Keeping Students in by Sending Them out: Retention and Service-Learning

Iris M. Yob*
Walden University, USA

Abstract: This review of recent literature examines the research on the impact of service-learning on student retention. The theoretical framework of the review draws on both Tinto's model of student attrition and Knowles's theory of adult learning, which together suggest that academic and social integration, active participation and engagement in learning, and application and relevancy of the subject-matter under study are key factors in student success. The role of these factors has been confirmed in a growing body of research around learning experiences in general and, as this review shows, particularly in service-learning experiences. Suggestions are made for how future research might expand and critically deepen this evidence and offers some implications for service-learning as a means of improving student retention.

Keywords: retention, service-learning, integration, engagement, relevance

Introduction

In the United States, the numbers of higher education students who drop-out of college or university and fail to graduate successfully have been alarming. The most recent data from the U.S. Department of Education, National Center for Educational Statistics indicate that in Bachelors or equivalent degree programs, only 38.1% of students who enrolled in 2004 were able to graduate within normal completion times; that is, by 2008 (2013, p. 12). In nonprofit private institutions, the completion rates were comparatively better at 52.7%, but in public universities the rate dropped to 31.4%, and in for-profit institutions the rate was as low as 20.3%. Within 150% of normal program completion times, that is by 2010, the overall rate of completion for this cohort for all types of institutions had risen to just over half at 58.4% and in twice the normal program completion time, that is by 2012, it had risen to only 60.9%. Figures for two-year certificate programs were even more alarming, with 21.2% completing in normal program time. The high attrition rates represent a loss of revenue for the institutions that enrolled the students, but of greater concern is the loss in human capital and development these figures suggest.

In the light of these statistics, student retention has been an issue of concern for colleges and universities across the USA for several decades and numerous initiatives have been undertaken to stem the flow of exiting students. Service-learning courses have been one such initiative and claims have been made about the positive impact it has on student retention. Service-learning is a pedagogical approach that connects students with the real needs in the

* Corresponding author (Iris.Yob@waldenu.edu)

community, where they can apply what they are learning in class and bring what they have learned from that experience back to the classroom, so that theory is applied to practice, and practice in turn enriches their knowledge and skills.

This review of the literature over the past decade explores the research findings on the connection between service-learning and student retention, and what some of the practical implications around service-learning might be that can bring about these effects. The review begins with a brief description of service-learning and its theoretical roots. This is followed by an outline of the theoretical framework on which the review is built, a framework which also informs much of the research that explores the connection between participation in service-learning experiences and retention. The review of the actual research begins with an overview of some of the most recent and representative studies that have confirmed the major tenets of the theoretical framework around student retention in settings other than service-learning, followed by a review of the research that explores these same tenets in service-learning, as well as longitudinal and comparative studies around service-learning and retention. The discussion of the findings of this review summarizes the major themes in this research literature, showing support for the notion that taking a service-learning course can have a positive impact on student retention. Suggestions are made about the practical implications of these findings and indicate where further research might be helpful.

At first glance, it may seem that asking students to go the extra step of participating in community service could be adding yet another requirement to their study load and giving them one more reason to drop out of a study program, but it seems that it can have the opposite effect. The research being reviewed here is drawn from settings in the USA because, as in other parts of the world, American higher education is organized and conducted within its own particular social, cultural, economic, historical, and political structures. It should be noted, however, that studies undertaken in other parts of the world around the same topic have in many cases yielded similar results (e.g., Gaines-Hanks & Grayman, 2009 in South Africa; Kesten, 2012 in Turkey; Prasertsang, Nuangchalerm, & Pumipuntu, 2013 in Thailand).

What is Service-Learning?

Service-learning has deep theoretical roots that can be represented by four educational thinkers. John Dewey, an American philosopher and educational theorist, drawing on the principles of both progressive education and pragmatism, was a strong advocate of experiential education; that is "learning by doing" (see *Experience and Education,* 1938), especially in a democratic society where individuals assume responsibilities for the common good (see *Democracy and Education,* 1916). Paulo Freire, a Brazilian educational philosopher with a world-wide influence, proposed the role of education in bringing about social change through active learning (see *Pedagogy of the Oppressed*, 1993).

David A. Kolb, an American educator, brought many of these streams of thought together—experiential learning, individual and social transformation, and professional preparation—by providing something of a blueprint for learning programs that encompassed a cycle of learning moments, including experiencing, reflecting, thinking, and doing/experimenting (see *Experience as the Source of Learning and Development*, 1984). Ernest Boyer became a leading voice in the movement to encourage American universities to bring their resources of

knowledge, research skills, and energies to address community needs in what he called "the scholarship of engagement" (see *Scholarship Reconsidered,* 1990). Together, the ideas of these thinkers provide the philosophical and theoretical undergirding for service-learning, which is a blend of democratic education serving the common good and forging connections among knowledge, skills, and practice.

Service-learning has been actively pursued in American higher education programs for at least three decades and has gained increasing support from numerous sources. For instance, Campus Compact, founded in 1989 by the presidents of three universities, is now a coalition of 1,100 universities and colleges across the USA. The coalition has promoted the adoption of service-learning programs as a key element in carrying out its mission of advancing "the public purposes of colleges and universities by deepening their ability to improve community life and to educate students for civic and social responsibility" (Campus Compact, 2014). Compact members have generally adopted the 1996 definition of service-learning offered by Bringle and Hatcher:

> [It is a] credit-bearing educational experience in which students (a) participate in an organized service activity that meets identified community needs, and (b) reflect on the service activity in such a way as to gain further understanding of curricular content, a broader appreciation of the discipline, and an enhanced sense of personal values and civic responsibility. (as cited in Indiana Campus Compact, 2014)

Furthermore, the National Community Service Act of 1990 defined service-learning as:

> a method (A) under which students or participants learn and develop through active participation in thoughtfully organized service that (i) is conducted in and meets the needs of a community; (ii) is coordinated with an elementary school, secondary school, institution of higher education, or community service program, and with the community; (iii) and helps foster civic responsibility; and (B) that (i) is integrated into and enhances the academic curriculum of the students, or the educational components of the community service program in which the participants are enrolled; (ii) and provides structured time for the students or participants to reflect on the service experience. (42 U.S.C. § 12511(40))

Based on these understandings, service-learning is different from simple volunteering that students might undertake through student organizations and student services in that service-learning is tied in very directly to the academic program. The purposes of service-learning go beyond charitable activity (*doing for*) which may simply maintain the societal status quo to be instead transformative (by *doing with*) for the learners who engage in it and the communities served by it (Harris 2010; Megivern, 2010; Verjee, 2010). Service learning is also different from internships, practica, and field experiences that might be a requirement in a study program, unless the internship is a service to the community, is a direct application of what is being studied in class, and interns have opportunities to reflect on their experience within a learning context and against the backdrop of theoretical knowledge under study (Harris, 2010). In essence, in service-learning there are close and deliberate ties between the academic program and the service program, each one informing the other to develop the knowledge,

skills, and attitudes for civic responsibility and engagement as an outcome of the education the student is receiving.

