Resiliency and Retention in Veterans Returning to College: Results of a Pilot Study
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Abstract

The intent of this pilot program of studies is to transition returning veterans into an academic setting by establishing an academic and social framework to foster resiliency and retention. This curriculum, composed of three courses addressing resiliency, learning-teaching, and leadership, uses a recovery model approach. The program was repeated over two semesters with veteransonly cohorts. The two cohorts demonstrated significant gains in resiliency and unanimously perceived the courses as having improved their likelihood of completing college. Early results show good retention and a strong perception of success and likelihood of graduation.

Key words: veteran education, PTSD, resiliency, retention, instructional design

Introduction

There are numerous challenges that veterans face in returning to college, including adjustment to a new culture, memory and concentration problems (Brito, Callahan and Marks, 2008).

Consequently, the retention and graduation rate of veterans is low; depending on source and interpretation, retention from 1995 to the present may be as low as six percent with a graduation rate of about three percent at five years (J. Schupp, personal communication, November, 2008).

The intent of this pilot program of studies is to successfully transition returning veterans into an academic setting by establishing an academic and social framework to foster resiliency and ultimately retention.

Why this curriculum? Isolation, powerlessness, boredom, ambiguity and danger have been clearly identified as stressors in a deployment zone and often persist in the form of stress-

induced thoughts and behaviors after deployment (Bartone, Adler & Vaitkus, 1998). The cohort-based social framework, encouraged in this curriculum, provides an integrative support system that reduces hyperarousal and makes use of "veteranism" to facilitate the transition from military to civilian life (Walsh, Katz & Sechrest, 2002). This approach does not pathologize veteran's readjustment, but instead focuses on reintegration, resiliency, and educational practice in academic settings (Friedman, Resick & Keane, 2007). The pilot curriculum, using the Supportive Education Programs for Returning Veterans (SERV) approach of cohort-based veterans education and a recovery model orientation (Frese, Stanley, Kress, & Vogel-Scibilia, 2001), is composed of three three-credit courses addressing resiliency, learning-teaching, and leadership that is jointly developed through efforts originating from the Southern Arizona VA Health Care System and the University of Arizona.

A dominant theme in the curriculum emphasizes resiliency. Resiliency is the ability of an individual to bounce back from life's adversity and cope with stresses and deal with these stresses in healthy ways (Brooks and Goldstein, 2003; Reivich and Shatté, 2002; Siebert, 2005). Measures of resiliency are found to be effective predictors of retention (Lifton, Seay & Bushko, 2000). Research in resiliency training has further demonstrated that successful readjustment diminishes the risk of the development of Post-traumatic Stress Disorder (PTSD) (Bartone, 1999). Moreover, resiliency characteristics and the development of an adequate support system can be protective factors in preventing PTSD (Bonanno, Galea, Bucciarelli & Vlahov, 2007; Brewin, Andrews & Valentine, 2000). Resiliency characteristics can be taught effectively in a classroom setting (Lifton, Seay & Bushko, 2000), and the development of appropriate resiliency

attitudes can facilitate college adjustment (Mathis & Lecci, 1999) and lead to an increase in retention and GPA (Maddi, Khoshaba, Jensen, Carter & Llui, 2002).

There is sufficient evidence that resiliency is a tenable predictor of retention (Lifton, Seay, & Bushke 2000) and for college adjustment (Mathis & Lecci, 1999). The importance of resiliency for learner success is crucial. Hence we ask, can veterans make significant resiliency improvements within the span of one semester?

Additionally, there emerge questions regarding the learning provided in the courses. Given the challenges that veterans face in returning to college, e.g., hypervigilence, PTSD, mild traumatic brain injury (TBI), do veterans perceive the curriculum will provide them with the ability to be successful learners? And, more specifically, what do the veterans perceive as useful or not useful in the curriculum relative to their transition to a college setting?

Finally, what can be determined from this cohort model regarding persistence and retention?

Methods

Site of Study

All classes occurred at the University of Arizona in the same classroom setting. The classroom was arranged as an informal grouping of circular tables, each seating approximately four people.

The classroom provided for computer and document camera projection to a screen.

Subjects

Student veterans were provided an overview of the program in syllabus and verbal exchanges. Veterans subsequently self-selected to be in the program. The pilot cohort (Spring 2009) consisted of eight males. The second cohort (Fall 2009) consisted of 3 females and 21 males with an age range from 19 to 58. Their military experience ranged from non-combat to multiple combat tours. Learners were tested at semester onset, mid-semester, and post semester.

