diefes-Dux, H., Verleger, M., Zawojewski, J., Hjalmarson, M. (2009). *Multi-dimensional tool for assessing student-team solutions to model-eliciting activities*. Proceedings of the conference and annual exhibition of the American Society for Engineering Education, Louisville, KY. Downloadable from: http://search.asee.org/search/fetch;jsessionid=dkjtskers3453?url=file%3A%2F%2Flocalhost%2FE%3A%2Fsearch%2Fconference%2F19%2FAC%25202009Full1184.pdf&index=conference_papers&space=129746797203605791716676178&type=application%2Fpdf&charset=

Dixon, A. G., Clark, W. M., DiBiasio, D. (2000). *A project-based, spiral curriculum for introductory courses in chemical engineering. Part 2: Implementation*. Chemical Engineering Education, 34 (4). Downloadable from: http://ufdcimages.uflib.ufl.edu/AA/00/00/03/83/00148/AA00000383_00148_00296.pdf

Dixon Rayle, A., Chung, K-Y. (2007). *Revisiting first-year college students mattering: social support, academic stress, and the mattering experience*. Journal of College Student Retention: Research, Theory & Practice, 9 (1).

Eby, L. T., Allen, T. D., Evans, S. C., Thomas, D., DuBois, D. (2009). *Does mentoring matter? A multidisciplinary meta-analysis comparing mentored and non-mentored individuals*. Journal of Vocational Behavior, 72 (2). Downloadable from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2352144/pdf/nihms45732.pdf

Elkins, S. A., Braxton, J. M., James, G. W. (2000). *Tinto's separation stage and its influence on first-semester college student persistence*. Research in Higher Education,41 (2).

Engstrom, C., Tinto, V. (2007). *Pathways to student success: The impact of learning communities on the success of academically underprepared college students*. Final report to the William and Flora Hewlett Foundation. Downloadable from: http://www.hewlett.org/uploads/files/PathwaystoStudentSuccess.pdf

Entwistle, N. (2005). *Learning outcomes and ways of thinking across contrasting disciplines and settings in higher education*. Curriculum Journal, 16 (1). Downloadable from: http://www.etl.tla.ed.ac.uk//docs/EntwistleLOs.pdf

Entwistle, N. (2007). *Research into student learning and university teaching*. In N. Entwistle, P. Tomlinson (Ed), *Student learning and university teaching*. Leicester, UK: The British Psychological Society. Downloadable from: http://www.researchgate.net/profile/Noel_Entwistle/publication/233637014_1_-_Research_into_student_learning_and_university_teaching/links/02e7e5309ede0742df000000.pdf

Fraser, S. P., Bosanquet, A. M. (2006). *The curriculum? That's just a unit outline, isn't it?* Studies in higher education, 31 (3). Downloadable from: http://www.researchgate.net/publication/238397786_The_curriculum_Thats_just_a_unit_outline_isnt_it

Friedman, D. B., Alexander, J. S. (2007). *Investigating a first-year seminar as an anchor course in learning communities*. Journal of the First-Year Experience & Students in Transition, 19 (1).

Getzlaf, S. B., Sedlacek, G. M., Kearney, K. A., Blackwell, J. M. (1984). *Two types of voluntary undergraduate attrition: Application of Tinto's model*. Research in Higher Education, 20 (3).

Gloria, A. M., Robinson Kurpius, S. E. (2001). *Influences of self-beliefs, social support, and comfort in the university environment on the academic nonpersistence decisions of American Indian undergraduates*. Cultural diversity and Ethnic Minority Psychology, 7 (1).

Goff, L. (2011). *Evaluating the outcomes of a peer-mentoring program for students transitioning to postsecondary education*. The Canadian Journal of Teaching and Learning, 2 (2). Downloadable from: http://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=1093&context=cjsotl_rcacea

Goodman, K., Pascarella, E. T. (2006). *First-year seminars increase persistence and retention: A summary of the evidence from How college affects students*. AAC&U. Downloadable from: http://aacu-secure.nisgroup.com/peerreview/pr-su06/documents/prsu06_research.pdf

Graham, R. (2012). *Achieving excellence in engineering education: The ingredients of successful change*. The Royal Academy of Engineering. Downloadable from: http://www.raeng.org.uk/publications/reports/achieving-excellence-in-engineering-education

Graunke, S. S., Woosley, S. A. (2005). *An exploration of the factors that affect the academic success of college sophomores*. College Student Journal, 39. Downloadable from: http://www.freepatentsonline.com/article/College-Student-Journal/133606107.html

Great Schools Partnership. (2014). *The glossary of education reform*. Glossary consultable at: http://edglossary.org

Greeno, J., Collins, A., Resnick, L. (1996). *Cognition and learning*. In D. Berliner, R. Calfee (Ed.), *Handbook of educational psychology*. Macmillan, New York. Downloadable from: http://home.cc.gatech.edu/guzdial/uploads/130/greenoj1-cognition-and-learning.pdf

Hansford, B., Ehrich, L. C. (2013). *Mentoring*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Hansman, C. A. (2001). *Context-based adult learning*. In S. B. Merriam (Ed.), *The new update on adult learning theory*. San Francisco: Jossey-Bass. Downloadable from: http://www.webct.andrews.edu/sed/leadership_dept/documents/context_based_adult_.pdf

Harden, R. M. (2001). *AMEE guide no. 21: Curriculum mapping: a tool for transparent and authentic teaching and learning*. Medical Teacher, 23, (2). Downloadable from: http://www.al-aarifin.com/images/2001_AMEE_Guide_-_Curriculum_mapping.pdf

Heger, I. (2011). *Developing a coherent curriculum for the future of higher education – A comparative analysis of curriculum patterns that could meet future challenges*. University of Vienna, author's personal page. Downloadable from: http://www.unet.univie.ac.at/~a0651816/documents/Isabel_Heger_Developing_a_Coherent_Curriculum_for_the_Future_of_Higher_Education.pdf

Henscheid, J. M. (2004). *First-year seminars in learning communities: Two reforms intersect*. In J. M. Henscheid (Ed.), *Integrating the first-year experience: The role of learning communities in first-year seminars (Monograph no 39)*. Columbia, SC: University of South Carolina, National Resource Center for the First-Year Experience and Students in Transition. Downloadable from: http://192.169.63.23/Content/uploaded/Excerpt_39.pdf

Herr, E., Richter, B. (2009). *Identifying hard-to-reach students and strategies for intervening before it is too late*. In R. Hayes (Ed.), *Proceedings of the 5th national symposium on student retention*. Buffalo, NY. Norman, OK: The University of Oklahoma. Downloadable from: https://studentsuccess.unc.edu/files/2012/11/Proceedings_of_the_NSSR-2009.pdf

Hockings, C. (2010). *Inclusive learning and teaching in higher education: A synthesis of research*. EvidenceNet. Downloadable from: https://www.heacademy.ac.uk/sites/default/files/inclusive_teaching_and_learning_in_he_synthesis_20_0410_0.pdf

Hoffman, M., Richmond, J., Morrow, J., Salomone, K. (2002). *Investigating sense of belonging in first-year college students*. Journal of College Student Retention: Research, Theory & Practice, 4 (3).

Holmes, L. (1995). *Competence and capability: From confidence trick to the construction of the graduate identity*. Conference. *Beyond competence to capability and the learning society*. Higher Education for Capability, UMIST. Downloadable from: www.leeds.ac.uk/educol/documents/000000020.htm

Howard, J. (2007). *Curriculum development*. Center for the Advancement of Teaching and Learning, Elon University, 6. Downloadable from: http://www.pdx.edu/sites/www.pdx.edu.cae/files/media_assets/Howard.pdf

Hubball, H., Burt, H. (2004). *An integrated approach to developing and implementing learning centered curricula*. International Journal for Academic Development, 9 (1). Downloadable from: https://www.academia.edu/7345969/An_Integrated_Approach_to_Developing_and_Implementing_Learning-centred_Curricula_Introduction_Curricular_Reform_as_a_Process_of_Transition_in_Higher_Education

Hubball, H., Gold, N. (2007). *The scholarship of curriculum practice and undergraduate program reform: Theory-practice integration*. In P. Wolfe, J. Christensen Hughes (Ed.), *Curriculum development in higher education: Faculty-driven processes & practices*. San Francisco: Jossey-Bass Publishers. Downloadable from: http://www.cte.hawaii.edu/handouts/HH_NG_Ch1_2.pdf

Hunter, M. A., Linder, C. W. (2005). *First-year seminars*. In M. L. Upcraft, J. N. Gardner, B. O. Barefoot et al., *Challenging and supporting the first-year student: A handbook for improving the first year of college*. San Francisco: Jossey-Bass.

Hussey, T., Smith, P. (2003). *The uses of learning outcomes*. Teaching in Higher education, 8 (3). Downloadable from: http://www.tcd.ie/teaching-learning/academic-development/assets/pdf/Hussey_Smith_2003_Uses_of_Learning_Outcomes.pdf

Inkelas, K. K., Szelényi, K., Soldner, M., Brower, A. M., et al. (2007). *The national study of Living-Learning Programs: 2007 report of findings*. NSLLP. Downloadable from: http://drum.lib.umd.edu/bitstream/1903/8392/1/2007%20NSLLP%20Final%20Report.pdf

Jenkins, D., Zeidenberg, M., Kienzl, G. (2009). *Educational outcomes of I-BEST, Washington State community and technical college system's integrated basic education and skills training program: Findings from a multivariate analysis*. Working paper no 16. Community College Research Center, Teachers College, Columbia University. Downloadable from: http://ccrc.tc.columbia.edu/media/k2/attachments/educational-outcomes-of-i-best.pdf

Kedro, M. J. (2004). *Coherence: When the puzzle is complete*. Principal Leadership (High School Edition), 4 (8). Downloadable from: http://www.principals.org/portals/0/content/46865.pdf

Kinzie, J. (2005). *Promoting student success: What faculty members can do*. Occasional Paper 6, National Survey of Student Engagement. Indiana Center for Postsecondary Research. Downloadable from:

http://nsse.indiana.edu/institute/documents/briefs/DEEP%20Practice%20Brief%206%20What%20Faculty%20Members%20Can%20Do.pdf

Knight, P. T. (2001). *Complexity and curriculum: A process approach to curriculum-making*. Teaching in Higher Education, 6 (3).

Knight, P. T. (2003). *Employability and good learning in higher education*. Teaching in Higher Education, 8 (1). Downloadable from: http://www.ses.unam.mx/curso2009/materiales/m3/s2/M3_Sesion2_PeterKnight.pdf

Komarraju, M. (2013). *Personality influences*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Kress, G. (2000). *A curriculum for the future*. Cambridge Journal of Education, 30 (1).

Kuh, G. D. (2003). *What we're learning about student engagement from NSSE*. Change. Downloadable from: http://www.tru.ca/__shared/assets/Kuh_2003_What_We_re_Learning23688.pdf

Kuh, G. D. (2008). *High-impact educational practices: What they are, who has access to them, and why they matter*. Association of American Colleges & Universities.

Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J. (2008). *Unmasking the effects of student engagement on first-year college grades and persistence*. The Journal of Higher education, 79 (5). Downloadable from: http://www.yorku.ca/retentn/rdata/Unmaskingtheeffects.pdf

Kuh, G. D., Kinzie, J., Buckley, J., Bridges, B., Hayek, J. C. (2006). *What matters to student success: A review of the literature*. Commissioned report for the National Symposium on Postsecondary Student Success: *Spearheading a dialog on student success*. National Postsecondary Education Cooperative. Downloadable from: http://nces.ed.gov/npec/pdf/kuh_team_report.pdf

Kuh, G. D., Kinzie, J., Buckley, J., Bridges, B., Hayek, J. C. (2007). *Piecing together the student success puzzle: Research, propositions, and recommendations.* ASHE Higher Education Report, *32* (5). San Francisco: Jossey-Bass.

Kuh, G. D., Kinzie, J., Schuh, J. H., Whitt E. J., et al. (2005). *Student success in college: Creating conditions that matter*. Jossey-Bass.