Theoretical Framework

Research studies on the interplay between student persistence and service-learning have by and large drawn on one of two theoretical perspectives, each one focused on a different demographic in the higher education student population, and this review will take both as foundational. The first of these is Tinto's (1993) model of student retention, in which he proposed that in addition to student entry characteristics (which include the student's family background, gender, race/ethnicity, and precollege experiences), integration is the key to retaining students. Academic integration is accomplished when students have a sense of being successful learners, enjoy their studies, and relate positively to academic norms and values. Social integration is achieved when students have developed some friendships with other students, have had positive and personal contact with teachers and staff members, perceive the university as concerned with their growth and development as students, and are committed to the institution. Draper (2008) has proposed an extension of social integration that is more broadly conceived as "social capital". Social capital comes from a sense of "fit"; that is, a sense that one "fits happily into the role of student" as one understands it for oneself and as one understands others perceive it (2008, para. 14). In other words, social integration is "about fit with the groups the student cares about, both inside and outside the university" (2008, para. 14). In essence, Tinto's model proposes that an individual will persist in college if he is engaged and actively participates as a student, as a friend, and as a citizen of the larger community.

Tinto's model focuses on the college undergraduate, typically students recently transitioning from high school to baccalaureate programs or associate degrees at a college or university. Many students, however, do not fit that profile; that is, older students, sometimes referred to as *non-traditional students* or *adult learners*, the largest growing segment in higher education" (Becket, Refaei, & Skutar, 2012, p. 76), who are returning to university to undertake an undergraduate study program they had either not attempted or not completed when they were younger or to take up graduate studies. For retention purposes, issues of *personal fit* are less important to this group, but other concerns and interests have emerged for them. It is for this group of students that Knowles's theoretical framework is more applicable.

Beginning in the 1970s, Knowles proposed a theory of adult learning, andragogy (teaching methodologies for adults), as opposed to pedagogy (for children), that would best meet the needs of the older student (1980, 1990). Andragogy begins with a recognition of the distinctive features of the adult learner: adults are more likely to be self-directed and internally motivated; they bring to their learning a wider background of experience; they are likely to be goal-directed and ready to learn; they expect their studies to be relevant and immediate; they are practical and prefer hands-on applications of their learning in the solving of problems rather than simply gaining informational content; and they expect a level of respect, even collegiality. The teaching/learning approach that emerges from a consideration of these characteristics is one in which the adult learner is involved in decision-making within her study program; learning through experience; focusing learning on topics of immediate relevance to her personal or professional goals; and a program of study that is problem-centered rather than content-centered.

Each of these theories, Tinto's model of student retention and Knowles's andragogy, have provided a basis for support of the retention potential of service-learning as an effective teaching and learning approach (e.g., Gallini & Moely, 2003), a theoretical framework for guiding the practice of service-learning (e.g., Kelly, 2013), and research into its effectiveness and impact (e.g., Bringle, Hatcher, & Muthiah, 2010; Keup, 2005/2006; McKay & Estrella, 2008). Without drawing too fine a distinction between the traditional undergraduate student and non-traditional or advanced degree students, the two theories together suggest that student participation and engagement in the learning program and with others, the relevance and meaningfulness of the learning, student satisfaction with their learning experience, and student motivation to learn are significant factors in support of student retention.

Method

The literature for this review was identified using the ERIC and Education Research Complete databases, as well as websites and reference lists provided in the identified literature. Searches were conducted using the keywords *service-learning* paired with *retention* and *persistence*. In light of Tinto's model of student retention, additional searches were conducted with *retention* and *persistence* along with *participation*, *integration*, and *student-centered*. Drawing on Knowles's theory of andragogy, searches were also conducted with *retention* and *persistence* paired with *relevance*, *meaning*, *student satisfaction*, and *motivation*.

Articles chosen for the review met the following criteria: they were 1) research-based; 2) set in the context of higher education; 3) conducted in the USA; 4) published since 2003; and 5) peer-reviewed or invited. No exclusions were made based on the discipline or subject-area of the participants or the participants' type of degree or certification program. Ten articles on service-learning and retention and persistence published since 2003 were identified. An additional five articles on the impact of the features of Tinto's and Knowles's models on retention in non-service-learning courses were used as supporting background for the theoretical framework used in the review.

Results

The results of the review will begin with a brief overview of the findings of some of the most recent and representative research that explores the features of Tinto's and Knowles's models and their impact on student retention in non-service-learning settings, since these findings help establish both what features might be key to student retention and also what might be significant about the features the models identify. This will be followed by a closer examination of these same features in the research literature of the past decade in the service-learning setting, identifying in particular how service-learning presents these features and what impact they might have on student retention. This will include a critical examination of the research that has identified the features of service learning that correlate with Tinto and Knowles's models, followed by a study of the impact of service-learning over time, and finally some analyses that have compared the impact of service-learning with other common retention initiatives.

Features of Student Experience That Support Retention

The features of Tinto's model of attrition and Knowles's theory of andragogy have received the attention of researchers looking at retention in higher education. Braxton, Jones, Hirschy, and Hartley (2008) focused on the impact of active learning on students' social integration in the system of the university since, according to Tinto, a student's social integration has a positive impact on his commitment to the university and the likelihood that he will remain at the university (p. 80-81). Much of this positive effect, the researchers in a previous study had determined (Braxton, Milem, & Sullivan, 2000), is mediated by active learning, in this context described primarily as being engaged in classroom discussions. In this 2008 study, with data collection from a cohort of students extending over the course of 2003 and 2004, they extended the 2000 study to include more students—400—and increased the number of institutions from one to eight, using surveys of freshmen at the beginning and end of their first year, but now also including actual enrollment records of the Fall semester after the freshman year (Braxton et al., 2008). Controlling for student entry characteristics as described by Tinto, regression analyses showed that student perceptions of the use of active learning practices had a positive impact on their perceptions of their institution's commitment to student welfare; although, the impact of active learning on overall social integration failed to give a statistically reliable coefficient but student perceptions of university commitment did exert a positive influence on social integration (2008). The researchers also confirmed that social integration is positively related to a student's level of institutional commitment and hence retention. As the results indicated, "a one-unit increase in a student's institutional commitment raises the odds of that student's remaining enrolled at the institution the following semester by 3.08 times" (2008, p. 79). Overall, the study yielded results that support the notion that active learning increases students' social integration and increased social integration has a positive impact on student retention. If simply incorporating classroom discussions as a means of increasing active learning can have a measurable impact on student perceptions of social integration and subsequent re-enrollment, how much impact would the active learning in a service-learning class, which involves project planning, execution, and subsequent reflection, have on student retention? Further, the question also arises whether incorporating the more active learning of service-learning would yield a more statistically reliable measure of the impact on actual student social integration.