Procedure

The courses were largely team-taught by two doctoral level instructors. Both instructors were instrumental in the development of the curriculum. The courses were presented as a contiguous block whereby the resiliency course occurred first, followed by the learning-teaching, and finally the leadership course. Each course was separated by about thirty minutes allowing the learners to socialize, summarize, and prepare for the next class. A cohort-based social framework was used in all of the courses whereby the entire class was composed of veterans.

Curriculum. The curriculum composed of resiliency, learning-teaching, and leadership, is intended to perform, most effectively as a contiguous block of three courses of resiliency, learning-teaching, and leadership.

The goal of the resiliency course is to understand, assess, plan, and apply resiliency practices that manage stress in a manner that fosters academic, personal, and professional development.

Specific focus is on research-based resiliency methods, assessment, and the physical, psychological, and social systems of resiliency. The learner is expected to maintain a

comprehensive journal, provide written commentary, and to participate in discussions on resiliency research through an exploration of attitudes and behaviors that promote or hinder the ability to grow and learn.

The goal of the learning-teaching course is to foster an understanding of instructional design and teaching practices, encourage self-exploration of learning style, and investigate methods that maximize learning success. The learning-teaching course is a twist on the typical academic preparation-type courses in that this course looks at learning through the "eyes" of an educator rather than through the eyes of a learner. This orientation to the content allows individuals to explore and practice the design and implementation of learning in the same way an educator would develop instruction.

The goal of the leadership course is to provide an introduction to the effects of knowledge, behavior, social influence, and decision making related to leadership. Why leadership?

Leadership has been emphasized as an essential component of baccalaureate education, but is often addressed late in the educational experience. Attention is now being given to early introduction of leadership skills with promising results (Burbach, Matkin & Fritz, 2004; Palmer, 2005). This course introduces a broad range of readings addressing practical and theoretical leadership principles. Individuals develop a greater sense of self-awareness and recognize the potential of transformational experiences, such as those that occurred in their military deployments. By examining the transformational aspects of their military experiences, to include their attitudes towards themselves, others and the world, veterans are encouraged to interpret

their experiences as survivors, rather than as victims, thus improving self-efficacy and resiliency (Tedeschi, Park, & Calhoun, 1998; Lepore & Revenson, 2006).

Instructional methods and definitions. A cohort-based social framework was used in all of the courses to reduce hyperarousal and make effective use of the supportive and cohesive culture of veteranism. Using the cohesive aspects of this social environment allows for a departure from traditional instructor/student relationships. Learner Centered Education (LCE), fostered in this curriculum, re-orients the instructional process by placing the learner at the center of the process (Weimer, 2002). This learner-centric approach encourages learning settings that actively engage each learner regardless of individual differences. Engagement through critical thinking assumes human arguments require evaluation if they are to be respected and thus focuses on a set of skills that enable an individual to apply rational criteria to the reasoning of speakers or writers. This instruction, supportive of critical thinking, typically uses frequent questions, developmental tension, fascination with the contingency of conclusions, and active learning (Browne & Freeman, 2000). Reflection and problem solving is encouraged through the use of Think-Aloud Pair Problem Solving (TAPPS) (Barkley, Cross, & Major, 2005; Lochhead & Whimby, 1987). Two individuals perform TAPPS whereby one individual orally presents an idea and the other listens and offers feedback regarding the clarity and thoroughness of the idea. TAPPS aids in the development of analytical reasoning skills and encourages social interaction.

An Instructional Systems Design (ISD) (Dick, Carey & Carey, 2004) approach has been purposefully used to assist in the development of the courses, to facilitate outcomes measurement, and because variants of ISD are commonly used in military training and therefore

familiar to the target audience. Using ISD as the foundation, a whole task approach (Van Merrienboer, Kirschner, and Kester, 2003) blends objectives to foster a more holistic look at the entire learning concept as the individual's learning progresses. This can be envisioned as a cognitive apprenticeship whereby each class session contributes, in an authentic manner, to the overall understanding of the concept.

When knowledge is too tightly bound to context, transfer to different contexts is reduced (Bjork & Richardson-Klavehn, 1989; Carraher, 1986; Eich, 1985; Lave, 1988; Mestre, 2002; Saxe, 1989). Thus, key concepts, identified as both session specific objectives and whole-task objectives, are introduced in a manner that encourages the learner to explore the immediate underlying concepts, but then apply those same concepts in multiple contexts. For example, a whole task objective might focus on the concept goal setting and this could be subsequently examined from resiliency, teaching, and leadership perspectives.