Lahiff, A., O'Farrell, C. (2009). *Curricula debates in higher education – an overview*. The Centre for Academic Practice and Student Learning, Trinity College. Downloadable from: https://www.tcd.ie/CAPSL/_academic_practice/index.php?page=resources

Land, R., Cousin, G., Meyer, J. H. F., Davis, P. (2005). *Threshold concepts and troublesome knowledge (3): Implications for course design and evaluation*. In C. Rust (Ed.), *Improving student learning diversity and inclusivity*. Oxford: Oxford Centre for staff and learning Development. Downloadable from: http://www.ee.ucl.ac.uk/~mflanaga/ISL04-pp53-64-Land-et-al.pdf

Lesh, R., Hoover, M., Hole, B., Kelly, A., Post, T. (2000). *Principles for developing thought-revealing activities for students and teachers*. In A. E. Kelly, R. A. Lesh (Ed.), *Handbook of research design in*

mathematics and science education. Mahwah, NJ: Lawrence Erlbaum Associates. Downloadable from: http://www.cehd.umn.edu/ci/rationalnumberproject/00_2.html

Liberal Education & America's Promise (LEAP). (s. d.). *The essential learning outcomes*. Association of American Colleges & Universities. Downloadable from: https://www.aacu.org/leap/essential-learningoutcomes

Lichtenstein, M. (2005). *The importance of classroom environments in the assessment of learning communities outcomes*. Journal of College Student Development, 46 (4). Downloadable from: http://muse.jhu.edu/login?auth=0&type=summary&url=/journals/journal_of_college_student_development/v046/46.4lichtenstein.pdf

Lippman, L., Atienza, A., Rivers, A., Keith, J. (2008). *A developmental perspective on college and workplace readiness*. Washington, D.C.: Child Trends and the Bill and Melinda Gates Foundation. Downloadable from: http://www.childtrends.org/wp-content/uploads/2013/04/Child_Trends-2008_09_15_FR_ReadinessReport.pdf

Litzinger, T. A., Lattuca, L. R., Hadgraft, R. G., Newstetter, W. C. (2011). *Engineering education and the development of expertise*. Journal of Engineering Education, 100 (1). Downloadable from: http://www.primeiroano.ufv.br/docs/ensino_engenharia.pdf

Liu, Q. (2015). *Outcomes-based education initiatives in Ontario postsecondary education: Case studies.* Toronto: Higher Education Quality Council of Ontario. Downloadable from: http://www.heqco.ca/SiteCollectionDocuments/OBE%20ENG.pdf

Lumina Foundation. (2011). *The degree qualification profile*. Indianapolis, IN: Lumina Foundation. Downloadable from: http://www.luminafoundation.org/files/resources/dqp.pdf

Lunenburg, F. C. (2001). *Curriculum development: Inductive models*. Schooling, 2 (1). Downloadable from: http://www.nationalforum.com/Electronic%20Journal%20Volumes/Lunenburg,%20Fred%20C.%20Curriculum%20Development-Inductive%20Models-Schooling%20V2%20N1%202011.pdf

Martone, A., Sireci, S. G. (2009). *Evaluating alignment between curriculum, assessment, and instruction*. Review of Educational Research, 79 (4). Downloadable from: http://nsee.pbworks.com/f/Evaluating+Alignment+Between+Curriculum,+Assessment,+and+Instruction.pdf

McClenney, K., Greene, T. (2005). *A tale of two students: Building a culture of engagement in the community college*. About Campus, 10 (3). Downloadable from: http://www.ohiocommunitycolleges.org/wp-content/uploads/2014/09/buildingaculture.pdf

McKenney, S., Nieveen, N., van den Akker, J. (s. d.). *Design research from a curriculum perspective*. In van den Akker, J., Gravemeijer, K., McKenney, S., Nieveen, N., *Design research from a learning design perspective*. Downloadable from: http://www.researchgate.net/profile/Paul_Cobb/publication/46676722_Design_research_from_a_learning_design_perspective/links/0c96052865f733c5c9000000.pdf

McKimm, J. (2010). *Current trends in undergraduate medical education: Program and curriculum design*. Samoa Medical Journal, 2 (1). Downloadable from: http://oum.edu.ws/smj/V002I0012010/11.%20Current%20Trends%20in%20Undergraduate%20Medical%20Education%201.pdf

McKimm, J., Barrow, M. (2009). *Curriculum and course design*. British Journal of Hospital Medicine, 70 (12).). Downloadable from: http://www.faculty.londondeanery.ac.uk/other-resources/files/BJHM_article%2011_curriculum%20design.pdf

Metz, G. W. (2004). *Challenge and changes to Tinto's persistence theory: A historical review*. Journal of College Student Retention, 6 (2). Downloadable from: http://files.eric.ed.gov/fulltext/ED471529.pdf

Meyer, J. H. F., Land, R. (2005). *Threshold concepts and troublesome knowledge: Epistemological considerations and a conceptual framework for teaching and learning*. Higher Education, 49. Downloadable from: http://wiki.biologyscholars.org/@api/deki/files/474/%3DMeyer%252526Land_Threshold_Concepts_2005.pdf

Meyers, N. M., Nulty, D. D. (2009). *How to use (five) curriculum design principles to align authentic learning environments, assessment, students' approaches to thinking and learning outcomes*. Assessment & Evaluation in Higher Education, 34, 5. Downloadable from: http://www98.griffith.edu.au/dspace/bitstream/handle/10072/30062/56219_1.pdf?sequence=1

Millar, B., Tanner, D. (2011). *Students' perceptions of their readiness for community college study*. The Connexions Project and International Journal of Educational Leadership Preparation, 6 (4). Downloadable from: http://cnx.org/contents/5683c4bf-469d-4899-95e1-89b0fee648b4@2/Students'-Perceptions-of-Their

Miller, B. (2009). *Early alert and warning programs*. In R. Hayes (Ed.), *Proceedings of the 5th national symposium on student retention*. Buffalo, NY. Norman, OK: The University of Oklahoma. Downloadable from: https://studentsuccess.unc.edu/files/2012/11/Proceedings_of_the_NSSR-2009.pdf

Minor, F. D. (2007). *Building effective peer mentor programs*. Learning Communities & Educational Reform. Washington Center. Downloadable from: http://www.evergreen.edu/washingtoncenter/docs/monographs/lcsa/lcsa4building.pdf?utm_source=Mar+18+-++Partners+For+Success%3A+Developing+An+Effective+Peer+Mentoring+Program+T&utm_campaign=Effective+Peer+Mentoring+For+First+Generation+College+Students&utm_medium=email

Muckert, T. D. (2002). *Investigating the student attrition process and the contribution of peer-mentoring interventions in an Australian first year university program*. Thesis submitted in fulfilment of the requirements of the degree of Doctor of Philosophy, in the School of Applied Psychology, Faculty of Health, Griffith University. Downloadable from: https://www120.secure.griffith.edu.au/rch/file/f9174d89-9b3d-b38f-1af1-f902f84a111e/1/02Whole.pdf

National Academy for Academic Leadership. (s. d.). *Designing a college curriculum*. Downloadable from: http://www.thenationalacademy.org/readings/designing.html

National Leadership Council for Liberal Education & America's Promise. (2007). *College learning for the new global century*. Washington DC: Association of American Colleges and Universities. Downloadable from: https://www.aacu.org/sites/default/files/files/LEAP/GlobalCentury_final.pdf

National Survey of Student Engagement (NSSE). (2006). *Engaged learning: Fostering success for all students*. Annual report. Downloadable from: http://nsse.indiana.edu/NSSE_2006_Annual_Report/docs/NSSE_2006_Annual_Report.pdf

Nelson Laird, T. F., Chen, D., Kuh, G. D. (2008). *Classroom practices at institutions with higher-than-expected persistence rates: What student engagement data tell us*. New Directions for Teaching and Learning, 115. Downloadable from: http://www.researchgate.net/publication/229670552_Classroom_practices_at_institutions_with_higher thanexpected_persistence_rates_What_student_engagement_data_tell_us

Newmann, F. M., Smith, B. A., Allensworth, E., Bryk, A. S. (2001). *School instructional program coherence: Benefits and challenges*. Consortium on Chicago School Research. Downloadable from: https://ccsr.uchicago.edu/sites/default/files/publications/p0d02.pdf

Oliver, R., Kersten, H., Vinkka-Puhakka, H., Alpasan, G., Bearn, D., Cema, I., Delap, E., Dummer, P., Goulet, J. P., Gugushe, T., Jeniati, E., Jerolimov, V., Kotsanos, N., Krifka, S., Levy, G., Neway, M., Ogawa, T., Saag, M., Sidlauskas, A., Skaleric, U., Vervoorn, M., White, D. (2008). *Curriculum structure: Principles and strategy*. European Journal of Dental Education, 12 (1). Downloadable from: http://www.ifdea.org/gkc/Global%20Congress%20Reports/12.Chapter_2.1_WG12_Global_Congress_2007.pdf

Oliver, S. L., Hyun, E. (2011). *Comprehensive curriculum reform in higher education: Collaborative engagement of faculty and administrators*. Journal of Case Studies in Education, 2. Downloadable from: http://www.aabri.com/manuscripts/10649.pdf

O'Neill, G. (2010). *Initiating curriculum revision: Exploring the practices of educational developers*. International Journal for Academic Development, 15 (1). Downloadable from: http://irserver.ucd.ie/bitstream/handle/10197/6474/Curriculum_Revision_(Research_Repos._Version)_.pdf?sequence=1

Ornstein A. C., Hunkins, F. P. (2009). *Curriculum foundations, principles and issues*. 5th Edition. Boston, MA: Allyn and Bacon.

Oxley, D. (2008). *Creating instructional program coherence*. Principal's Research Review, 3 (5). Downloadable from: http://duplinschools.schoolwires.net/cms/lib01/NC01001360/Centricity/Domain/22/CreatingInstructionalCoherence.pdf

Parker, J. (2003). *Reconceptualising the curriculum: From commodification to transformation*. Teaching in Higher Education, 8 (4). Downloadable from: http://www.itslifejimbutnotasweknowit.org.uk/files/CPLHE/THEParkerCurric.pdf

Parsons, J., Beauchamp, L. (2012). *Curriculum development processes*. In *From knowledge to action: Shaping the future of curriculum development in Alberta*. Alberta Education, Alberta Government. Downloadable from: https://education.alberta.ca/media/6809242/d_chapter1.pdf

Pascarella, E. T., Terenzini, P. T. (2005). *A third decade of research. V*olume 2 of *How college affects students*. San Francisco: Jossey-Bass.

Pearsall, N. R., Skipper, J. E. J., Mintzes, J. J. (1997). *Knowledge restructuring in the life sciences: A longitudinal study of conceptual change in biology*. Science Education, 81.

Perin, D. (2011). *Facilitating student learning through contextualization*. Working paper no 29. Community College Research Center, Teachers College, Columbia University. Downloadable from: http://careerladdersproject.org/docs/Facilitating%20Student%20learning%20through%20contexualization.pdf

Pike, G. R. (1991). *The effect of background, coursework, and involvement on students' grades and satisfaction*. Research in Higher Education, 32 (1). Downloadable from: http://www.researchgate.net/publication/225886962_The_effects_of_background_coursework_and_involvement_on_students'_grades_and_satisfaction

Pike, G. R., Kuh, G. D., McCormick, A. C. (2011). *An investigation of the contingent relationships between learning community participation and student engagement*. Research in Higher Education, 52 (3).

Pinar, W. F. (2004). *What is curriculum theory?* Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Pintrich, P. R. (2003). *A motivational science perspective on the role of student motivation in learning and teaching contexts*. The Journal of Educational Psychology, 95 (4). Downloadable from: http://outreach.mines.edu/cont_ed/Eng-Edu/pintrich.pdf

Porter, S. R., Swing, R. L. (2006). *Understanding how first-year seminars affect persistence*. Research in Higher Education 47 (1). Downloadable from: http://www.muskingum.edu/academicaffairs/documents/UNDERSTANDINGHOWFIRST-YEARSEMINARS.pdf

Prideaux, D. (2000). *The emperor's new clothes: From objectives to outcomes*. Medical Education, 34. Downloadable from: http://reforma.fen.uchile.cl/Papers/From%20Objectives%20to%20Outcomes%20-%20Unknown.pdf

Prideaux, D. (2007). *Curriculum development in medical education: From acronyms to dynamism*. Teaching and Teacher Education, 23 (3).

Proitz, T. S. (2010). *Learning outcomes: What are they? Who defines them? When and where are they defined?* Educational Assessment, Evaluation and Accountability, 22 (2).

Purdie, N., Hattie, J. (1999). *The relationship between study skills and learning outcomes: A meta-analysis*. Australian Journal of Education, 43. Downloadable from http://www.aare.edu.au/data/publications/1995/hattj95279.pdf

Reason, R. D., Terenzini, P. T., Domingo, R. J. (2006). *First things first: Developing academic competence in the first year of college*. Research in Higher Education, 47.