While online study programs have not had a good track record in retention, one study looked at the near-perfect retention record of an online program in library media (Meyer, Bruwelheide, & Poulin, 2009). Three factors were found to support this outcome: academic integration built of good relationships with the faculty and the quality of the learning experiences; relevancy of the studies to students' career interests; and the flexibility and accessibility provided by online courses (2009). Of course, a program focused on preparing students for a particular profession, such as library media, would come with a ready-made relevancy for adult learners interested in that career, but not all library media programs have the same graduation rate. In this case, the relevancy factor was carefully designed and, coupled with academic integration, evidently contributed to students' commitment to the program.

Social and academic integration as proposed by Tinto have received a great deal of attention in the research literature. Recently, Woosley and Shepler (2011) looked particularly at the role of integration on first-generation college students; that is, those students who are the first in their families to go to college, and who are at the highest risk of dropping out. They found

that involvement in the campus environment was an important aspect of social integration; commitment to their studies was an important variable in academic integration; social and academic integration were important factors in positive institutional satisfaction; and together these factors may influence persistence (2011). In essence, they found that this student demographic functions in ways similar to non-first-generation students in terms of the importance of academic and social integration (2011).

Jones (2010) also looked at the impact of social integration on commitment to continue in a study program and found that the women students in his sample showed higher levels of social integration than the men, and that it had an even more positive impact on institutional commitment for women than men. This is not to say that social integration is not at all important for the retention of men, but that it is significantly more important for women students. The limitations of this study are that the sample population was heavily weighted with women students enrolled in a system of religiously affiliated colleges, but it does also suggest that not all students will likely be affected by the various features proposed by Tinto and Knowles to the same degree since gender, race, socio-economic status, and ethnicity, for instance, may mediate different responses.

A couple of recent studies have explored the persistence of non-traditional students; that is, students typically over the age of 25, who are fast becoming the majority in undergraduate student bodies. Wyatt (2011) found in surveys and focus group sessions with non-traditional students in a large university in Tennessee that engagement was interpreted individually to mean anything from interactions with faculty, staff, and other students to participation in a campus event. However, by and large they were "more interested in getting the best education their money can buy" (2011, p. 15). In their relationships with others, they most valued "being treated like an adult" (2011, p. 17), which included getting the basic information about policies and practices of the institution and success factors for students, teachers who understand their learning styles as adults and their particular time constraints, and communication. So *engagement* for this student is typically nuanced a little differently from the traditional undergraduate student.

Howell and Buck (2012) also looked at the non-traditional student and what influences course satisfaction for them. Two items were found to be the most significant: subject-matter relevancy, and faculty competence. Class size, faculty-student interaction, and class location did not seem to be influential. Park and Choi (2009) had earlier looked at this same student population in online courses and found differences in the persistent group who reported greater family and organizational support and relevancy in their studies. Relevancy was understood in terms of being "related to their own lives" (2009, p. 214); that is, relevant to their job and connected to their prior learning and experience. These researchers recommend that courses be designed with "learning materials and cases closely related to learners' interests, experiences, goals, and so forth" (2009, p. 215).

This sampling of recent studies not only basically confirms the main propositions supporting student persistence from Tinto and Knowles, they also give some added nuance to how these proposed factors might influence different kinds of students—traditional and non-traditional students, men and women, and first-generation and online learners. This paper turns

now to the matter of retention and service-learning, which purportedly is a teaching-learning approach that has many of the same success factors embedded in it.

Features of service-learning that support retention

Many reports on the impact of service-learning on students are anecdotal, and usually enthusiastic about the positive results service-learning courses can produce for the student, the community, and the university (e.g., Evenbeck & Hamilton, 2006, Miller & Spence, 2007). Many of the claims made in this literature have been examined more rigorously in research studies including the impact of service-learning on retention, which has been examined for a number of years (e.g., Astin & Sax, 1998).

A study which picks up this theme at the beginning of the decade under review is Gallini and Moely (2003), who built on earlier studies which found that service-learning increased a student's engagement with the community outside of the university, as seen in their greater understanding of issues and problems in the community, a greater appreciation of and ability to relate to cultural and racial difference, an enhanced belief in their ability to make a difference, a deeper commitment to community service, and a stronger tendency to choose helping careers. Although, on the downside, service-learning courses not conducted well had been found to reinforce negative or stereotypical views of other people in the community or give students an exaggerated sense of their importance to the exclusion of other service providers (2003). Previous studies cited in their work also had demonstrated that service-learning may have a positive impact on a student's academic participation as well, as seen in improved understanding of course content and improved course grades; though, this latter finding did not always hold (2003). These past studies also showed that service-learning could impact a student's interpersonal engagement as well, since the course encouraged interaction with peers and faculty members.

The question Gallini and Moely (2003) addressed was whether the purported enhanced community engagement, academic participation, and interpersonal engagement in service-learning impacted retention as Tinto proposed. Students in one university drawn from across the disciplines completed questionnaires, 142 had participated in a service-learning course and 171 students had not. Students with service-learning experience evaluated their courses more positively, specifically scoring significantly higher on community, academic, and interpersonal engagement. They also rated their courses higher on academic challenge and indicated a higher impact of the course on their continuing study at the university. When a mediation model was applied, the prediction of retention was reduced but academic engagement and academic challenge remained as significant predictors of retention. One limitation in the study noted by Gallini and Moely was that no account was made of the possible difference between students who choose service-learning courses and those who do not. It is not difficult to imagine that they may already be more sensitive to and engaged with the local community, and possibly more enthusiastic about their studies. They may also have enrolled with a background of experience in community service from their previous high schools, churches, or other organizations. In their study there was no pre-test/post-test but simply a single survey given in the second semester. Most of the future studies, as will be shown, used data from two surveys, one at the beginning and another at the end of a student's freshman year to control for some of these potential differences. This study was one of the first to use a mediation model as well, a process that was

replicated in most of the subsequent studies on the relationship between service-learning and retention. The mediation model as a data analysis approach can identify the particular, salient factors in service-learning that are shown to impact retention. In the Gallini and Moely study, the specific factors of service-learning that impacted retention were academic challenge and engagement. Future studies would show that other factors also have a significant impact on retention.