While there are a number of taxonomies for defining the concept of transfer of learning (e.g. Cree & Macaulay, 2000; Ormrod, 2004; Schunk, 2004), we will consider transfer of learning as application of whole-task objectives. A whole task approach blends objectives to foster a more holistic look at the entire learning concept as the individual's learning progresses. A transfer of learning is encouraged in a metacognitive manner since objectives are to some extent redundant, albeit uniquely applied, across the multiple settings of resiliency, learning-teaching, and leadership. We further acknowledge the use TAPPS collaboration and a LCE venue that reorients the instructional process by placing the learner at the center of the process and makes LCE potentially more accommodating to whole-task objectives. By encouraging transfer of

learning through the sharing of knowledge and skills, both between and within the themes of each course, a degree of useful redundancy occurs and may be effective in situations where hypervigilence, PTSD, or mild Traumatic Brain Injury (TBI) are present.

Materials

A curriculum specific text (Callahan & Marks, 2010) was used for all three courses as both a personal journal for the learners and as a basis for presenting instruction. As a journal, activities are arranged to permit one to develop a process for personal reflection. As a teaching and learning tool, this text is formatted in much the same manner an educator would design instruction such that each section or session occurs over a single classroom meeting. Thus, each of the thirty sessions is presented in an applied lesson plan format to typically include the objectives to be covered, the relevancy of the topic, any prior learning that should be reviewed, a pre-test for personal reflection, learning activities related to new materials, a follow-up reflective activity, and a toolbox of resources or new learning-tools. These "tools" are intended to become the chunks of learning that can be used as a personal resource when dealing with situations requiring a particular resiliency, learning, or leadership tactic. Learners were encouraged to create a technology-based or physical toolbox of 3x5 inch index cards with the tool name and an "in-your-own-words" definition on each card.

Measures

Testing included learners' measures of resiliency and learners' perceptions regarding curriculum understanding and effectiveness. As reference, a list of course session objectives was provided as part of the supporting evaluation materials. Perceptions were measured using a questionnaire and

University of Arizona Teacher-Course Evaluation (TCE) form. The questionnaire addressed learner self-assessment, review of major course objectives, and curricular perceptions. The TCE was administered immediately following the questionnaire. The questionnaire and TCE were administered at midterm and at the end of the semester. The TCE, as required by the University for end-of-semester evaluation, was also administered independently of this process and according to University policy.

Resiliency measures for the spring 2009 cohort were obtained using Reivich and Shatté's (2002) Resiliency Quotient (RQ) resiliency test. Resiliency measures for the fall 2009 were obtained using the Response to Stressful Experiences Scale (RSES) test from the VA National Center for PTSD (Johnson, Polusny, Erbes, King, King, Litz, Schnurr, Friedman, & Southwick, 2008). Testing occurred on the first day of the courses, at midterm, and at the end of the instruction.

Results

Retention

Of the eight veterans in the spring 2009 cohort, seven completed the program. The one individual who did not complete was observing the program as part of an independent study. Following the program, five of the seven veterans continued with classes, one has left the institution, and one was redeployed but intended to continue his education.

Of the 24 veterans in the fall 2009 cohort, 22 (92%) completed and two were identified as incompletes. The incompletes in both instances were the result of non-academic circumstances.

Twenty-three (96%) of the 24 veterans had registered for classes the semester following the SERV classes.

Resiliency

The spring 2009 cohort pre-instruction resiliency scores (M = 14.2, SD = 5.86) and post instruction scores (M = 62, SD = 8.32) were obtained using Reivich and Shatté's (2002) Resiliency Quotient (RQ) resiliency test.

A Wilcoxon signed-rank test indicated that the resiliency post-test scores (n = 7) following instruction were significantly higher (Mdn = 61) than the pretest scores prior to instruction (Mdn = 18), p < 0.05. See Figure 1 for a comparison of pre and post resiliency test scores for the pilot program.

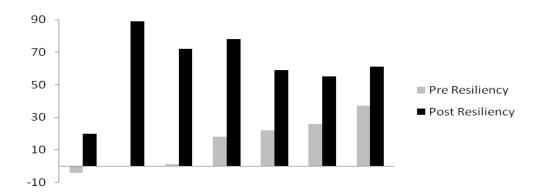


Figure 1. Spring 2009 comparison of seven veterans pre-instruction resiliency scores and post-instruction resiliency scores.