Reason, R. D., Terenzini, P. T., Domingo, R. J. (2007). *Developing social and personal competence in the first year of college*. The Review of Higher Education, 30. Downloadable from: https://www.cse.cuhk.edu.hk/irwin.king/_media/teaching/gen1113/scn_20090202113631_001.pdf

Ribera, A. K., BrckaLorenz, A., Ribera, T. (2012). *Exploring the fringe benefits of supplemental instruction*. Presentation at the annual forum of the Association for Institutional Research. Downloadable from: http://cpr.indiana.edu/uploads/AIR%202012%20(SI%20Final).pdf

Rocconi, L. M. (2011). *The impact of learning communities on first year students' growth and development in college*. Research in Higher Education, 52. Downloadable from: http://www.evergreen.edu/washingtoncenter/institute13/2013institute/nsilc2013docs/sessions2/iif_imapctlcs.pdf

Rodger, S., Tremblay, P. F. (2003). *The effects of a peer mentoring program on academic success among first year university students*. The Canadian Journal of Higher Education, 3. Downloadable from: ojs.library.ubc.ca/index.php/cjhe/article/download/183438/183391

Roos, R. D. (2012). *Relationship between first-year student retention, noncognitive risk factors, and student advising*. All Graduate Theses and Dissertations. Paper 1167. Downloadable from: http://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=2156&context=etd

Ryan, R. M., Deci, E. L. (2000). *Intrinsic and extrinsic motivations: Classic definitions and new directions*. Contemporary Educational Psychology, 25. Downloadable from: http://mmrg.pbworks.com/f/Ryan,+Deci+00.pdf

Sahlberg, P. (2006). *Models of curriculum development: International trends and the way forward*. In P. Sahlberg (Ed.), *Curriculum reform and implementation in the 21st century: Policies, perspectives and implementation*. Proceedings of the international conference Curriculum Reform and Implementation in the 21st Century. Istanbul, Turkey, 2005. Downloadable from: http://educ542.wikispaces.com/file/view/Models+of+curriculum+development+ICC2005.pdf

Schleicher, A. (2011). *Is the sky the limit to education improvement?* Phi Delta Kappan, 93 (2). Downloadable from: https://www.edu.gov.on.ca/bb4e/SchleicherKeynote.pdf

Schreiner, L. A. (2009). *Linking student satisfaction and retention*. Noel-Levitz. Downloadable from: https://www.faculty.uwstout.edu/admin/provost/upload/LinkingStudentSatis0809.pdf

Schreiner, L. A. (2010). *The «Thriving Quotient»: A new vision for student success*. About Campus, May-June. Downloadable from: http://www.wellesley.edu/sites/default/files/assets/departments/studentlife/files/thriving_overview.pdf

Schreiner, L. A. (2013). *Thriving in college*. New Directions for Student Services, 143.

Schreiner, L. A., Edens, D., McIntosh, E. (2011). *The thriving quotient: A new vision for student success*. Presentation at the NASPA National Conference, Philadelphia, PA. Downloadable from: http://thrivingincollege.org/Thriving_in_College/NASPA_2011_1.pdf

Schreiner, L. A., Nelson, D. (2013). *The contribution of student satisfaction to persistence*. Journal of College Student Retention: Research, Theory & Practice, 15 (1). Downloadable from: http://csr.sagepub.com/content/15/1/73.full.pdf

Schreiner, L. A., Pattengale, J. (2000). *What is the sophomore slump and why should we care?* In L. A. Schreiner, J. Pattengale (Ed.), *Visible solutions for invisible students: Helping sophomores succeed.* Monograph No. 31. Columbia, SC: University of South Carolina, National Resource Center for the First-Year Experience and Students in Transition.

Schreiner, L. A., Pothoven, S., Nelson, D., McIntosh, E. (2009). *College student thriving: Predictors of success and retention*. Presentation to the Association for the Study of Higher Education, Vancouver, BC. Downloadable from: http://thrivingincollege.org/Thriving_in_College/DL_files/TQ_ASHE_2009_2.pdf

Schunk, D. H., Mullen, C. A. (2013). *Study skills*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Scrivener, S., Sommo, C., Collado, H. (2009). *Getting back on track: Effects of a community college program for probationary students*. New York, NY: MDRC. Downloadable from: http://www.mdrc.org/sites/default/files/full_379.pdf

Seal, C. R., Naumann, S. E., Scott, A. N., Royce-Davis, J. (2010). *Social emotional development: A new model of student learning in higher education*. Research in Higher Education Journal, 10. Downloadable from http://www.aabri.com/manuscripts/10672.pdf

Shephard, K. (2008). *Higher education for sustainability: Seeking affective learning outcomes*. *International Journal of Sustainability in Higher Education,* 9 (1). Downloadable from: http://www.slu.edu/Documents/sustainability/higher%20education%20for%20sustainability%20-%20seeking%20affective%20learning%20outcomes(0).pdf

Sheppard, S., Macatangay, K., Colby, A., Sullivan, W. M. (2009). *Educating engineers: Designing for the future of the field*. San Francisco, CA: Jossey-Bass.

Shin, N., Stevens, Y., Short, H., Krajcik, J. (2009). *Learning progressions to support coherence curricula in instructional material, instruction and assessment design*.

Presentation at Learning Progressions in Science (LeaPS), Iowa City, IA. Downloadable from: http://education.msu.edu/projects/leaps/proceedings/Shin.pdf

Shushok, F., Hulme, E. (2006). *What's right with you: Helping students find and use their personal strengths*. About Campus, 11 (4). Downloadable from: http://www.dsa.vt.edu/assets/doc/What's_Right_with_You_Shushok_and_Hulme.pdf

Simpson, C., Baker, K., Mellinger, G. (1980). *Conventional failures and unconventional dropouts: Comparing different types of university withdrawals*. Sociology of Education, 53 (4).

Skahill, M. P. (2002). *The role of social support network in college persistence among freshman students*. College Student Retention, 4 (1).

Southern Connecticut State University. (2011). *Curriculum mapping: A roadmap for curriculum coherence and student achievement*. Downloadable from: http://ares2.southernct.edu/old-wysiwyg//faculty_development/uploads/textWidget/wysiwyg/documents/WHY_DO_CURRICULUM_MAPPING_RC.pdf

Spady, W. G. (1988). *Organizing for results: The basis of authentic restructuring and reform*. Educational Leadership, 46. Downloadable from: http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_198810_spady.pdf

Spady, W. G., Marshall, K. J. (1991). *Beyond traditional outcome-based education*. Educational Leadership, 49 (2). Downloadable from: http://www.jfn.ac.lk/OBESCL/MOHE/OBE-Articles/Academic-documents-articles/3.OBE-beyond-traditional.pdf

Stark, J. S., Lattuca, L. R. (1997). *Shaping the college curriculum: Academic plans in action*. Boston: Allyn and Bacon.

Stonebraker, R. J. (2006). *Mentoring at-risk first-year students*. E-Source for College Transitions, 3 (5). Downloadable from: faculty.winthrop.edu/stonebrakerr/research/esource-mentoring.doc

Strayhorn, T. L. (2009). *An examination of the impact of first-year seminars on correlates of college student retention*. Journal of the First-Year Experience & Students in Transition, 21 (1).

Stuart Hunter, M., Tobolowsky, B. F., Gardner, J. N., Evenbeck, S. E., Pattengale, J. A., Schaller, M., Schreiner, L. A. (Ed.). (2009). *Helping sophomores succeed: Understanding and improving the second year experience*. San Francisco, CA: Jossey-Bass.

Suskie, L. (2009). *Assessing student learning: A common sense* (2nd edition). San Francisco, CA: Jossey-Bass.

Svanström, M., Lozano-García, F. J., Rowe, D. (2008). *Learning outcomes for sustainable development in higher education*. *International Journal of Sustainability in Higher Education,* 9 (3). Downloadable from: http://phobos.ramapo.edu/~vasishth/Learning_Outcomes/Svanstrom+Learning_Outcomes+Sust_Dev.pdf

Swing, R. L. (2002). *What kind of seminar is best?* Brevard, NC: The National Policy Center on the First Year of College. Downloadable from: http://www.sc.edu/fye/resources/assessment/essays/swing-8.28.02_pdfs/essay4.pdf

Swing, R. L. (2003). *What matters in first-year seminars: Results of a national survey*. Presentation to The First-Year Experience West Conference, Costa Mesa, CA.

Taylor, K., Moore, W. S., MacGregor, J., Lindblad, J. (2003). *Learning community research and assessment: What we know now.* National Learning Communities Project Monograph Series. Olympia, WA: The Evergreen State College, Washington Center for Improving the Quality of Undergraduate Education in cooperation with the American Association for Higher Education. Downloadable from: http://evergreen.edu/washingtoncenter/about/monographs/researchassessment.html

Taylor, L., McAleese, V. (2012). *Beyond retention: Using targeted analytics to improve student success*. Educause review. Downloadable from: http://www.educause.edu/ero/article/beyond-retention-using-targeted-analytics-improve-student-success

Terenzini, P. T., Pascarella, E. T., Blimling, G. S. (1996). *Students' out of classroom experiences and their influence on learning and cognitive development: A literature review*. Journal of College Student Development, 37 (2).

Thijs, A., van den Akker, J. (Ed.). (2009). *Curriculum in development*. Enschede, Netherlands: SLO–Netherlands Institute for Curriculum Development. Downloadable from: http://www.slo.nl/downloads/2009/curriculum-in-development.pdf/

Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. The University of Chicago Press.

Tinto, V. (1998). *Colleges as communities: Taking research on student persistence seriously*. Review of Higher Education, 21 (2). Downloadable from: http://muse.jhu.edu/journals/review_of_higher_education/v021/21.2tinto.html

Tinto, V. (1998). *Learning communities and the reconstruction of remedial education in higher education*. Presentation to Conference on Replacing Remediation in Higher Education at Stanford University. Downloadable from: https://vtinto.expressions.syr.edu/wp-content/uploads/2013/01/Developmental-Education-Learning-Communities.pdf

Tinto, V. (2006). *Research and practice of student retention: What next?* Journal of College Student Retention: Research, Theory & Practice, 8 (1). Downloadable from: http://www.uaa.alaska.edu/governance/facultysenate/upload/JCSR_Tinto_2006-07_Retention.pdf

Tinto, V. (2011). *Taking success seriously in the college classroom*. Downloadable from: http://www.sjsu.edu/advising/docs/Tinto_Student_Success_College_Classroom.pdf

Tinto, V. (2012). *Enhancing student success: Taking the classroom success serously*. The International Journal of the First Year in Higher Education, 3 (1). Downloadable from: https://fyhejournal.com/article/view/119/120

Tinto, V. (2012). *Completing college: Rethinking institutional actions*. The University of Chicago Press.

Tobolowsky, B. F., Cox, B. E. (2007). *Shedding light on sophomores: An exploration of the second college year*. National Resource Center for the First-Year experience and Students in Transition.

Tobolowsky, B. F., Cox, B. E., Wagner, M. T. (Ed.). (2005). *Exploring the evidence: Reporting research on first-year seminars, Volume III* (Monograph No. 42). Columbia, SC: University of South Carolina, National Resource Center for The First-Year Experience and Students in Transition. Downloadable from: http://sc.edu/fye/resources/fyr/pdf/FIRST-YEAR%20RESOURCES_update.pdf

Totté, N., Huyghe, S., Verhagen, A. (2013). *Building the curriculum in higher education: A conceptual framework*. Presentation at the international Enhancement Theme conference in Glasgow, Scotland. Downloadable from: http://www.enhancementthemes.ac.uk/docs/paper/building-the-curriculum-in-higher-education---a-conceptual-framework.pdf?sfvrsn=10

Tover, E., Simon, M. A. (2003). *Facilitating student success for entering California community college students: How one institution can make an impact.* Rapport no JC-030-287. Santa Monica College, Santa Monica, CA. Downloadable from: http://eric.ed.gov/?id=ED476679

Trowler, P. R., Knight, P. T. (2000). *Coming to know in higher education: theorising faculty entry to new work contexts*. Higher Education Research and Development, 19 (1). Downloadable from: https://www.academia.edu/9776772/Coming_to_Know_in_Higher_Education_Theorising_faculty_entry_to_new_work_contexts

UNESCO. (2013). *Glossary of curriculum terminology*. Downloadable from: http://www.ibe.unesco.org/fileadmin/user_upload/Publications/drafts/IBE_curriculum_glossary_final.pdf

Upcraft, M. L., Gardner, J., Barefoot, B. (2005). *Challenging and supporting the first-year student: A handbook for improving the first year of college*. San Francisco: Jossey-Bass.