One of the realities of higher education in North America in the 21st century is the continuing growth of traditionally underrepresented students, including ethnic minorities and women in some fields that have been male-dominant. The University of Michigan addressed the retention needs of these students in its engineering program by introducing three initiatives, one of which was service-learning, that gave students the option of developing greenhouses for local schools and community service facilities in combination with their studies (Davis & Finelli, 2007). A greater proportion of women students and students of color enrolled in the service-learning option than their proportion in the student body, which may indicate that for these students the service-learning option is appealing (2007). The same instructor taught both the service-learning course and the non-service-learning option and yet the student evaluations of the two courses yielded significantly different results, demonstrating greater satisfaction, enhanced social awareness, and more relevance in the service-learning course (2007). A confounding factor in a study such as this, however, is the possibility of a *halo effect*: a course with a new approach may bring with it new energy, enthusiasm, and commitment to the course's success on the part of the instructor, which may in turn give rise to greater satisfaction with the course on the part of students, regardless of the course innovation.

Tinto identified student family background as one significant factor that affected a student's persistence at college or university where first-generation students, those students whose parents have not completed a tertiary education program, are the most at risk. McKay and Estrella (2008), quoting 2005 statistics that suggested 43% of first-generation students vs. 20% of other students leave before graduating, and earlier studies that supported the idea that social and academic integration could have a positive effect on student retention, asked "to what degree, then, do service-learning courses offer the opportunity for first-generation students to experience academic and social integration, and ultimately academic success?" (p. 358). Their sample size was relatively small and drawn from one large university. They employed several instruments, some developed for this study and others already in use, some of which were more effective and reliable than others, to measure quality of interaction with faculty, academic interaction, social integration, and academic goals, complemented by open-ended questions to provide narrative responses. Their study showed that interaction with faculty:

> appear[ed] to be a significant factor in realizing academic and social integration for first-generation students" and that the quality of those interactions impacted the students' perception that they would accomplish their goals, and that "service-learning may be a link in facilitating this process". (2008, p. 367)

Further, the actual community experiences reportedly helped them remain motivated about their studies and the relationship with other students, and the faculty member in processing their service experiences bolstered their academic understandings and personal growth.

Another study, a "justice-learning" approach to first-year retention, focused on low-income, first-generation college students using service-learning (Conley & Hamlin, 2009). In this approach, the students explored issues of power, privilege, and difference in a seminar and participated in two Saturday morning service engagements. The sample was small, just an initial group of five students at a satellite women's college campus in a large city, who for unforeseen circumstances became three, but the data gathering was rich, including individual surveys, informal interviews, formal group interviews, observations, and artifacts such as course assignments, emails, journal entries, and so on. The researchers found that the seminar/service activity around social justice gave these students among other things a sense that they could succeed in a college environment, with a greater sense of self-efficacy and personal agency; although, they also acknowledge that the sample size would preclude forming broad generalizations based on their findings (2009). It was also impossible to disaggregate the effects of the service-learning component on the students' retention from those of the class work; though, in service-learning approaches, what is learned in class is deliberately connected with the out-of-class service.

Combining the themes of first-generation and low-income students, Yeh (2010) explored whether service-learning would have a similar impact on retention for students in this demographic as it does for white, middle-class students. Using a small purposive sample for exploratory purposes, she interviewed the students and their program directors, reviewed documents, and observed students in class and at the service site. The study showed positive results in building students' skills and understandings that relate to social and cultural integration; in developing resilience which is consistent with theories of retention; in finding the learning meaningful, which as Yeh remarked does not necessarily connect with Tinto's theoretical framework although, as noted earlier, it does connect with Knowles's andragogy; and in developing a greater awareness of social and political realities and the importance of their questioning the status quo and participating in social change (2010). This was an exploratory study and, as Yeh suggests, needs to be followed by wider sampling, including students who had negative experiences in their service-learning or who failed to persist to graduation.

Bringle, Hatcher, and Muthiah (2010), using a large data set from student surveys conducted at the beginning and end of the freshman year and second-year re-enrollment data from registrars at participating colleges and universities from Indiana Campus Compact member institutions, concluded that "[r]e-enrollment was found (a) to be mediated by post-course intentions to graduate from that campus, and (b) related to enrollment (vs. not enrolled) in service-learning" although, this latter relationship was affected by pre-course intentions (p. 45). Further, intention to stay at that campus was impacted positively by service-learning experiences and the quality of those experiences (2010, p. 45). Significantly, students reported that service-learning courses were "better educational experiences" than non-service learning courses (p.45). "Better educational experiences" was a "composite measure that included extent of peer interaction, extent of faculty interaction, course satisfaction, perceived learning, degree of active learning, and personal relevance" (p. 45), each of which reflect particularly Tinto's model of retention or Knowles's model of adult learning, and which Bringle, Hatcher, and Muthiah proposed make service-learning a "powerful pedagogy" (p. 45).

Impact of service-learning over time

While earlier studies looked at the intention to remain enrolled and actual continuation of enrollment from the first year to the second for students enrolled in service-learning courses, researchers at California State University-Fresno were able to use institutional data to track students over five years to get an overall picture of the impact of service-learning courses compared with non-service-learning courses on student persistence to graduation as well as on student personal growth and job-related skills (Leimer, Yue, & Rogulkin, 2009). They found that students who took a service-learning class had higher four-year and five-year graduation rates, even when controlling some of the other factors that could have an influence such as gender and ethnicity; although, a student's preparation for college had a stronger influence than participation in service-learning (2009). The more immediate impact of the service-learning course taken during the first year increased the odds of returning for the second year by 1.474, regardless of SAT and high school GPA scores (2009, p. 4). Seniors who took a service-learning course were also more likely to complete their studies successfully within a year than students who had never enrolled in a service-learning course and, of the seniors who did not complete within a year, those who took a service-learning course were more likely to persist than comparable non-service-learning students (2009, p. 4). This is one of few studies in the decade that actually looked at long-term persistence records, but as the researchers noted, the institutional records they used do not provide information on the quality of either the service-learning and non-service learning courses, or on potentially influential factors such as students' past experience with community service, commitment to complete their courses, or worldviews that might encourage serving the common good (2009, p. 10). Furthermore, it should be added that the data did not disclose the factors that might be significant in service-learning that link it to student retention. Despite these limitations, the researchers concluded "Service Learning helps students succeed" (2009, p. 10).