Using the spring 2009 resiliency course Teacher-Course Evaluation query of *how much do you feel you have learned in this course* and a potential response range of 1 to 5, the mean score was

4.6 where the value 4 indicated *more than usual* and the value 5 indicated *an exceptional* amount. Regarding the query of the materials used in this course and a potential response range of 1 to 6, the mean score was 5.3 where the value 5 indicated usually useful and the value 6 indicated almost always useful.

The fall 2009 cohort pre-instruction (M = 54.4, SD = 17) (95% CI: 45.8 to 62.7) and post-instruction (M = 71.9, SD = 13.1) (95% CI: 65.4 to 78.7) resiliency scores demonstrated significant improvement, t(15) = 2.12, p < 0.05 using the Response to Stressful Experiences Scale (RSES) test from the VA National Center for PTSD. See Figure 2 for a comparison of pre and post resiliency instruction scores.

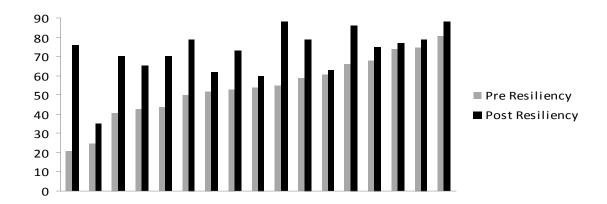


Figure 2. Fall 2009 comparison of veterans' pre-instruction resiliency scores and post-instruction resiliency scores.

Using the fall 2009 resiliency course Teacher-Course Evaluation query of *how much do you feel you have learned in this course*, the mean score was 4.8 where 1 individual reported *3-about as much as usual*, 2 reported *4-more than usual* and 14 reported *5-an exceptional amount*.

Regarding the query of *the materials used in this course*, the mean score was 5.8 where 3 individuals reported *5-usually useful* and 14 reported *6-almost always useful*.

Common to both spring and fall cohorts, we found that a large but undefined percentage of the veterans involved in the resiliency classes were also re-teaching the resiliency skills to their spouses and/or families.

Learning-Teaching

Using the spring 2009 learning-teaching course Teacher-Course Evaluation query of how much do you feel you have learned in this course and a potential response range of 1 to 5, the mean score was 5 where 4 indicated more than usual and 5 indicated an exceptional amount.

Regarding the query of the materials used in this course and a potential response range of 1 to 6, the mean score was 6 where 5 indicated usually useful and 6 indicated almost always useful.

Using the fall 2009 learning-teaching course Teacher-Course Evaluation query of *how much do* you feel you have learned in this course, the mean score was 4.5 where 2 individuals reported 3-about as much as usual, 6 reported 4-more than usual and 11 reported 5-an exceptional amount. Regarding the query of the materials used in this course and a range of 1 to 6, the mean score was 5.6 where 6 individuals reported 5-usually useful and 12 reported 6-almost always useful.

The University Office of Institutional Research and Planning Support provides Teacher-Course Evaluation (TCE) statistics for the specific course being evaluated and for comparable courses within the same discipline. Regarding the learning-teaching course, TCE query of *how much do*

you feel you have learned in this course showed a mean score of 5 and 4.5 for the spring and fall 2009 cohorts. By comparison, two comparable General Education courses showed means of 3.7 and 4.1 for fall 2009 where 4 indicates more than usual and 5 indicates an exceptional amount. The TCE query of the materials used in this course showed a mean score of 6.0 and 5.6 for the spring and fall 2009 cohorts where 5 indicates usually useful and 6 indicates almost always useful. By comparison, two comparable General Education courses showed means of 3.8 and 4.0 for fall 2009 where 3 indicates sometimes useful, 4 indicates usually useful and 5 indicates almost always useful.

Leadership

Using the spring 2009 leadership course Teacher-Course Evaluation query of *how much do you feel you have learned in this course* and a potential response range of 1 to 5, the mean score was 4.6 where 4 indicated *more than usual* and 5 indicated *an exceptional amount*. Regarding the query of *the materials used in this course* and a potential response range of 1 to 6, the mean score was 5.5 where 5 indicated *usually useful* and 6 indicated *almost always useful*.