van den Akker, J. (2007). *Curriculum design research*. In T. Plomp, N. Nieveen (Ed.), *An introduction to educational design research*. Enschede, Netherlands: SLO–Netherlands Institute for Curriculum Development. Downloadable from: http://www.slo.nl/downloads/2009/Introduction_20to_20education_20design_20research.pdf/

van den Akker, J. (2010). *Building bridges: How research may improve curriculum policies and classroom practices*. In Stoney, S. M., *Beyond Lisbon 2010: Perspectives from research and development for education policy in Europe*. Consortium of Institutions for Development and Research in Education in Europe. Downloadable from: http://doc.utwente.nl/93986/1/Akker-building-YB%2010%20%20Beyond%20Lisbon%202010-2.pdf

van Gog, T. (2013). *Time on task*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Vermunt, J. D. (1996). *Metacognitive, cognitive and affective aspects of learning styles and strategies: A phenomenographic analysis*. Higher Education, 31 (1). Downloadable from: http://scholar.google.ca/scholar_url?url=http://dspace.library.uu.nl/bitstream/handle/1874/18755/Article%2520Vermunt%25201996%2520HighEduc.pdf%3Fsequence%3D1&hl=en&sa=X&scisig=AAGBfm0yCrB6xGTNEyx6CXiEwgEmK6HnEA&nossl=1&oi=scholarr&ved=0CBwQgAMoADAAahUKEwiX6M3-x4XHAhWGWT4KHSjUCcI

Vermunt, J. D., Vermetten, Y. J. (2004). *Patterns in student learning: Relationships between learning strategies, conceptions of learning, and learning orientations*. Educational Psychology Review, 16 (4). Downloadable from: http://dspace.library.uu.nl/handle/1874/11958

Vosniadou, S., Panagiatis T. (2013). *Conceptual change*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Wang, N., Wilhite, S. C., Wyatt, J., Young, T., Bloemker, G. (2012). *Impact of a college freshman social and emotional learning curriculum on student learning outcomes: An exploratory study*. Journal of University Teaching & Learning Practice, 9 (2). Downloadable from: http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1294&context=jutlp

Watermeyer, R. (2011). *Curriculum alignment, articulation and the formative development of the learner*. International Baccalaureate literature review report. Academic Division of the International Baccalaureate. Downloadable from: http://www.ibo.org/globalassets/publications/ib-research/curriculumalignmenteng.pdf
Wenger, E. (1998). *Communities of practice: Learning, meaning and identity.* Cambridge, Cambridge University Press.

Wierstra, R. F. A., Kanselaar, G., Van der Linden, J. L., Lodewijks, H. G. L. C., Vermunt, J. D. (2003). *The impact of the university context on European students' learning approaches and learning environment preferences*. Higher Education, 45 (4). Downloadable from: http://kanselaar.net/wetenschap/files/Nuffic_HigherEducation.pdf

Wiggins, G. T., McTighe, J. (2005). *Understanding by design*. Alexandria, VA: Association for Supervision and Curriculum Development.

Wild, L., Ebbers, L. (2002). *Rethinking student retention in community colleges*. Community College Journal of Research and Practice, 26 (6). Downloadable from: http://www.cfder.org/uploads/3/0/4/9/3049955/rethinking_student_retention_in_community_colleges.pdf

Wolf, P. (2007). *A model for facilitating curriculum development in higher education: A faculty-driven, data-informed, and educational developer-supported approach*. New Directions for Teaching and Learning, 112. Downloadable from: http://artsandscience.usask.ca/curriculumrenewal/pdf/mapping/Wolf-ModelforFacilitatingCurriculumDevelopment.pdf

Wurtz, K. A. (2014). *Effects of learning communities on community college students' success: A meta-analysis*. Dissertation and doctoral studies, Walden University. Downloadable from: http://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=1034&context=dissertations

Wyatt, J. B., Bloemker, G. A. (2013). *Social and emotional learning in a freshman seminar*. Higher Education Studies, 3 (1). Downloadable from: http://www.ccsenet.org/journal/index.php/hes/article/download/24252/15365

Yindra, K., Brenner, V. (2002). *What student goals can teach us about retention at WCTC.* Retention for learning presentation. (Report No. JC-030-645). Waukesha County Technical College, Pewaukee, WI. Downloadable from: http://eric.ed.gov/?id=ED482597

Zeidenberg, M., Jenkins, D., Calcagno, C. (2007). *Do student success courses actually help community college students succeed?* Community College Research Center Brief, 36. Downloadable from: http://www.uaa.alaska.edu/advising-testing/upload/332_531-1.pdf

Zhai, L., Monzon, R. (2001). *Community college student retention: Student characteristics and withdrawal reasons.* Presentation at the annual conference of the California Association of Institutional Research, Sacramento, California. Downloadable from: http://files.eric.ed.gov/fulltext/ED473676.pdf

Zhao, C-M., Kuh, G. D. (2004). *Adding value: Learning communities and student engagement*. Research in Higher Education, 45 (2). Downloadable from: http://home.ubalt.edu/ub78l45/My%20Library/storage/HV3TEDZ2/12231609.pdf

Zmuda, J., Bradshaw, C. P. (2013). *Social and emotional learning and academic achievement*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Section 4

Adelman, C. (2004). *Principal indicators of student academic histories in postsecondary education, 1972-2000*. Washington, DC: Institute of Education Sciences. Downloadable from: https://www2.ed.gov/rschstat/research/pubs/prinindicat/prinindicat.pdf

Adragna, S., Pamphile, M., Thompson, A. (2012). *Retention and the nontraditional student: The student perspective*. Consortium for Student Retention Data Exchange, National Symposium on Student Retention, New Orleans, Louisiana.

Allday, A., Yell, M. L. (2013). *Learning Difficulties in School*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Aronson, J., Fried, C. B., Good, C. (2002). *Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence*. Journal of Experimental Social Psychology, 38. Downloadable from http://www.foothill.edu/attach/1474/views_of_intelligence.pdf

Aronson, J., Steele, C. M. (2005). *Stereotypes and the Fragility of Academic Competence, Motivation, and Self-Concept*. In A. Elliot, C. S. Dweck (Ed.) *The handbook of competence and motivation*. New York: Guilford. Downloadable from http://www.physics.emory.edu/faculty/weeks//journal/aronsonsteele05.pdf

Arum, R, Roska, J. (2010). *Academically adrift: Limited learning on college campuses*. Chicago: The University of Chicago Press Books.

Attewell, P., Lavin, D., Domina, T., Levey, T. (2006). *New evidence on college remediation*. Journal of Higher Education, 77 (5). Downloadable from: http://knowledgecenter.completionbydesign.org/sites/default/files/16%20Attewell%20JHE%20final%202006.pdf

Bahr, P. R. (2010). *Revisiting the efficacity of postsecondary remediation: The moderating effects of depth/breadth of deficiency*. The Review of Higher Education, 33 (2). Downloadable from: http://debdavis.pbworks.com/f/revisiting+postsecondary+remediation.pdf

Bailey, T., Alfonso, M. (2005). *Paths to persistence: An analysis of research on program effectiveness at community college*. New York: Community College Research Center, Teachers College, Columbia University. Downloadable from: http://knowledgecenter.completionbydesign.org/sites/default/files/19%20Bailey%20Paths_to_Persistence.pdf

Bailey, T. J., Calcagno, J., Jenkins, D., Kienzl, G., Leinbach, T. (2005). *Community college success: What institutional characteristics make a difference?* New York: Community College Research Center, Teachers College, Columbia University. Downloadable from: http://www.usc.edu/dept/chepa/HRYANG/publications/CC_Student_Success.pdf

Barefoot, B. O. (2004). *Higher education revolving door: Confronting the problem of student dropout in US colleges and universities*. Open Learning: The Journal of Open, Distance and e-Learning, 19 (1). Downloadable from: http://kn.open.ac.uk/public/workspace.cfm?wpid=1886

Barefoot, B. O. (2011). *Creating the secret sauce for student retention.* Presentation at the National Symposium on Student Retention, Charleston, SC. In S. Bonin, *Coup d'oeil sur le 7e National Symposium on Student Retention*. Downloadable from: http://www.uquebec.ca/dri/resumes_colloques_conferences/national_symposium_2011.pdf

Bass, R. (2012). *Disrupting ourselves: The problem of learning in higher education*. Educause review. Downloadable from: https://net.educause.edu/ir/library/pdf/ERM1221.pdf

Belcheir, M. J. (2001). *What predicts perceived gains in learning and in satisfaction?* Report no BSU-RR-2001-02. Boise State University, ID: Office of Institutional Advancement. Downloadable from: http://cpr.indiana.edu/uploads/Belcheir,%20M.J.%20(May,%202001).pdf

Bettinger, E. P., Long, B. T. (2009). *Addressing the needs of underprepared students in higher education: Does college remediation work?* Journal of Human Resources, 44 (3). Downloadable from: http://www.nber.org/papers/w11325.pdf

Biswas, R. R. (2007). *Accelerating remedial math education: How institutional innovation and state policy interact*. An Achieving the Dream Policy Brief. Achieving the Dream/Community Colleges Count. Downloadable from: http://www.achievingthedream.org/sites/default/files/resources/RemedialMath.pdf

Boatman, A., Long, B. T. (2010). *Does remediation work for all students? How the effects of postsecondary remedial and developmental courses vary by level of academic preparation*. NBER working paper. Cambridge, MA: National Bureau of Economic Research. Downloadable from: http://files.eric.ed.gov/fulltext/ED512610.pdf

Booth, K., Cooper, D., Karandjeff, K., Purnell, R., Schiorring, E., Willett, T. (2013). *Student support (re) defined: What students say they need to succeed: Key themes from a study of student support*. www.rpgroup.org. Downloadable from: http://www.nocccd.edu/documents/ArticleAWhatStudentssaytheyNeed.pdf

Bowen, W. G., Chingos, M. M., McPherson, M. S. (2009). *Crossing the finish line: Completing college at America's public universities*. Princeton, N.J.: Princeton University Press.

Buhr, L., Feldman, M., Layhew, A., Bitner, J. (2010). *Upside down: Retaining undergraduate adult learners in higher education*. Consortium for Student Retention Data Exchange, Mobile, AL.

Calcagno, J. C., Crosta, P., Bailey, T. R., Jenkins, D. (2007). *Stepping stones to a degree: The impact of enrollment pathways and milestones on community college student outcomes*. Research in Higher Education, 48 (7). Downloadable from: http://files.eric.ed.gov/fulltext/ED494141.pdf

Calcagno, J. C., Long, B. T. (2008). *The impact of postsecondary remediation using a regression discontinuity approach: addressing endogenous sorting and noncompliance*. NCPR Working Paper no 14194. Cambridge, MA: National Bureau of Economic Research. Downloadable from: http://ies.ed.gov/director/conferences/08ies_conference/pdf/calcagno_long.pdf

Carey, K. (2005a). *One step from the finish line: Higher education graduation rates are within our reach*. New York: Education Trust. Downloadable from: http://www.shawnee.edu/retention/media/One-Step.pdf

Carey, K. (2005b). *Choosing to improve: Voices from colleges and universities with better graduation rates*. New York: Education Trust. Downloadable from: https://www.sdbor.edu/services/studentaffairs/documents/ChoosingtoImprove.pdf

Carini, R. M., Kuh, G. D., Klein, S. P. (2006). *Student engagement and student learning: Testing the linkages*. Research in Higher Education, 47 (1). Downloadable from: http://www.oakland.edu/upload/docs/UG%20Education/Retention_Conference/Carini,%20Kuh%20&%20Klein.pdf

Cash, A. H., Hamre, B. (2013). *Evaluating and improving student-teacher interactions*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Coghlan, C., Fowler, J., Messel, M. (2009). *The sophomore experience: Identifying factors related to second-year attrition*. In R. Hayes (Ed.), *Proceedings of the 5th national symposium on student retention*. Buffalo, NY. Norman, OK: The University of Oklahoma. Downloadable from: https://studentsuccess.unc.edu/files/2012/11/Proceedings_of_the_NSSR-2009.pdf

Community College Survey of Student Engagement (CCSSE). (2008). *High expectations and high support*. Austin, Texas: The University of Texas at Austin, Community College Leadership Program. Downloadable from: http://www.ccsse.org/center/resources/docs/publications/2008_National_Report.pdf

Cornelius-White, J. (2008). *Learner-centered student-teacher relationships are effective: A meta-analysis*. Review of Educational Research, 77. Article summary consultable at: http://preview.univie.ac.at/fileadmin/user_upload/elearning/Learner-Centered_Instruction_Building_Relationships1_03.07.2009.pdf

Davis, H. A. (2013). *Techer-student relationships*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

DeWitz, S. J., Woolsey, M. L., Walsh, W. B. (2009). *College student retention: An exploration of the relationship between self-efficacy beliefs and purpose in life among college students*. Journal of College Student Development, 50 (1). Downloadable from http://saweb.memphis.edu/sa_studentaffairs/pdfs/pd/nov12/Self-Efficacy_and_Retention.pdf

Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House.