Impact of service-learning compared with other retention initiatives

Service-learning is one of several strategies universities and colleges have adopted in the U.S. to stem the loss of students, especially in the first year of their program. Some studies during the decade under review compared the effectiveness of the various strategies being adopted. For instance, Keup (2005/2006), responding to the national statistics on undergraduate attrition in the USA, which gave figures in 2003-2005 ranging from 20% to 70% student loss depending on the type of institution and the control of and criteria used for admissions, the largest proportion of which occurred during the first year up until the beginning of the second-year in four-year programs, addressed the issue more directly. She examined the impact of several curriculum interventions that had been implemented to address this loss: first-year seminars, communities of practice, and service learning. Using Tinto's model as a theoretical foundation and data from two surveys by the Cooperative Institutional Research Program for freshman students at the beginning and end of their first year at universities and colleges around the country, she applied multivariate analysis of the descriptive findings to determine if there were a relationship between the three curriculum interventions and the intention of students to re-enroll in the second year. Her findings suggested that "the three curricular programs may facilitate specific institutional experiences that lead to the decision to persist" (2005/2006, p. 73); although, there was some question about whether these curricular programs served "as a direct conduit to retention" (p. 73). Certainly, engaging in each of the

interventions yielded statistically significant differences in factors related to student engagement: "faculty interaction, academic engagement and performance, and interaction with peers and the campus community" (p. 72). Using logical regression analyses, she discovered that "participating in service-learning appears to increase the odds of stating an intention to re-enroll for a second year by 14%" (p. 76); although, again the impact of service-learning may be indirect and mediated, suggesting that it "seems to facilitate good academic practices that, in turn, positively impact the intent to return for a second year" (p. 77). She concluded that "service-learning may be a particularly salient means of facilitating interaction with faculty" (p. 81), which Tinto theorized is one significant factor in student retention. In conclusion, she found that of the three curriculum interventions, service-learning was "the sole predictor of the intention to re-enroll" (p. 82), even though the impact of service-learning was mediated through student-faculty interactions and positive academic experiences.

More recently, studies of the student experience have begun to look at what has been identified as *high impact practices* or HIPs, an expression first coined and described in a publication by the Association of American Colleges and Universities, *High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter* (Kuh, 2008). HIPs are pedagogies that require active engagement on the part of students and, as Kuh showed, particularly Hispanic and African-American students and students with low scores on the college entrance examination (ACT). The pedagogies identified are first year seminars for small groups of students with a faculty member, a common core of intellectual experiences both curricular and co-curricular, learning communities where the *big questions* are explored in a set of integrated courses, writing-intensive courses or writing across the curriculum, collaborative assignments and projects, research opportunities for under-graduates, diversity or global learning often involving study abroad, internships, capstone courses and projects, and service-learning or community-based learning (Kuh, 2008).

Using large data sets from the National Survey of Student Engagement collected from thirty-eight colleges and universities in three states, with information collected from focus groups, Finley and McNair (2013) further explored the impact of these HIPs on underserved students. The quantitative data revealed that all types of students perceived that participation in one or more HIPs increased their engagement and "deep learning" (2013, p. 9); that is, knowledge that is better understood and remembered, and that the reported gains in the areas of general education, practical competence, and personal and social development. It was also apparent that the more HIPs a student participated in the greater the increase in these effects (p. 9-10). Furthermore, the effect was greatest when the HIP was a service-learning course (p. 9). The qualitative data suggested that HIPs were seen to align closely to preparation for the work force and participation as a citizen (p. 23-29). The interviews and discussions with students also revealed some of the obstacles students face when participating in HIPs, providing a timely warning that offering a course like a service-learning course is not guarantee of good results—the service-learning needs to be conducted and managed well (p. 29-30). Like many studies, this one drew conclusions based entirely on student perceptions. It did not examine retention per se, but did look at student perceptions of their active engagement with learning, a factor identified particularly by Tinto as a having a significant impact on retention. Overall, this study encourages us to see the value of offering high-engagement courses and other learning experiences, and the particular value of service-learning courses as one kind of engaging student experience.

Discussion

Throughout the decade under review, there were contributions to a growing body of research around the theoretical propositions about retention and the learning needs of students in higher education that could lead to student success. In particular, social and academic integration, active learning, and practical relevancy of the learning were key factors in this literature. These factors were shown to be significant for the retention of undergraduates, non-traditional learners, women students, first-year students, and first-generation students. This review of the literature on service-learning confirmed that these were also significant features of the service-learning approach and that they aided in the retention of students.

The research on service-learning and student persistence over this period generally followed one of two lines of inquiry, with several studies incorporating both lines. One line looked at the features of service-learning that seemed to encourage retention and the other looked at the impact of service-learning on the retention of students over time. The majority of studies followed the first line of inquiry and provided evidence of improved retention rates linked to the features identified by Tinto or adult learning theory. During this past decade, studies gave evidence that service-learning provided opportunities for close association with faculty members especially on service trips and in the reflection exercises afterward, with peers, and the community, finding real-world applications from the subject-matter studied in class that gave meaning to the studies, hands-on practice of skills needed to meet career goals, and active participation and engagement with the subject matter were key elements in making service-learning a measurable force in building motivation and promoting persistence. Given the theoretical base of these studies (eight of the nine studies reviewed incorporated the ideas of Tinto in their theoretical framework and several reflected the principles of andragogy directly or indirectly) it is not surprising that these features surfaced. And since these features have been found to be effective in promoting student success, it is also not surprising that they also promoted student success when embedded in the pedagogy of service-learning.

The second line of inquiry looked at the impact of service-learning, not so much in terms of what service-learning could provide in the way of features deemed necessary for student success, but in terms of its impact over time on student persistence. The earliest step in this line of inquiry was to collect data on just one occasion in students' first year at college or university (e.g., Gallini & Moely, 2003; McKay & Estrella, 2008), but this was found to be an inadequate gauge of retention because it did not control for prior intentions and did not follow the impact on retention beyond the immediate experience of the course. The next round of studies took measures of students' commitments to return early in the first year and again at the end of the year to control for these confounding factors (e.g., Keup, 2005/06), but again these studies failed to go beyond what a student intended to do about re-enrollment in the following year. The next step in this sequence added data on the actual re-enrollment of students in the second year (Bringle, Hatcher & Muthiah, 2010) and found that the relationship between taking a service learning course and retention was positive, even if weakly so. One study took an even longer view of the retention impact of service learning courses by reviewing data collected between 2003 and 2008 following an entering cohort of students through to their fourth or fifth year (Leimer, Yue, & Rogulkin, 2009). The researchers in this study found strong evidence of a long-range impact on taking a service-learning course early in the program and a measurable impact even when that course was taken in the senior year.