Using the fall 2009 leadership course Teacher-Course Evaluation query of how much do you feel you have learned in this course and a range of 1 to 5, the mean score was 4.7 where 1 individual reported 3-about as much as usual, 2 reported 4-more than usual and 12 reported 5-an exceptional amount. Regarding the query of the materials used in this course, the mean score was 5.7 where 4 individuals reported 5-usually useful and 10 reported 6-almost always useful.

The University Office of Institutional Research and Planning Support provides Teacher-Course Evaluation (TCE) statistics for the specific course being evaluated and for comparable courses within the same discipline. Regarding the leadership course, the TCE query of *how much do you feel you have learned in this course* showed a mean score was 4.6 and 4.7 for the and spring and fall 2009 cohorts. By comparison, two comparable College of Agriculture and Life Sciences courses showed means of 4.3 and 4.5 for fall 2009 where 4 indicates *more than usual* and 5 indicates *an exceptional amount*. The query of *the materials used in this course* showed a mean score was 5.5 and 5.7 for the spring and fall 2009 cohorts where 5 indicates *usually useful* and 6 indicates *almost always useful*. By comparison, two comparable College of Agriculture and Life Sciences courses showed means of 4.4 and 4.5 for fall 2009 where 4 indicates *usually useful* and 5 indicates *almost always useful*.

Curriculum

When considering all three spring 2009 courses cumulatively and given a potential range of nounsure-yes, the entire cohort indicated yes to the query does providing comparable objectives
across the three classes from differing perspectives improve your ability to "transfer learning"
or take learning from one course and apply it in another. Additionally, the veterans' writing
assignments displayed artifacts of learning from all of the courses. The entire cohort indicated
yes to the query do you think these classes have improved the likelihood of you completing
college, five of the six in the pilot cohort indicated yes to the query is the cohort-of-veterans
approach to classes a good method for you, with one student reporting unsure.

Upon interviewing the veterans after one semester of collegiate coursework following the classes, four indicated that a transitional element of the program might include attending one general class without other veterans while attending the resiliency, leadership, and learning-teaching courses. The consensus was that this "transitional" class would provide a valuable opportunity to have hands-on-practice of the skills being learned in the program.

When asked, after one semester of studies following the classes, in what ways has the program "set the student up well" for success in college, three individuals specifically indicated the Skim, Question, Read, Recall and Review (SQ3R) reading skills and other single responses included lesson planning, emotional reasoning, the cohort system, changing thought patterns, breathing techniques, teaching-to-learn, and PowerPoint development. When asked in what ways has the program potentially *not* met their expectations for success in college, one individual responded with a desire for firmer deadlines for homework, and four indicated a desire for interaction with non-veterans in a classroom setting as a place to practice skills learned in the classes.

When considering all three fall 2009 courses cumulatively and given the range of potential responses of no-unsure-yes, the entire cohort indicated yes to the query does providing comparable objectives across the three classes from differing perspectives improve your ability to "transfer learning" or take learning from one course and apply it in another? Additionally, as in the spring semester, the veterans' writing assignments displayed artifacts of learning from all of the courses. The entire cohort indicated yes to the query do you think these classes have improved the likelihood of you completing college? The entire cohort indicated yes to the query is the cohort-of-veterans approach to classes a good method for you?

Discussion

Can veterans make significant resiliency improvements within the span of one semester? Resiliency is the ability of an individual to bounce back from life's adversity, cope with stresses and deal with these stresses in healthy ways. Because self-efficacy is related to stress reactions and quality of coping in threatening situations, maintaining a sense of personal self-efficacy, owing to resiliency, becomes foundational to producing, through one's actions, the desired level of academic performance (Bandura, 1997; Chemers, Hu & Garcia, 2001; Robbins, Lauver, Le, Langley, Davis & Carlstrom, 2004). Supportive of this foundational effort is the personal examination of the veterans' transformational aspects of their life and military experiences that may contribute to the belief of survivorship versus victimhood (Tedeschi, Park, & Calhoun, 1998; Lepore & Revenson, 2006). This study indicates resiliency characteristics can be taught effectively in a semester-oriented classroom setting with both cohorts making significant improvements in resiliency scores from pretest to post test. Because these resiliency skills can be taught in a classroom, we found the veterans in the program were teaching resiliency at home and efforts are now being focused on paralleling a resiliency course for spouses and families of returning veterans.