Eckel, P., Green, M., Hill, B. (2001). *Riding the waves of change: Insights from transforming institutions*. Washington, DC: American Council on Education. Downloadable from: http://files.eric.ed.gov/fulltext/ED470841.pdf

Engelkemeyer, S., Landry, E. (2001). *Negotiating change on campus: Lessons from five years of AAHE's summer academy*. AAHE Bulletin. Downloadable from: http://www.aahea.org/articles/negotiating.htm

Gaffner, D., Hazler, R. (2002). *Factors related to indecisiveness and career indecision in undecided college students*. Journal of College Student Development, 43 (3).

Gardner, J. N., Van der Veer, G. (1998). *The senior year experience: Facilitating integration, reflection, closure, and transition*. San Francisco, CA: Jossey-Bass.

Gess-Newsome, J. (2013). *Pedagogical content knowledge*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Gloria, A. M., Robinson Kurpius, S. E. (2001). *Influences of self-beliefs, social support, and comfort in the university environment on the academic nonpersistence decisions of American Indian undergraduates*. Cultural diversity and Ethnic Minority Psychology, 7 (1).

Goodman, K., Pascarella, E. T. (2006). *First-year seminars increase persistence and retention: A summary of the evidence from how college affects students*. Peer Review, 8 (3). Downloadable from: http://www.aacu.org/publications-research/periodicals/first-year-seminars-increase-persistence-and-retention-summary

Gordon, V. (2007). *The undecided college student: An academic and career advising challenge* (3rd edition). Springfield, IL: Charles C. Thomas.

Gordon, V., Habley, W., Grites, T. (2008). *Academic advising: A comprehensive handbook* (2nd edition). San Francisco: John Wiley and Sons.

Graunke, S. S., Woosley, S. A. (2005). *An exploration of the factors that affect the academic success of college sophomores*. College Student Journal, 39. Downloadable from: http://www.freepatentsonline.com/article/College-Student-Journal/133606107.html

Hausman, L., Ye, F., Schofield, J., Woods, R. (2007). *Sense of belonging as predictor of intentions to persist among African American and white first-year students*. Research in Higher Education, 48 (7).

Hawley, J. D., Chiang, S. C. (2013). *Developmental education for adults and academic achievement*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Hunter, M. S., Tobolowsky, B. F., Gardner, J. N., Evenbeck, S. E., Pattengale, J. A., Schaller, M. A., Schreinder, L. A. (Ed.). (2010). *Helping sophomores succeed: Understanding and improving the second-year experience*. San Francisco, CA: Jossey-Bass.

Jenkins, D. (2006). *What community college management practices are effective in promoting student success? A study of high- and low-impact institutions.* New York: Community College Research Center, Teachers College, Columbia University. Downloadable from: http://files.eric.ed.gov/fulltext/ED494145.pdf

Jenkins, D., Wachen, J., Moore, C., Shulok, N. (2012). *Washington State student achievement initiative policy study: Final report*. New York: Community College Research Center, Teachers College, Columbia University. Downloadable from: http://files.eric.ed.gov/fulltext/ED538997.pdf

Kane, T. J., Taylor, E. S., Tyler, J. H., Wooten, A. L. (2010). *Identifying effective classroom practices using student achievement data*. Cambridge, MA: National Bureau of Economic Research. Downloadable from: http://cepr.harvard.edu/files/cepr/files/ncte-effective-classroom-practices-kane-taylor-tyler-wooten.pdf

Kezar, A., Eckel, P. (2002). *Examining the institutional transformation process: The importance of sensemaking, interrelated strategies, and balance*. Research in Higher Education, 43 (3). Downloadable from: http://engineering.tamu.edu/media/1384230/examining_the_institutional_transformation_process_the_importance_of_sensemaking_inter-related_strategies_and_balance.pdf

King, M. C., Kerr, T. J. (2005). *Academic advising*. In M. L. Upcraft, J. N. Gardner, B. O. Barefoot (Ed.), *Challenging and supporting the first-year student*. San Francisco, CA: Jossey-Bass.

Kinzie, J. (2005). *Promoting student success: What faculty members can do*. Occasional Paper 6, National Survey of Student Engagement. Indiana Center for Postsecondary Research. Downloadable from: http://nsse.indiana.edu/institute/documents/briefs/DEEP%20Practice%20Brief%206%20What%20Faculty%20Members%20Can%20Do.pdf

Kuh, G. D. (2003). *What we're learning about student engagement from NSSE*. Change. Downloadable from: http://www.tru.ca/__shared/assets/Kuh_2003_What_We_re_Learning23688.pdf

Kuh, G. D., Gonyea, R. M., Williams, J. M. (2005). *What students expect from college and what they get*. In T. Miller, B. Bender, J. Schuh, and associates (Ed.), *Promoting reasonable expectations: Aligning student and institutional thinking about the college experience*. San Francisco: Jossey-Bass/National Association of Student Personnel Administrators.

Kuh, G. D., Kinzie, J., Buckley, J., Bridges, B., Hayek, J. C. (2006). *What matters to student success: A review of the literature*. Commissioned report for the National Symposium on Postsecondary Student Success: *Spearheading a dialog on student success*. National Postsecondary Education Cooperative. Downloadable from: http://nces.ed.gov/npec/pdf/kuh_team_report.pdf

Kuh, G. D., Kinzie, J., Buckley, J., Bridges, B., Hayek, J. C. (2007). *Piecing together the student success puzzle: Research, propositions, and recommendations.* ASHE Higher Education Report, *32* (5). San Francisco: Jossey-Bass.

Kuh, G. D., Kinzie, J., Schuh, J. H., Whitt E. J., et al. (2005). *Student success in college: Creating conditions that matter*. Jossey-Bass.

Kuh, G. D., Nelson Laird, T. F., Umbach, P. D. (2004). *Aligning faculty activities and student behavior: Realizing the promise of Greater Expectations*. Liberal Education. Downloadable from: http://files.eric.ed.gov/fulltext/EJ682584.pdf

Long, A. (2009). *Five factors for improving nontraditional student retention: Findings from a 2004 comparative analysis study using national BPS data and data from a 2008-09 study at Santa Fe college*. Consortium for Student Retention Data Exchange, National Symposium on Student Retention, Buffalo, NY. Downloadable from: https://studentsuccess.unc.edu/files/2012/11/Proceedings_of_the_NSSR-2009.pdf

Long, B. T., Boatman, A. (2013). *The role of remedial and developmental courses in access and persistence*. In A. Jones, L. Perna (Ed.), *The state of college access and completion: Improving college success for students from underrepresented groups*. New York: Routledge. Downloadable from: http://scholar.harvard.edu/files/btl/files/long_boatman_2013_role_of_remediation_in_access_and_persistence_-_acsfa_routledge.pdf

Martorell, P., McFarlin, I. (2011). *Help or hindrance? The effects of college remediation on academic and labor market outcomes*. Review of Economic & Statistics, 93 (2). Downloadable from: https://www.maxwell.syr.edu/uploadedFiles/cpr/events/cpr_seminar_series/previous_seminars/mcfarlin.pdf

McClenney, K., Greene, T. (2005). *A tale of two students: Building a culture of engagement in the community college*. About Campus, 10 (3). Downloadable from: http://www.ohiocommunitycolleges.org/wp-content/uploads/2014/09/buildingaculture.pdf

McLeod, W. B., Young, J. M. (2005). *A chancellor's vision: Establishing an institutional culture of student success*. New Directions for Institutional Research, 125.

Miller Brown, S. (2002). *Strategies that contribute to nontraditional/adult student development and persistence*. PAACE Journal of Lifelong Learning, 11. Downloadable from: https://www.iup.edu/WorkArea/DownloadAsset.aspx?id=18419

National Survey of Student Engagement (NSSE). (2006). *Engaged learning: Fostering success for all students*. Annual report. Downloadable from: http://nsse.indiana.edu/NSSE_2006_Annual_Report/docs/NSSE_2006_Annual_Report.pdf

Neeley, S. J., Paredes, R. A. (2007). *Texas P-16 Council developmental education report: A report on recommendations produced FY 2005-2006*. Austin, TX: P-16 Council.

Nelson Laird, T. F., Chen, D., Kuh, G. D. (2008). *Classroom practices at institutions with higher-than-expected persistence rates: What student engagement data tell us*. New Directions for Teaching and Learning, 115. Downloadable from: http://www.researchgate.net/publication/229670552_Classroom_practices_at_institutions_with_higherthanexpected_persistence_rates_What_student_engagement_data_tell_us

Oseguera, L., Rhee, B. S. (2009). *The influence of institutional retention climates on student persistence to degree completion: A multilevel approach*. Research in Higher Education, 50. Downloadable from: http://www.heri.ucla.edu/PDFs/Oseguera_Rhee_RetentionClimates_2009.pdf

Pascarella, E. T. (2001). *Identifying excellence in undergraduate education: Are we even close?* Change, 33 (3). Downloadable from: https://collegerankings.files.wordpress.com/2011/10/401657692.pdf

Pascarella, E. T., Terenzini, P. T. (2005). *A third decade of research. V*olume 2 of *How college affects students*. San Francisco: Jossey-Bass.

Pettitt, M., Prince, D. (2010). *Washington State's student achievement initiative*. Journal of Applied Research in the Community College, 17 (2).

Pike, G. R., Kuh, G. D., Gonyea, R. M. (2003). *The relationship between institutional mission and students' involvement and educational outcomes*. Research in Higher Education, 44. Downloadable from: http://www.researchgate.net/profile/Gary_Pike3/publication/263196616_The_Relationship_Between_Institutional_Mission_and_Students'_Involvement_and_Educational_Outcomes/links/552698870cf2647b189d6da7.pdf

Prince, D., Seppanen, L., Stephens, D., Stewart, C. (2010). *Turning state data and research in information: An example from Washington State's student achievement initiative*. New Directions for Institutional Research, 147.

Reason, R. D., Terenzini, P. T., Domingo, R. J. (2007). *Developing social and personal competence in the first year of college*. The Review of Higher Education, 30. Downloadable from: https://www.cse.cuhk.edu.hk/irwin.king/_media/teaching/gen1113/scn_20090202113631_001.pdf

Roos, R. D. (2012). *Relationship between first-year student retention, noncognitive risk factors, and student advising*. All Graduate theses and Dissertations. Paper 1167. Downloadable from: http://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=2156&context=etd

Ross, J. A., Gray, P. (2006). *Transformational leadership and teacher commitment to organizational values: The mediating effects of collective teacher efficacy*. School Effectiveness and School Improvement, 17 (2). Downloadable from: https://tspace.library.utoronto.ca/bitstream/1807/30023/1/Ross%20%26%20Gray%202006b.pdf

Rubie-Davies, C., Hattie, J., Hamilton, R. (2006). *Expecting the best for students: Teacher expectations and academic outcomes*. British Journal of Educational Psychology, 76. Downloadable from: http://www.researchgate.net/publication/6836094_Expecting_the_best_for_students_teacher_expectations_and_academic_outcomes._British_Journal_of_Educational_Psychology_76_429-444

Ryan, J. F. (2004). *The relationship between institutional expenditures and degree attainment at baccalaureate colleges*. Research in Higher Education, 45 (2). Downloadable from: http://www.oairp.org/expenditure_degree_attain.pdf

Schleicher, A. (2011). *Is the sky the limit to education improvement?* Phi Delta Kappan, 93 (2). Downloadable from: https://www.edu.gov.on.ca/bb4e/SchleicherKeynote.pdf

Schreiner, L. A. (2009). *Linking student satisfaction and retention*. Noel-Levitz. Downloadable from: https://www.faculty.uwstout.edu/admin/provost/upload/LinkingStudentSatis0809.pdf

Schreiner, L. A., Kammer, R., Primrose, B., Quick, D. (2011). *Predictors of thriving in students of color: Differential pathways to college success*. Downloadable from http://www.thrivingincollege.org/wp-content/uploads/2012/02/Schreiner-Kammer-Primrose-Quick-ASHE-paper-2011-2.pdf

Schreiner, L. A., Nelson, D. (2013). *The contribution of student satisfaction to persistence*. Journal of College Student Retention: Research, Theory & Practice, 15 (1). Downloadable from: http://csr.sagepub.com/content/15/1/73.full.pdf

Schreiner, L. A., Pattengale, J. (2000). *What is the sophomore slump and why should we care?* In L. A. Schreiner, J. Pattengale (Ed.), *Visible solutions for invisible students: Helping sophomores succeed*. Monograph No. 31. Columbia, SC: University of South Carolina, National Resource Center for the First-Year Experience and Students in Transition.