Practical Implications

The findings of the studies reviewed here suggest a number of practical implications for improving the retention of students through the deployment of service-learning opportunities.

1. Service-learning opportunities are one option colleges and universities might consider when seeking to improve student retention, especially in the early undergraduate years. As this review has shown, enrollment in service-learning courses has a consistent record of improving student intention to persist and the actual retention of students. This effect has been credited in large part to the features of service-learning: its activities encourage student integration socially and academically in the university or college community, the local community where the service is conducted, and in relationships with faculty and peers; engagement and participation in learning activities both at the service-site and in the follow-up reflection exercises; and the meaning and relevance that come from applying course content to address needs in the *real world*.

2. All elements of the service-learning model have a role to play in promoting persistence: application of subject-matter to meet actual needs in the community; hands-on service projects; and teacher-led and guided reflection on activities to follow-up on the service. Each of these activities contributes to students' social or academic integration, or adds meaning and relevance to the study, or promotes students' engagement with and participation in the learning.

3. Many elements of current curricula and co-curricula hold promise for being readily adapted as service-learning activities: field work, internships, and practica connect learning in class with applications outside of class. If internships incorporated some elements of service and were not limited in focus to the students' personal and professional development, and if the reflection components were required, they could be not only professional learning experiences but also stronger service experiences. A service element brings something extra to the experience gained from the usual internship or practicum: the added challenge of not just doing but of doing something for others, of not just applying one's knowledge but doing so in a way that makes a difference. Then, too, many student groups are already engaged in service projects voluntarily. If these activities were to be informed by what students are studying and the students could participate in guided reflection on what they learn from these activities, these service experiences could become even stronger learning experiences as well.

4. While there is no suggestion in any of these studies that service-learning courses should be made mandatory for all students, as optional learning opportunities they may have particular relevance to meeting the needs of first-year and first-generation students, women students, and possibly other groups of students as well; although, it should be noted that while service-learning has particular benefits in retention for some identifiable sub-groups in the student body, its positive effects on all students have been documented.

5. Service-learning courses have an impact on student retention even as late as the senior year so, even though the highest drop-out rates occur in the first-year, opportunity for

this kind of learning may have relevance for persistence throughout the undergraduate years and possibly beyond in graduate programs.

Recommendations for Future Research

The two lines of inquiry represented by the studies reviewed here—the features of service-learning and the long-term impact of taking a service-learning course—have not yet been integrated in a single study. This gap raises some important questions: Are features such as academic and social integration, meaningfulness and relevancy, and active learning and participation similarly significant in retaining students in later years as they have been shown to be in the first-year experience or do some take on increasing or decreasing significance as students move through each of the years of their program? It is assumed that service-learning courses are important in retaining first-year students when the drop-out rates are highest, but how important are they for retaining students in all the years of their program? In other words, does service-learning have long-term relevance in supporting student retention and if so, what is it about service-learning that makes it relevant at different points in the students' academic journey?

Very little research has been conducted on the question of the quality of service-learning courses and their impact on student persistence. Do some practices lead to greater course satisfaction and retention than others? How much service, and how many service-learning courses should be considered to maximize retention? Should service-learning courses be mandatory or not?

While service-learning has been shown to have similar but different impacts on retention of students of different gender and family background, other differences among students, such as age of the student and ethnicity, should also be investigated. Some studies have been conducted for these different groups in relation to other features supporting retention (e.g., Howell & Buck, 2012; Jones, 2010; Wyatt 2011), and identified some nuanced differences for different groups of students, but not in relation to service-learning.

Service-learning as a pedagogy is being adopted and researched across many disciplines, for example, see Amerson (2012) in nursing; Brescia, Mullins, and Miller (2009) in instructional technology; Cadwallader, Atwong, and Lebard (2013) in marketing; Calvert, Kurji, and Kurji (2011) in accounting; Caro, Lirette, and Yest (2013) in business; Davis and Finelli (2007) in engineering; Desmond and Stahl (2011) in human services; Eudey (2012) in women's and gender studies; Frank, Omstead, and Pigg (2012) in correctional education; Garcia-Contreras, Faletta, Krustchinsky, and Barnes (2013) in mathematics education; Kearney (2013) in pharmacy; Kesten (2012) in teacher preparation; Lowery (2007) in statistics; Mink and Twill (2012) in social work; Ogeyik and Guvendir (2009) in foreign language learning; Simon, Yack, and Ott (2013) in public administration; Simon, Wee, Chin, Tindle, Guth, and Mason (2013) in environmental sciences; Sterling (2007) in interior design; VanDette (2010) in literature studies; and Videtic (2009) in fashion design and merchandising. Allowing that the disciplines have their own specific subject-matter, structures of knowledge, goals and purposes, methods of inquiry, and ultimate questions, what is the specific impact of service-learning in each of these disciplines, and what particular service-learning practices best support retention as well as the knowledge tradition in them?

Most of the retention literature around service-learning is focused on the undergraduate in traditional programs. As graduate studies continue to grow in necessity and enrollment, does service-learning at the Masters and even the doctoral level address learner's needs and enhance their persistence? Certainly, service-learning is being applied in more Master's degree programs—see, for example, Brescia, Mullins, and Miller (2009); Hagan, (2012); Harris (2010); Lowery (2007); Maccio (2011); Simon, Yack, and Ott (2013). Increasing too are the numbers of e-service-learning opportunities being offered. Do these courses have a similar impact on retention as traditional face-to-face service-learning courses and how can the features of service-learning that are known to support retention be implemented in the online mode of teaching-learning?

A remaining question emerges from this review about service-learning *per se* which warrants the attention of researchers. Colleges and universities may be interested in service-learning because it features interpersonal interaction, engagement and participation, practical application, and personal meaningfulness, which have been shown to have a positive impact on student retention. However, the essence of service-learning is both educative and contributive; it is a way to learn and a way to contribute to the common good and serve the needs of others. The latter addresses the realm of values, responsibilities, attitudes, and even ethics. Can this cluster of the affective attributes of service-learning contribute to the impact of service-learning on persistence and student success, not only in student academic programs, but also in preparing them for their chosen careers and their place in society? That is, does involvement in a service component as part of the learning program also attract and retain students?