Do veterans perceive the curriculum will provide them with the ability to be successful learners? The veterans of both cohorts were provided, in written form, the major session objectives as introductory to their assessment of program that followed. Both cohorts unanimously perceived the classes have improved their likelihood of completing college. And, academic self-efficacy and optimism are strongly related to academic performance and indirectly through expectations

and coping perceptions on classroom performance, stress, health, and overall satisfaction and individual persistence (Chemers, Hu & Garcia, 2001).

The whole-task objective approach used in this curriculum encouraged the learner to explore the immediate underlying concepts, but then apply those concepts in multiple contexts, courses, or sessions to obtain a sense of a more global whole. Given this limitation, both cohorts unanimously perceived they improved their ability to take learning from one course and apply it in another setting. These perceptions are in accord with the scaffolding provided the learners to facilitate a transfer of learning. This scaffolding included self-directed learning, incorporating older knowledge and experiences, and learning in community (Chaves, 2006; Johnson, Johnson & Smith, 1998).

What do the veterans perceive as useful or not useful in the curriculum relative to their transition to a college setting? More specifically, we asked how much do you feel you have learned in this course and about effectiveness of the materials used in this course. The University Office of Institutional Research and Planning Support provides Teacher-Course Evaluation (TCE) statistics for the specific course being evaluated and for comparable courses within the same discipline should they exist. These statistics can be useful benchmarks for formative revision and summative comparison particularly as we consider the query of what do the veterans perceive as useful or not useful in the curriculum relative to their transition to a college setting. Further, the use of formal student ratings provides a reasonable way of measuring student reaction (Costin, Greenough & Menges, 1971; Waysman, Schwarzwald & Solomon, 2001). Regarding the learning-teaching and leadership courses, TCE responses were consistently higher than for

comparable University courses. There is unfortunately no comparable resiliency course offered at this university; the resiliency statistics, however, are consistent with the two learning-teaching and leadership courses of the SERV curriculum. Regarding the curriculum, one theme that emerged was the idea of a transitional class where the veteran cohort would interact with traditional diverse university learners in a class that would allow them to further explore their skills. So, while the evidence for using a cohort educational model for veterans is academically beneficial, the veterans' desire for greater academic and social interaction might warrant further research regarding the when and how of transitioning cohort learners.

What can be determined from this cohort regarding persistence and retention? While long term measures are beyond the scope of this pilot study, over ninety percent of the veterans in this study are persisting in their continued studies. We might argue the cohort model provides a foundation for establishing a learning community, and effective retention is shown to lie in a strong commitment to quality education and the building of a sense of inclusive educational and social community (Tinto, 1987). Research further maintains positive and significant relationships between self-efficacy beliefs and academic performance and persistence outcomes across a wide variety of subjects (e.g., Bandura & Locke, 2003; Multon, Brown & Lent, 1991). We would therefore expect that resiliency attitudes would facilitate college adjustment (Mathis & Lecci, 1999) and lead to an increase in retention and GPA (Maddi, Khoshaba, Jensen, Carter & Llui, 2002).

Conclusion

The intent of this Supportive Education Programs for Returning Veterans curriculum is to successfully transition returning veterans into an academic setting by establishing an academic and social framework to foster resiliency and retention. This pilot program, composed of three three-credit courses addressing resiliency, learning-teaching, and leadership, uses a recovery model approach and has been jointly developed through efforts originating from the Southern Arizona VA Health Care System and the University of Arizona. The three courses were provided as a consecutive block meeting twice per week in a cohort setting. Appropriate resiliency attitudes can facilitate college adjustment and lead to an increase in retention and the two cohorts in this study showed significant gains in resiliency. The veteran cohorts unanimously perceived the courses as having improved their likelihood of completing college. Early results show good retention and a strong perception of success and likelihood of graduation. Consequently, these perspectives should have bearing on the veterans' self-efficacy, motivation and greater sense of learner confidence.

Further research in veteran retention and subsequent graduation is necessary with replication at both community college and university settings particularly where the Veterans Administration can support the educational endeavor. Support in the form of adjunct counseling, teaching and outreach to the campus should be considered as integral to educational models. Additionally, the effects of "non-pathologizing" PTSD and examining, within the "classroom," the transformation and growth that can occur from traumatic experiences needs further exploration. Finally, additional research should be focused on incorporating spousal and family resiliency education and its impact on veteran academic achievement and quality of life issues.

This version of the SERV curriculum was designed for veterans so that they might prosper in college life and to provide them the chance at the American dream for which they sacrificed; it's the least we can do for them.

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