Schilling K., Schilling, K. L. (1999). *Increasing expectations for student effort*. About Campus. Downloadable from: http://www.sjsu.edu/advising/docs/SchillingxSchilling.pdf

Scrivener, S., Sommo, C., Collado, H. (2009). *Getting back on track: Effects of a community college program for probationary students*. MDRC. Consultable at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1404808

Scrivener, S., Weiss, M. J. (2009). *More guidance, better results? Three-year effects of an enhanced student services program at two community colleges*. New York: MDRC. Downloadable from: http://www.mdrc.org/sites/default/files/More%20Guidance%20ES_1.pdf

Skahill, M. P. (2002). *The role of social support network in college persistence among freshman students*. Journal of College Student Retention: Research, Theory & Practice, 4 (1).

Smyth, E. (2013). *Entry to tertiary education*. In In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Tagg, J. (2003). *The learning paradigm college*. Boston: Anker. Author's presentation on subject consultable at: http://www.oakland.edu/upload/docs/CETL/ConferencePresentationMaterials2014/TaggTheLearningParadigmCollege.pdf

Taylor, L., McAleese, V. (2012). *Beyond retention: Using targeted analytics to improve student success*. Educause review. Downloadable from: http://www.educause.edu/ero/article/beyond-retention-using-targeted-analytics-improve-student-success

Tinto, Vincent. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago: The University of Chicago Press.

Tinto, V. (1998). *Colleges as communities: Taking research on student persistence seriously*. Review of Higher Education, 21 (2). Downloadable from: http://muse.jhu.edu/journals/review_of_higher_education/v021/21.2tinto.html

Tinto, V. (1998). *Learning communities and the reconstruction of remedial education in higher education*. Presentation at the Conference on Replacing Remediation in Higher Education at Stanford University. Downloadable from: https://vtinto.expressions.syr.edu/wp-content/uploads/2013/01/Developmental-Education-Learning-Communities.pdf

Tinto, V. (2006). *Research and practice of student retention: What next?* Journal of College Student Retention: Research, Theory & Practice, 8 (1). Downloadable from: http://www.uaa.alaska.edu/governance/facultysenate/upload/JCSR_Tinto_2006-07_Retention.pdf

Tinto, Vincent. (2012). *Completing college: Rethinking institutional actions*. Chicago: The University of Chicago Press.

Tobolowsky, B. F., Cox, B. E. (2007). *Shedding light on sophomores: An exploration of the second college year*. Monograph no 47. Columbia, SC: University of South Carolina, National Resource Center for The First-Year Experience & Students in Transition.

Tobolowsky, B. F., Cox, B. E., Wagner, M. T. (2005). *Exploring the evidence: Reporting Research on first-year seminars, Volume III*. The first-year monograph series, no 42. Columbia, SC: University of South Carolina, National Resource Center for The First-Year Experience & Students in Transition. Downloadable from: http://sc.edu/fye/resources/fyr/pdf/FIRST-YEAR%20RESOURCES_update.pdf

Upcraft, M. L., Gardner, J., Barefoot, B. (2005). *Challenging and supporting the first-year student: A handbook for improving the first year of college*. San Francisco: Jossey-Bass.

Visher, M. G., Butcher, K. F., Cerna, O. S. (2010). *Guiding developmental math students to campus services*. New York: MDRC. Downloadable from: http://www.mdrc.org/sites/default/files/full_382.pdf

Ward, K., Trautvetter, L., Braskamp, L. (2005). *Putting students first: Creating a climate of support and challenge*. Journal of College and Character, 6 (8). Downloadable from: http://www.tandfonline.com/doi/pdf/10.2202/1940-1639.1492

Ward-Roof, J., Hatch, C. (Ed.). (2010). *Designing successful transitions: A guide to orienting students to college* (3rd edition). Columbia, SC: National Resource Center for the First-Year Experience & Students in Transition.

Wentzel, K. R. (2009). *Students' relationships with teachers as motivational contexts*. In K. R. Wentzel, A. Wigfield (Ed.), *Handbook of motivation*. New York: Routledge. Downloadable from: http://www.ie.ulisboa.pt/pls/portal/docs/1/453424.PDF

Wild, L., Ebbers, L. (2002). *Rethinking student retention in community colleges*. Community College Journal of Research and Practice, 26 (6). Downloadable from: http://www.cfder.org/uploads/3/0/4/9/3049955/rethinking_student_retention_in_community_colleges.pdf

Willcoxson, L., Cotter, J., Joy, S. (2011). *Beyond the first-year experience: The impact on attrition of student experiences throughout undergraduate degree studies in six diverse universities*. Studies In Higher Education, 36 (3).

Windham, P. (2006). *Taking student life skills course increases academic success*. Data Trend, 31. Tallahassee, Florida Department of Education. Downloadable from: http://www.fldoe.org/core/fileparse.php/3/urlt/dt31.pdf

Zeidenberg, M., Jenkins, D., Calcagno, C. (2007). *Do student success courses actually help community college students succeed?* Community College Research Center Brief, 36. Downloadable from: http://www.uaa.alaska.edu/advising-testing/upload/332_531-1.pdf

Zhao, C-M., Kuh, G. D. (2004). *Adding value: Learning communities and student engagement*. Research in Higher Education, 45 (2). Downloadable from: http://home.ubalt.edu/ub78l45/My%20Library/storage/HV3TEDZ2/12231609.pdf

Section 5

Adams, P. (2000). *Effective teaching of tertiary learners: Strategies and faculty development implications*. Master's dissertation. Faculty of Education of the University of Lethbridge. Downloadable from: http://www.uleth.ca/education/sites/education/files/ARNIA_pam_adams.pdf

Ambrosino, R., Peel, J. (2011). *Faculty development programs: Assessing the impact on instructional practices, and student learning and motivation*. Journal of Faculty Development, 25 (2).

Amundsen, C., Abrami, P., McAlpine, L., Weston, M., Krbavac, M., Mudy, A., Wilson, M. (2005). *The what and why of faculty development in higher education: An in-depth review of the literature*. American Educational Research Association Annual Meeting, Montréal, Canada. Downloadable from: http://doe.concordia.ca/cslp/Downloads/PDF/CAmundsen_etal.pdf

Austin, A. E., Sorcinelli, M. D. (2013). *The future of faculty development: Where are we going?* New Directions for Teaching and Learning.

Baker, G. R., Jankowski, N., Provezis, S., Kinzie, J. (2012). *Using assessment results: Promising practices of institutions that do it well*. Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment. Downloadable from: http://www.learningoutcomesassessment.org/documents/CrossCase_FINAL1.pdf

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman and Company.

Barab, S. A., Duffy, T. (2000). *From practice fields to communities of practice*. In D. Jonassen, S. M. Land (Ed.), *Theoretical foundations of learning environments*. Mahwah, NJ: Erlbaum Associates. Downloadable from: http://www.it.uu.se/research/group/cetuss/Yrkesliv/moetesserie/barab_duffy.pdf

Bates, B. A. (2010). *Perceptions of faculty development practices and structures that influence teaching at high performance colleges and universities*. ProQuest LLC. Downloadable from: https://archive.org/stream/BatesBarbara/Bates_Barbara_djvu.txt

Beach, A., Cox, M. (2009). *The impact of faculty learning communities on teaching and learning*. Learning Communities Journal, 1 (1).

Becher, T. (1999). *Professional practices: Commitment and capability in a changing environment*. New Brunswick, NJ: Transaction Publishers.

Beld, J. M. (2010). *Engaging departments in assessing student learning: Overcoming common obstacles*. Peer Review, 12 (1). Downloadable from: https://www.aacu.org/publications-research/periodicals/engaging-departments-assessing-student-learning-overcoming-common

Bothel, T., Henderson, T. (2004). *Evaluating the return on investment of faculty development*. In C. Wehlburg, S. Chadwick-Blossey (Ed.), *To improve the academy: Resources for faculty, instructional, and organizational development*. Volume 22. San Francisco: Anker Publishing.

Braxton, J. M., Bray, N. J., Berger, J. B. (2000). *Faculty teaching skills and their influence on the college student departure process*. Journal of College Student development, 41 (2). Downloadable from: http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1000&context=cie_faculty_pubs

Brownlee, J., Berthelsen, D. (2005). *Personal epistemology and relational pedagogy in early childhood teacher education programs*. Early Years, 26. Downloadable from: http://core.ac.uk/download/pdf/10873384.pdf

Caena, F. (2011). *Quality in teachers' continuing professional development literature review*. European Commission, Directorate-General for Education and Culture, Education and Training 2020, Professional Development of Teachers Thematic Working Group. Downloadable from: http://ec.europa.eu/education/policy/strategic-framework/doc/teacher-development_en.pdf

Cash, A. H., Hamre, B. (2013). *Evaluating and improving student-teacher interactions*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Coghlan, C., Fowler, J., Messel, M. (2009). *The sophomore experience: Identifying factors related to second-year attrition*. In R. Hayes (Ed.), *Proceedings of the 5th national symposium on student retention*. Buffalo, NY. Norman, OK: The University of Oklahoma. Downloadable from: https://studentsuccess.unc.edu/files/2012/11/Proceedings_of_the_NSSR-2009.pdf

Condon, W., Iverson, E. R., Manduca, C. A., Rutz, C., Willett, G. (2016, forthcoming). *Faculty development and student learning: Assessing the connections*. Indiana University Press, Scholarship of Teaching and Learning.

Cook-Sather, A., Bovill, C., Felten, P. (2014). *Engaging students as partners in learning and Teaching: A guide for faculty*. San Francisco, CA: Jossey-Bass.

Cornelius-White, J. (2008). *Learner-centered student-teacher relationships are effective: A meta-analysis*. Review of Educational Research, 77. Article summary consultable at http://preview.univie.ac.at/fileadmin/user_upload/elearning/Learner-Centered_Instruction_Building_Relationships1_03.07.2009.pdf

Cox, M. D. (2003). *Achieving teaching and learning excellence through faculty learning communities*. Center for Teaching, 14 (4). Downloadable from: http://cft.vanderbilt.edu/files/vol14no4_learning_communities.htm

Cox, M. D., Richlin, L. (Ed.). (2004). *Building faculty learning communities*. New Directions for Teaching and Learning, 97.

Daly, C. J. (2011). Faculty learning communities: Addressing the professional development needs of faculty and the learning needs of students. Currents in Teaching and Learning, University of Worcester. Downloadable from: http://www.worcester.edu/Currents/Archives/Volume_4_Number_1/CURRENTSV4N1DalyP3.pdf

Darling-Hammond, L., Youngs, P. (2002). *Defining highly qualified teachers: What does scientifically-based research actually tell us?* Educational Researcher, 31, (9). Downloadable from: https://www.uww.edu/Documents/colleges/coeps/academics/Darling-Hammond%20what%20the%20research%20tells%20us.pdf

Davis, H. A. (2013). *Techer-student relationships*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Dee, J., Daly, C. (2009). *Innovative models for organizing faculty development programs: Pedagogical reflexivity, student learning empathy, and faculty agency*. Human Architecture: Journal of the Sociology of Self-Knowledge, 7 (1). Downloadable from: http://scholarworks.umb.edu/cgi/viewcontent.cgi?article=1278&context=humanarchitecture

Denecker, C. (2014). *The Teaching Partners Program: A place for conversation, collaboration, and change*. Journal of Faculty Development, 28 (1). Downloadable from: https://www.academia.edu/10018540/The_Teaching_Partners_Program_A_Place_for_Conversation_Collaboration_and_Change

Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House.

Eckel, P., Green, M., Hill, B. (2001). *Riding the waves of change: Insights from transforming institutions*. Washington, DC: American Council on Education. Downloadable from: http://files.eric.ed.gov/fulltext/ED470841.pdf

Eggleston, T. (2013). *McKendree University assessment 2.0: A systematic, comprehensible and sustainable model combining assessment and faculty development*. DPQ in Practice. Downloadable from: http://degreeprofile.org/example/mckendree-university-assessment-2-0-a-systematic-comprehensive-and-sustainable-model-combining-assessment-and-faculty-development/

Elder, L. (2004). *Professional development model – Colleges and universities that foster critical thinking*. The Critical Thinking Community. Downloadable from: http://www.criticalthinking.org/pages/professional-development-model-college-and-university/435

Elliott, R. W. (2014). *Faculty Development curriculum: What informs it ?* Journal of Faculty Development, 28 (3).