Conclusion

The purpose of this review was to discover the trends in research findings about the link between enrollment in service-learning courses and the retention of students. The features proposed by theorists such as Tinto and Knowles—academic and social integration, engagement with the subject-matter and participation in the learning process and course content that has relevance and application—have been shown to contribute to student retention generally. This review evidences that these same features particularly apply to service-learning for they intrinsically characterize and define service-learning. Service-learning has been shown to have a positive influence on retention of students during their first year and beyond, with marked impact on some students in particular, including women and first-generation students. While there are still significant questions to be addressed by research, there is ample evidence already that service-learning can have a measurable and positive impact on students' commitment to continue.

References

Amerson, R. (2012). The influence of international service-learning on transcultural self-efficacy in Baccalaureate nursing graduates and their subsequent practice. *International Journal of Teaching and Learning in Higher Education*, *24*(1), 6-15. Retrieved from http://www.isetl.org/ijtlhe/

Astin, A. W., & Sax, L. J. (1998). How undergraduates are affected by service participation. *Journal of College Student Development, 39*(3), 251-263. Retrieved from http://www.coastal.edu/

Becket, D., Refaei, B., & Skutar, C. (2012). A faculty learning community's reflection on implementing service-learning goals. *Journal of the Scholarship of Teaching and Learning*, *12*(1), 74-86. Retrieved from http://josotl.indiana.edu/

Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate.* Princeton, N.J.: Carnegie Foundation for the Advancement of Teaching.

Braxton, J. M., Jones, W. A., Hirschy, A. S., & Hartley H. V. (2008). The role of active learning in college student persistence. *New Directions for Teaching and Learning, 115*, 71-83. http://dx.doi.org/10.1002/tl.326

Braxton, J. M., Milem, J. F., & Sullivan, A. S. (2000). The influence of active learning on the college student departure process: Toward a revision of Tinto's theory. *Journal of Higher Education, 71*(5), 569-590. http://dx.doi.org/10.2307/2649260

Brescia, W., Mullins, C., & Miller, M. (2009). Project-based service-learning in an instructional technology graduate program. *International Journal for the Scholarship of Teaching and Learning*, *3*(2), 1-12. Retrieved from http://digitalcommons.georgiasouthern.edu/ij-sotl/

Bringle, R. G., Hatcher, J. A., & Muthiah, R. N. (2010). The role of service-learning on the retention of first-year students to second year. *Michigan Journal of Community Service Learning*, *16*(2), 38-49. Retrieved from http://ginsberg.umich.edu/mjcsl/

Cadwallader, S., Atwong, C., & Lebard, A. (2013). Proposing community-based learning in the marketing curriculum. *Marketing Education Review*, *23*(2), 137-150. http://dx.doi.org/10.2753/MER1052-8008230203

Calvert, V., Kurji, R., & Kurji, S. (2011). Service learning for accounting students: What is the faculty role? *Research in Higher Education Journal*, *10,* 1-11. Retrieved from http://www.aabri.com/rhej.html

Campus Compact. (2014). *Who we are*. Retrieved January 20, 2014, from http://www.compact.org/

Caro, C. A., Lirette, K., & Yest, M. (2013). Redesigning MGMT 4010S: Creating a course of social responsibility and social justice. *American Journal of Business Education*, *6*(2), 155-159. Retrieved from http://journals.cluteonline.com/index.php/AJBE.

Conley, P. A., & Hamlin, M. L. (2009). Justice-Learning: Exploring the efficacy with low-income, first-generation college students. *Michigan Journal of Community Service Learning*, *16*(1), 47-58. Retrieved from http://ginsberg.umich.edu/mjcsl/

Davis, C.-S. G., & Finelli, C. J. (2007). Diversity and retention in engineering. *New Directions for Teaching and Learning*, *2007*(111), 63-71. http://dx.doi.org/10.1002/tl.287

Desmond, K. J., & Stahl, S. A. (2011). Implementing service learning into human service education. *Journal of Human Services*, *31*(1), 5-16. Retrieved from http://www.nationalhumanservices.org/journal-of-human-services

Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. New York, NY: Free Press.

Dewey, J. (1938). *Experience and education.* New York, NY: Collier Books.

Draper, S.W. (2008). Tinto's model of student retention. Retrieved October 2013 from http://www.psy.gla.ac.uk/~steve/localed/tinto.html

Evenbeck, S., & Hamilton, S. (2006). From "My Course" to "Our Program": Collective responsibility for first-year student success. *Peer Review*, *8*(3), 17-19.

Eudey, B. (2012). Civic engagement, cyberfeminism, and online learning: Activism and service learning in Women's and Gender Studies courses. *Feminist Teacher*, *22*(3), 233-250. http://dx.doi.org/10.5406/femteacher.22.3.0233

Finley, A., & McNair, T. (2013). *Assessing underserved students' engagement in high impact practices*. Washington, DC: Association of American Colleges and Universities. Retrieved from https://www.aacu.org

Frank, J. B., Omstead, J., & Pigg, S. (2012). The missing link: Service-learning as an essential tool for correctional education. *Journal of Correctional Education*, *63*(1), 24-34. Retrieved from http://www.ceanational.org/journal.htm

Freire, P. (1993). *Pedagogy of the oppressed* (20th ed). New York, NY: Continuum.

Gaines-Hanks, N., & Grayman, N. (2009). International service-learning in South Africa and personal change: An exploratory content analysis. *NASPA Journal*, *46*(1), 72-93. http://dx.doi.org/10.2202/1949-6605.5006

Gallini, S., & Moely, B. (2003). Service-learning and engagement, academic challenge, and retention. *Michigan Journal of Community Service Learning, 10*(1), 5-14. Retrieved from http://ginsberg.umich.edu/mjcsl/

Garcia-Contreras, R., Faletta, J., Krustchinsky, R., & Barnes, P. (2013). A microcredit program, a math education initiative and service-learning: Matching a university's mission to greater community needs. *New Horizons in Education*, *61*(1), 11-22. http://www.hkta1934.org.hk/NewHorizon/index2.html

Hagan, L. M. (2012). Fostering experiential learning and service through client projects in graduate business courses offered online. *American Journal of Business Education*, *5*(5), 623-632. Retrieved from http://journals.cluteonline.com/index.php/AJBE

Harris, C. (2010). Active democratic citizenship and service-learning in the postgraduate classroom. *Journal of Political Science Education*, *6*(3), 227-243. http://dx.doi.org/10.1080/15512169.2010.494475

Howell, G. F., & Buck, J. M. (2012). The adult student and course satisfaction: What matters most? *Innovative Higher Education*, *37*(3), 215-226. http://dx.doi.org/10.1007/s10755-011-9201-0

Indiana Campus Compact. (2014). *Definitions*. Retrieved 2014, from http://www.indianacampuscompact.org