Engelkemeyer, S., Landry, E. (2001). *Negotiating change on campus: Lessons from five years of AAHE's summer academy*. AAHE Bulletin. Downloadable from: http://www.aahea.org/articles/negotiating.htm

Entwistle, N. (2007). *Research into student learning and university teaching*. In N. Entwistle, P. Tomlinson (Ed.), *Student learning and university teaching*. Leicester, UK: The British Psychological Society. Downloadable from: http://www.researchgate.net/profile/Noel_Entwistle/publication/233637014_1_-_Research_into_student_learning_and_university_teaching/links/02e7e5309ede0742df000000.pdf

Ewell, P. T., Paulson, K., Kinzie, J. (2011). *Down and in: Assessment practices at the program level*. Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment. Downloadable from: http://www.learningoutcomesassessment.org/documents/NILOAsurveyreport2011.pdf

Fishman, B., Marx, R., Best, S., Tal, R. (2003). *Linking teacher and student learning to improve professional development in systemic reform*. Teaching and Teacher Education, 19 (6). Downloadable from: http://www.researchgate.net/publication/222401815_Linking_teacher_and_student_learning_to_improve_professional_development_in_systemic_reform._Teaching_and_Teacher_Education_19_643-658

Gardner, J. N., Van der Veer, G. (1998). *The senior year experience: Facilitating integration, reflection, closure, and transition*. San Francisco, CA: Jossey-Bass.

Geijsel, F. P., Sleegers, P. J. C., Stoel, R. D., Kruger, M. L. (2009). *The effect of teacher psychological and school organizational and leadership factors on teachers' professional learning in Dutch schools*. Elementary School Journal, 109, (4). Downloadable from: http://dare.uva.nl/document/2/63933

Gess-Newsome, J. (2013). *Pedagogical content knowledge*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Gibbs, C. (2002). *Effective teaching: exercising self-efficacy and thought control of action*. Paper presented at the Annual Conference of the British Educational Research Association, University of Exeter, England. Downloadable from: http://www.leeds.ac.uk/educol/documents/00002390.htm

Glenn, D. (2010). *Educators mull how to motivate professors to improve teaching*. The Chronicle of Higher Education. Downloadable from: http://chronicle.com/article/Educators-Mull-How-to-Motivate/63718/

Goddard, R. D., Goddard, Y. L. (2001). *A multilevel analysis of the relationship between teacher and collective efficacy in urban schools*. Teaching and Teacher Education, 17. Downloadable from: http://courses.washington.edu/pbafadv/examples/A%20Multilevel%20Analysis%20of%20the%20Relationship%20between%20Teacher%20and%20Collective%20Efficacy%20in%20Urban%20Schools.pdf

Goddard, R. D., Hoy, W. K., Woolfolk Hoy, A. (2000). *Collective teacher efficacy: Its meaning, measure, and impact on student achievement*. American Educational Research Journal, 37 (2). Downloadable from: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.123.9261&rep=rep1&type=pdf

Goddard, R. D., Hoy, W. K., Woolfolk Hoy, A. (2004). *Collective efficacy beliefs: Theoretical developments, empirical evidence, and future directions*. Educational Researcher, 33 (3). Downloadable from: http://vmarpad.shaanan.ac.il/efficacy/10.1.1.74.7204/מאמרים/עצמית%20חוללות.pdf

Goe, L. (2013). *Quality of teaching*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Goe, L. (2007). *The link between teacher quality and student outcomes: A research synthesis*. Washington, DC: National Comprehensive Center for Teacher Quality. Downloadable from: http://files.eric.ed.gov/fulltext/ED521219.pdf

Graunke, S. S., Woosley, S. A. (2005). *An exploration of the factors that affect the academic success of college sophomores*. College Student Journal, 39. Downloadable from: http://www.freepatentsonline.com/article/College-Student-Journal/133606107.html

Green, H. J., Hood, M. (2013). *Significance of epistemological beliefs for teaching and learning psychology: A review*. Psychology Learning and Teaching, 12 (2). Downloadable from: http://www98.griffith.edu.au/dspace/bitstream/handle/10072/54616/89437_1.pdf?sequence=1

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses on achievement*, London and New York: Routledge.

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning.* London and New York: Routledge.

Hattie, J. (2015a). *What doesn't work in education: The politics of distraction*. Open Ideas at Pearson. Pearson. Downloadable from: https://www.pearson.com/content/dam/corporate/global/pearson-dot-com/files/hattie/150602_DistractionWEB_V2.pdf

Hattie, J. (2015b). What works best in education: The politics of collaborative expertise. Open Ideas at Pearson. Pearson. Downloadable from: https://www.pearson.com/content/dam/corporate/global/pearson-dot-com/files/hattie/150526_ExpertiseWEB_V1.pdf

Hill, H., Rowan, B., Ball D. L., Schilling, S. G. (2008). *Unpacking pedagogical content knowledge: Conceptualizing and measuring teachers' topic-specific knowledge of students*. Journal for Research in Mathematics Education, 39 (4). Downloadable from: http://www.ugr.es/~pflores/2008_9/Master_Conocim/textos%20JP/%5B1%5D_Hill-Ball-Schilling-JRME2008-07.pdf

Hockings, C. (2010). *Inclusive learning and teaching in higher education: A synthesis of research*. EvidenceNet. Downloadable from: https://www.heacademy.ac.uk/sites/default/files/inclusive_teaching_and_learning_in_he_synthesis_200410_0.pdf

Holmgren, R. A. (2005). *Teaching partners: Improving teaching and learning by cultivating a community of practice*. In S. Chadwick-Blossey, D. R. Robertson (Ed.), *To improve the academy: Vol. 23. Resources for faculty, instructional, and organizational development*. Bolton, MA: Anker Publishing.

Huber, M. T., Hutchings, P. (2005). *Integrative learning: Mapping the terrain*. Washington, DC: Association of American Colleges and Universities. Downloadable from: http://www.researchgate.net/publication/254325229_Integrative_Learning_Mapping_the_Terrain

Huber, M. T. (2010). *Teaching travels: Reflections on the social life of classroom inquiry and innovation*. International Journal for the Scholarship of Teaching and Learning, 32 (2). Downloadable from: http://digitalcommons.georgiasouthern.edu/cgi/viewcontent.cgi?article=1168&context=ij-sotl

Hunter, G., Abelmann, N., Cain, T. R., McDonough, T., Prendergast, C. (2009). *Interrogating the university: One archival at a time*. Change, 40 (5). Downloadable from: http://www.changemag.org/Archives/Back%20Issues/September-October%202008/abstract-interrogating-univ.html

Hunter, M. S., Tobolowsky, B. F., Gardner, J. N., Evenbeck, S. E., Pattengale, J. A., Schaller, M. A., Schreinder, L. A. (Ed.). (2010). *Helping sophomores succeed: Understanding and improving the second-year experience*. San Francisco, CA: Jossey-Bass.

Hutchings, P. (2010). *Opening doors to faculty involvement in assessment*. NILOA Occasional Paper no. 4. Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment. Downloadable from: http://www.learningoutcomeassessment.org/documents/PatHutchings.pdf

Hutchings, P. (2011). *From department to disciplinary assessment: Deepening faculty engagement*. Change, 43 (5).

Hutchings, P., Kinzie, J., Kuh, G. D. (2015). *Evidence of student learning: What counts and what matters for improvement*. In G. D. Kuh, S. O. Ikenberry, N. A. Jankowski, T. Reese Cain, P. T. Ewell, P. Hutchings, J. Kinzie (Ed.), *Using evidence of student learning to improve higher education*. National Institute for Learning Outcomes Assessment. Josey-Bass.

Jankowski, N. A. (2012). *Mapping the topography of the evidence use terrain in assessment of U.S. higher education: A multiple case study approach*. Doctoral dissertation, University of Illinois, Champaign. Downloadable from: https://www.ideals.illinois.edu/bitstream/handle/2142/42316/Natasha_Jankowski.pdf?sequence=1

Jones, L. F. 2005. *Exploring the inner landscape of teaching: A program for faculty renewal.* In S. Chadwick-Blossey, D. R. Robertson (Ed.)*, To improve the academy: Vol 23. Resources for faculty, instructional, and organizational development.* Bolton, MA: Anker Publishing.

Jordan, A., Schwartz, E., McGhie-Richmond, D. (2009). *Preparing teachers for inclusive classrooms*. Teaching and Teacher Education, 25. Downloadable from: https://teacherempathy.wikispaces.com/file/view/preparing+teachers+for+inclusive+classrooms.pdf

Kane, T. J., Taylor, E. S., Tyler, J. H., Wooten, A. L. (2010). *Identifying effective classroom practices using student achievement data*. Cambridge, MA: National Bureau of Economic Research. Downloadable from: http://cepr.harvard.edu/files/cepr/files/ncte-effective-classroom-practices-kane-taylor-tyler-wooten.pdf

Kezar, A., Eckel, P. (2002). *Examining the institutional transformation process: The importance of sensemaking, interrelated strategies, and balance*. Research in Higher Education, 43 (3). Downloadable from: http://engineering.tamu.edu/media/1384230/examining_the_institutional_transformation_process_the_importance_of_sensemaking_inter-related_strategies_and_balance.pdf

King, K. P., Lawler, P. A. (2003). *Trends and issues in the professional development of teachers of adults*. New Directions for Adult and Continuing Education, 98.

Kinzie, J. (2005). *Promoting student success: What faculty members can do*. Occasional Paper 6, National Survey of Student Engagement. Indiana Center for Postsecondary Research. Downloadable from: http://nsse.indiana.edu/institute/documents/briefs/DEEP%20Practice%20Brief%206%20What%20Faculty%20Members%20Can%20Do.pdf

Kinzie, J. (2012). *Carnegie Mellon University: Fostering assessment for improvement and teaching excellence*. Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment. Downloadable from: http://www.learningoutcomesassessment.org/documents/CarnegieMellon.pdf

Kuh, G. D. (2003). *What we're learning about student engagement from NSSE*. Change. Downloadable from: http://www.tru.ca/__shared/assets/Kuh_2003_What_We_re_Learning23688.pdf

Kuh, G. D., Gonyea, R. M., Williams, J. M. (2005). *What students expect from college and what they get*. In T. Miller, B. Bender, J. Schuh, and associates (Ed.), *Promoting reasonable expectations: Aligning student and institutional thinking about the college experience*. San Francisco: Jossey-Bass/National Association of Student Personnel Administrators.

Kuh, G. D., Ikenberry, S. (2009). *More than you think, less than we need: Learning outcomes assessment in American higher education*. Champaign, IL: National Institute for Learning Outcomes Assessment. Downloadable from: http://www.learningoutcomeassessment.org/documents/niloafullreportfinal2.pdf

Kuh, G. D., Jankowski, N. A., Ikenberry, S., Kinzie, J. (2014). *Knowing what students know and can do: The current state of learning outcomes assessment at U.S. colleges and universities*. Champaign, IL: National Institute for Learning Outcomes Assessment. Downloadable from: http://www.learningoutcomesassessment.org/documents/2013%20Survey%20Report%20Final.pdf

Kuh, G. D., Kinzie, J., Buckley, J., Bridges, B., Hayek, J. C. (2006). *What matters to student success: A review of the literature*. Commissioned report for the National Symposium on Postsecondary

Student Success: *Spearheading a dialog on student success*. National Postsecondary Education Cooperative. Downloadable from: http://nces.ed.gov/npec/pdf/kuh_team_report.pdf

Kuh, G. D., Kinzie, J., Buckley, J., Bridges, B., Hayek, J. C. (2007). *Piecing together the student success puzzle: Research, propositions, and recommendations.* ASHE Higher Education Report, *32* (5). San Francisco: Jossey-Bass.

Kuh, G. D., Kinzie, J., Schuh, J. H., Whitt E. J., et al. (2005). *Student success in college: Creating conditions that matter*. Jossey-Bass.

Kuh, G. D., Nelson Laird, T. F., Umbach, P. D. (2004). *Aligning faculty activities and student behavior: Realizing the promise of Greater Expectations*. Liberal Education. Downloadable from: http://files.eric.ed.gov/fulltext/EJ682584.pdf

Kumar, R., Alvarado, L. (2013). *Teachers' cultural and professional identities and student outcomes*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Laird, T., Chen, D., Kuh, G. (2008). *Classroom practices at institutions with higher than expected persistence rates: What student engagement data tell us*. In J. Braxton (Ed.), The role of the classroom in college student persistence. New Directions for Teaching and Learning, 115. Downloadable from: http://www.researchgate.net/profile/Thomas_Nelson_Laird/publication/229670552_Classroom_practices_at_institutions_with_higherthanexpected_persistence_rates_What_student_engagement_data_tell_us/links/5416f0e00cf2bb7347db80da.pdf

Lidar, M., Lundqvist, E., Ostman, L. (2005). *Teaching and learning in the science classroom: The interplay between teachers' epistemological moves and students' practical epistemologies*. Science Education, 90.

Macpherson, A. (2007). *Faculty learning communities: The heart of the transformative learning organization*. Transformative Dialogues: Teaching & Learning Journal, 1 (2). Downloadable from: http://www.kpu.ca/sites/default/files/Teaching%20and%20Learning/TD.1.2_Macpherson_Faculty_Learning_Communities.pdf

Maggioni, L., Parkinson, M. (2008). *The role of teacher epistemic cognition, epistemic beliefs, and calibration in instruction*. Educational Psychology Review, 20 (4).