Jones, W. (2010). The impact of social integration on subsequent institutional commitment conditional on gender. *Research in Higher Education*, *51*(7), 687-700. http://dx.doi.org/10.1007/s11162-010-9172-5

Kelly, M. J. (2013). Beyond classroom borders: Incorporating collaborative service learning for the adult student. *Adult Learning*, *24*(2), 82-84. http://dx.doi.org/10.1177/1045159513477844

Kearney, K. R. (2013). Impact of a service-learning course on first-year pharmacy students' learning outcomes. *American Journal of Pharmaceutical Education*, *77*(2), 1-7. http://dx.doi.org/10.5688/ajpe77234

Kesten, A. (2012). The evaluation of community service-learning course in terms of prospective teachers' and instructors' opinions. *Educational Sciences: Theory and Practice*, *12*(3), 2139-2148. Retrieved from http://www.edam.com.tr/kuyeb/en/default.asp

Keup, J. R. (2005/2006). The impact of curricular interventions on intended second year re-enrollment. *Journal of College Student Retention,* 7(1/2), 61-89. http://dx.doi.org/10.2190/2DCU-KABY-WVQH-2F8J

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Knowles, M. S. (1980). *The modern practice of adult education: From pedagogy to andragogy* (Rev. and updated ed.). Chicago, IL: Follet Pub. Co.

Knowles, M.S. (1990). *The adult learner: A neglected species* (4th ed.). Houston, TX: Gulf Pub. Co..

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

Leimer, C., Yue, H., & Rogulkin, D. (2009). *Does service learning help students succeed? Assessing the effects of service learning at California State University-Fresno*. Fresno, CA: California State University-Fresno, Office of Institutional Effectiveness. Retrieved from http://www.fresnostate.edu/academics/oie

Lowery, D. (2007). Community-based quality of life indicators: A service-learning exercise in a graduate statistics class. *Journal of Public Affairs Education*, 13(2), 425-438. Retrieved from http://www.naspaa.org/initiatives/jpae/jpae.asp

Maccio, E. M. (2011). Graduate social work students' attitudes toward service-learning. *Journal of Teaching in Social Work*, 31(2), 163-177. http://dx.doi.org/10.1080/08841233.2011.560539

McKay, V. C., & Estrella, J. (2008). First-generation student success: The role of faculty interaction in service learning courses. *Communication Education*, 57(3), 356-372. http://dx.doi.org/10.1080/03634520801966123

Meyer, K. A., Bruwelheide, J., & Poulin, R. (2009). Why they stayed: Near-perfect retention in an online certification program in library media. *Journal of Asynchronous Learning Networks*, 13(3), 129-145. Retrieved from http://sloanconsortium.org/publications/jaln_main

Megivern, L. E. (2010). Political, not partisan: Service-learning as social justice education. *Vermont Connection*, 31, 60-71. Retrieved from http://www.uvm.edu/~vtconn/

Miller, H., & Spence, S. (2007). *Places--and faces--that foster student success. Lumina Foundation Lessons, Spring 2007*. Lumina Foundation for Education. Indianapolis, IN: Lumina Foundation for Education. (ERIC Document Reproduction Service No. ED497034)

Mink, T., & Twill, S. (2012). Using service-learning to teach a social work policy course. *Journal of Community Engagement and Scholarship*, 5(1), 5-13. Retrieved from http://jces.ua.edu/

National and Community Service Act of 1990, 42 U.S.C. §§ 12501-12681 (1990).

Ogeyik, M., & Guvendir, E. (2009). Service learning in distance education: Foreign language learning environments. *Turkish Online Journal of Distance Education*, 10(1), 9-20. Retrieved from http://tojde.anadolu.edu.tr/

Park, J.-H., & Choi, H. J. (2009). Factors influencing adult learners' decision to drop out or persist in online learning. *Journal of Educational Technology and Society*, 12(4), 207-217. Retrieved from http://www.ifets.info/

Prasertsang, P., Nuangchalerm, P., & Pumipuntu, C. (2013). Service learning and its influence on pre-service teachers: A study of social responsibility and self-efficacy. *International Education Studies*, *6*(7), 144-149. http://dx.doi.org/10.5539/ies.v6n7p144

Simon, C. A., Yack, M., & Ott, J. S. (2013). MPA program partnerships with nonprofit organizations: Benefits to MPA programs, MPA students and graduates, nonprofit organizations, and communities. *Journal of Public Affairs Education, 19*(2), 355-374.

Simon, G. L., Wee, B., Chin, A., Tindle, A., Guth, D., & Mason, H. (2013). Synthesis for the interdisciplinary environmental sciences: Integrating systems approaches and service learning. *Journal of College Science Teaching*, *42*(5), 42-49. Retrieved from http://www.nsta.org/college/

Sterling, M. (2007). Service-learning and interior design: A case study. *Journal of Experiential Education*, *29*(3), 331-343. http://dx.doi.org/10.1177/105382590702900305

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.)*.* Chicago, IL: University of Chicago Press.

U.S. Department of Education, National Center for Educational Statistics. (2013). *Enrollment in postsecondary institutions, Fall 2012; Financial statistics, fiscal year 2012; Graduation rates, selected cohorts, 2004-09; and Employees in postsecondary institutions*. Retrieved from http://nces.ed.gov

VanDette, E. E. (2010). Engaging American literature: Connecting students and communities. *Teaching American Literature*, *4*(1), 73-101. Retrieved from http://cpcc.edu/taltp

Verjee, B. (2010). Service-learning: Charity-based or transformative? *Transformative Dialogues: Teaching and Learning Journal*, *4*(2), 1-13. Retrieved from http://www.kpu.ca/td

Videtic, K. (2009). Service learning: Opportunities for deep learning in fashion design and merchandising education. *International Journal of Learning*, *16*(7), 397-403. Retrieved from http://www.Learning-Journal.com

Woosley, S. A., & Shepler, D. K. (2011). Understanding the early integration experiences of first-generation college students. *College Student Journal*, *45*(4), 700-714. Retrieved from http://www.questia.com/library/p1917/college-student-journal

Wyatt, L. G. (2011). Nontraditional student engagement: Increasing adult student success and retention. *Journal of Continuing Higher Education*, *59*(1), 10-20. http://dx.doi.org/10.1080/07377363.2011.544977

Yeh, T. (2010). Service-learning and persistence of low-income, first-generation college students: An exploratory study. *Michigan Journal of Community Service Learning*, *16*(2), 50-65. Retrieved from http://ginsberg.umich.edu/mjcsl/