Marra, R. (2005). *Teacher beliefs: The impact of the design of constructivist learning environments on instructor epistemologies*. Learning Environments Research, 8.

McShannon, J., Hynes, P., Nirmalakhandan, N., Venkataramana, G., Ricketts, C., Ulery, A., Steiner, R. (2006). *Gaining retention and achievement for students program: A faculty development program*. Journal of Professional Issues in Engineering Education and Practice, 132 (3). Downloadable from: http://www.researchgate.net/publication/245291222_Gaining_Retention_and_Achievement_for_Students_Program_A_Faculty_Development_Program

Minter, R. L. (2009). *The paradox of faculty development*. Contemporary Issues in Education Research, 2 (4). Downloadable from: http://www.cluteinstitute.com/ojs/index.php/CIER/article/viewFile/1073/1057

Mooney, K. M., Reder, M. (2008). *Faculty development at small and liberal arts colleges*. In D. R. Robertson, L. B. Nilson (Ed.), *To Improve the Academy: Vol. 26. Resources for faculty, instructional, and organizational development*. San Francisco, CA: Jossey-Bass.

National Commission on Higher Education Attainment. (2013). *An open letter to college and university leaders: College completion must be our priority*. American Council on Education. Downloadable from: https://www.acenet.edu/news-room/Documents/An-Open-Letter-to-College-and-University-Leaders.pdf

Nelson Laird, T. F., Chen, D., Kuh, G. D. (2008). *Classroom practices at institutions with higher-than-expected persistence rates: What student engagement data tell us*. New Directions for Teaching and Learning, 115. Downloadable from: http://www.researchgate.net/publication/229670552_Classroom_practices_at_institutions_with_higherthanexpected_persistence_rates_What_student_engagement_data_tell_us

Olafson, L. J., Schraw, G. (2006). *Teachers' beliefs and practices within and across domains*. International Journal of Educational Research, 45 (1-2).

O'Meara, K. (2005). *The courage to be experimental: How one faculty learning community influenced faculty teaching careers, understanding of how students learn, and assessment*. Journal of Faculty Development, 20 (3). Downloadable from: http://www.education.umd.edu/Academics/Faculty/Bios/facData/CHSE/komeara/TheCouragetobeExperimental.pdf

Ozgun-Koca, S., Sen, A. (2006). *The beliefs and perceptions of preservice teachers enrolled in a subject-area dominant teacher education program about effective education*. Teaching and Teacher Education, 22.

Pas, E. T., Newman, D. S. (2013). *Teacher mentoring, coaching, and consultation*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.
Pascarella, E. T., Terenzini, P. T. (2005). *A third decade of research. V*olume 2 of *How college affects students*. San Francisco: Jossey-Bass.

Perez, A. M., McShannon, J. (2002). *Faculty development program for community college leads to student success*. New Directions for Adult and Continuing Education, 93.

Perez, A. M., McShannon, J., Hynes, P. (2012). *Community college faculty development program and student achievement*. Community College Journal of Research and Practice, 36 (5).

Prawat, R. (2013). *Teacher beliefs about teaching and learning: The role of idea-oriented pedagogy*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Reder, M. (2007). *Does your college really support teaching and learning ?* AAC&U, Peer Review, 9 (4). Downloadable from: https://www.aacu.org/publications-research/periodicals/does-your-college-really-support-teaching-and-learning

Rhoades, G. (2012). *Faculty engagement to enhance student attainment*. Paper prepared for the National Commission on Higher Education Attainment. Downloadable from: https://www.acenet.edu/news-room/Documents/Faculty-Engagement-to-Enhance-Student-Attainment--Rhoades.pdf

Robinson, V. M. J. (2010a). *From Instructional leadership to leadership capabilities: Empirical findings and methodological challenges*. Leadership and Policy in Schools, 9 (1). Downloadable from: http://www.conniekamm.com/sg_userfiles/Vivianne_Robinson_Instructional_Leadership.pdf

Robinson, V. M. J. (2010b). *Researching the impact of leadership practices on student outcomes: Progress made and challenges to overcome*. Asia Leadership Research and Development Roundtable, Hong Kong Institute of Education, Hong Kong. Downloadable from: http://www.ied.edu.hk/apclc/roundtable2010/paper/paper%20(viviane).pdf

Rodgers, R., Christie, J., Wideman, M. (2014). *The effects of a required faculty development program on novice faculty self-efficacy and teaching*. Toronto: Higher Education Quality Council of Ontario. Downloadable from: http://www.heqco.ca/SiteCollectionDocuments/Durham%20Required%20Faculty%20Dev%20ENG.pdf

Ross, J. A. (2013). *Teacher efficacy*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Ross, J. A., Gray, P. (2006). *Transformational leadership and teacher commitment to organizational values: The mediating effects of collective teacher efficacy*. School Effectiveness and School Improvement, 17 (2). Downloadable from: https://tspace.library.utoronto.ca/bitstream/1807/30023/1/Ross%20%26%20Gray%202006b.pdf

Rubie-Davies, C., Hattie, J., Hamilton, R. (2006). *Expecting the best for students: Teacher expectations and academic outcomes*. British Journal of Educational Psychology, 76. Downloadable from: http://www.researchgate.net/publication/6836094_Expecting_the_best_for_students_teacher_expectations_and_academic_outcomes._British_Journal_of_Educational_Psychology_76_429-444

Schleicher, A. (2011). *Is the sky the limit to education improvement?* Phi Delta Kappan, 93 (2). Downloadable from: https://www.edu.gov.on.ca/bb4e/SchleicherKeynote.pdf

Schommer-Aikins, M. (2002). *An evolving theoretical framework for an epistemological belief system*. In B. K. Hofer, P. R. Pintrich (Ed.), *Personal epistemology: The psychology of beliefs about knowledge and knowing*. Mahwah, NJ: Erlbaum. Downloadable from: https://books.google.ca/books?hl=en&lr=&id=dUEeYuvj-PsC&oi=fnd&pg=PA103&dq=Schommer-Aikins,+An+evolving+theoretical+framework+for+an+epistemological+belief+system&ots=qiZ74wWK1r&sig=bwzSl1hA7g5040VkIjLaIswO2Ng#v=onepage&q=Schommer-Aikins%2C%20An%20evolving%20theoretical%20framework%20for%20an%20epistemological%20belief%20system&f=false

Schraw, G., Brownlee, J., Olafson, L. (2013). *Teachers' epistemological beliefs and achievement*. In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Schreiner, L. A., Pattengale, J. (2000). *What is the sophomore slump and why should we care?* In L. A. Schreiner, J. Pattengale (Ed.), *Visible solutions for invisible students: Helping sophomores succeed.* Monograph no. 31. Columbia, SC: University of South Carolina, National Resource Center for the First-Year Experience and Students in Transition.

Schilling K., Schilling, K. L. (1999). *Increasing expectations for student effort*. About Campus. Downloadable from: http://www.sjsu.edu/advising/docs/SchillingxSchilling.pdf

Smyth, E. (2013). *Entry to tertiary education*. In In J. Hattie, E. M. Anderman (Ed.), *International guide to student achievement*. Routledge.

Sorcinelli, M. D. (2002). *Ten principles of good practice in creating and sustaining teaching and learning centers*. In K. H. Gillespie, L. R. Hilson, E. C. Wadsworth (Ed.), *A guide to faculty development: Practical advise, examples, and resources*. Bolton, Mass.: Anker. Downloadable from: http://www.researchgate.net/profile/Mary_Sorcinelli/publication/265655118_Ten_Principles_of_Good_Practice_in_Creating_and_Sustaining_Teaching_and_learning_Centers/links/54d2b7450cf28e06972668f7.pdf

Sorcinelli, M. D. (2007). *Faculty development: The challenge going forward*. AAC&U Peer Review, 9 (4). Downloadable from: http://www.aacu.org/publications-research/periodicals/faculty-development-challenge-going-forward

Sorcinelli, M., Austin, A., Eddy, P., Beach, A. (2006). *Creating the future of faculty development: Learning from the past, understanding the present*. Bolton, MA: Anker Publishing.

Tagg, J. (2003). *The learning paradigm college*. Boston: Anker. Author's presentation on subject consultable at: http://www.oakland.edu/upload/docs/CETL/ConferencePresentationMaterials2014/TaggTheLearningParadigmCollege.pdf

Teacher Training Center for International Educators. (2007). *Professional development that makes a difference*. International Educator, 22 (2).

The New Teacher project (TNTP). (2015). *The mirage: Confronting the hard truth about our quest for teacher development*. Tntp.org. http://tntp.org/assets/documents/TNTP-Mirage_2015.pdf

Tinto, V. (2011). Taking student success seriously in the college classroom. Paper written with support from the Bill & Melinda Gates Foundation. Downloadable from: https://www.league.org/publication/whitepapers/files/20110225.pdf

Tinto, V. (2012). *Completing college: Rethinking institutional actions*. Chicago: The University of Chicago Press.

Tinto, V., Pusser, B. (2006). *Moving From Theory to Action: Building a Model of Institutional Action for Student Success*. National Postsecondary Education Cooperative. Downloadable from: http://web.ewu.edu/groups/academicaffairs/IR/NPEC_5_Tinto_Pusser_Report.pdf

Tobolowsky, B. F., Cox, B. E. (2007). *Shedding light on sophomores: An exploration of the second college year*. Monograph no 47. Columbia, SC: University of South Carolina, National Resource Center for The First-Year Experience & Students in Transition.

Tobolowsky, B. F., Cox, B. E., Wagner, M. T. (2005). *Exploring the evidence: Reporting Research on first-year seminars, Volume III*. The first-year monograph series, no 42. Columbia, SC: University of South Carolina, National Resource Center for The First-Year Experience & Students in Transition. Downloadable from: http://sc.edu/fye/resources/fyr/pdf/FIRST-YEAR%20RESOURCES_update.pdf

Umbach, Paul, Wawrzynski, M. (2005). *Faculty do matter: The role of college faculty in student learning and engagement*. Research in Higher Education, 46 (2). Downloadable from: http://www.researchgate.net/publication/226752079_Faculty_do_Matter_The_Role_of_College_Faculty_in_Student_Learning_and_Engagement

Upcraft, M. L., Gardner, J., Barefoot, B. (2005). *Challenging and supporting the first-year student: A handbook for improving the first year of college*. San Francisco: Jossey-Bass.

Van Note Chism, N. (2008). *The scholarship of teaching and learning: Implications for professional development*. Presentation at the Thai Professional and Organizational Development Network 2-Day Workshop, Bangkok, Thailand. Downloadable from: www.thailandpod.net/.../doc/**SoTL**_talk_ThaiPOD_meeting_Day_1.doc

Walter, C., Briggs, J. (2012). *What professional development makes the most difference to teachers?* Report sponsored by Oxford University Press. University of Oxford Department of Education. Downloadable from: http://www.education.ox.ac.uk/wordpress/wp-content/uploads/2010/07/WalterBriggs_2012_TeacherDevelopment_public_v2.pdf

Ward, K., Trautvetter, L., Braskamp, L. (2005). *Putting students first: Creating a climate of support and challenge*. Journal of College and Character, 6 (8). Downloadable from: http://www.tandfonline.com/doi/pdf/10.2202/1940-1639.1492

Werder, C., Otis, M. M. (Ed.). (2010). Engaging student voices in the study of teaching and learning. Sterling, VA: Stylus. Reese, T., Hutchings, P. (2015). *Faculty and students assessment at the intersection of teaching and learning*. In G. D. Kuh, S. O. Ikenberry, N. A. Jankowski, T. Reese

Cain, P. T. Ewell, P. Hutchings, J. Kinzie (Ed.), *Using evidence of student learning to improve higher education*. National Institute for Learning Outcomes Assessment. Josey-Bass.

Wenger, E. (1998). *Communities of practice: Learning, meaning and identity.* Cambridge, Cambridge University Press.

Wentzel, K. R. (2009). *Students' relationships with teachers as motivational contexts*. In K. R. Wentzel, A. Wigfield (Ed.), *Handbook of motivation*. New York: Routledge. Downloadable from: http://www.ie.ulisboa.pt/pls/portal/docs/1/453424.PDF

Wieman, C., Perkins, K., Gilbert, S. (2010). *Transforming science education at large research universities: A case study in progress*. Change. Downloadable from: http://www.cwsei.ubc.ca/resources/files/WiemanPerkinsGilbert_SEI-Model_Change_Mar-10.pdf

Willcoxson, L., Cotter, J., Joy, S. (2011). *Beyond the first-year experience: The impact on attrition of student experiences throughout undergraduate degree studies in six diverse universities*. Studies In Higher Education, 36 (3).