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USING SELF-REGULATED LEARNING METHODS TO INCREASE NATIVE AMERICAN COLLEGE RETENTION

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ABSTRACT

A big challenge facing colleges and university programs across the United States is retaining students to graduation. This is especially the case for Native American students, who have had one of the highest dropout rates over the past several decades. Using data from a large university that implemented a self-regulated learning course for undergraduates' academic success, the authors measured students who participated, with a specific focus on Native American student outcomes. The analyses in this study are based on data of cohorts entering freshmen from fall 2000 through fall 2010 with a sample of 29,319 students, 4,681 (16.0%) who successfully completed the SRL course. Results show that the completers are more likely to be retained with specific retention benefits and overall academic success of Native American completers.

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INTRODUCTION

The learning and academic achievement demands placed on college students are especially burdensome for Native American students. The concept of self-regulated learning could increase retention and graduation rates for this marginalized population. For students, persistence to graduation yields greater employability, while time to graduation reflects tuition amounts paid and loans borrowed. Retention is an issue for universities because it affects revenue and college rankings (which draw applicants). As a result, colleges and universities are investing time and money into programs designed to increase retention. Much has been written about the success or lack of success of these programs (Kuh, 2007; Pascarella & Terenzini, 2005; Tinto, 1993).

In the late 1980s, the University at Buffalo, State University of New York (UB) implemented a unique critical thinking course for undergraduate students entitled "Methods of Inquiry." The course draws on cognitive psychology and philosophy issues, which are connected with the theory behind Self-regulated Learning (SRL) and insights on learning and thinking. As described in the course textbook:

> All activities in the course explore the theoretical foundations of effective learning. The main emphasis of the course, however, is the development of methods to assure comprehensive learning and provide for accurate assessment of what is indeed learned. These methods, in turn, lead to an understanding that is necessary for clear critical thinking based upon good reasons. (Ahuna, Tinnesz, & VanZile-Tamsen, 2011, p. ix.)

One byproduct of the course has been a significant difference in retention and graduation rates, on average, between the students who take SRL and those who do not (Ahuna et al., 2011). In this research, we expect that students who successfully completed the SRL course are more likely to be retained to the next year and to persist to graduation than students who do not successfully complete SRL.

College Retention

The study of college student retention and persistence is complex and a number of variables (e.g., sociological, psychological, academic, and economic) exert influence. Vincent Tinto (1975) was among the first to posit explanations for student departure. His initial focus was sociological, investigating commonalities among students who did not persist to graduation (e.g., parents' education level, socioeconomic status, peer groups, etc.). Tinto (1993) later expanded his theory to include the student's sense of academic integration or sense of belonging to the college. Such factors as participation in activities, faculty-student relationships, and student seminars were considered.

Despite these insights, retention has become an ever increasing concern for colleges and universities and manifests in poor graduation rates. In 2006, the

American College Testing Program reported that 48% of students in 2-year colleges left after the first year (Braxton, Brier, & Steele, 2008). The U.S. Department of Education (2004) quoted the 6-year graduation rate at 53%. With such discouraging numbers, subsequent research on retention has shifted to focus on academic achievement. Pascarella and Terenzini (1991) examined factors including tutoring, academic counseling, mentoring, and academic intervention programs influencing student persistence. They found that, on the whole, these types of programs are effective in positively influencing retention.

Researchers examining multicultural perspectives on retention are finding that issues of college persistence are not monolithic. Factors such as ethnicity, race, socioeconomic status, first-generation status, and even gender impact and complicate college persistence (Ahuna et al., 2011). The 5-year Bachelor's degree completion rate varies starkly by sub-group. For example, White (61.9%), Asian or Pacific Islander (69.1%), and female (61.6%) graduation rates are much higher than Black (43.4%), Hispanic (44.0%), and male (54.6%) graduation rates (Snyder, Dillow, & Hoffman, 2008).

The lower persistence statistics for at-risk groups has been investigated widely. "Minority Student Recruitment, Retention and Career Transition Practices: A Literature Review" (ASHA, n.d.) identifies academic unpreparedness, financial issues, lack of social and academic support on campus, and lack of diverse role models as some of the most prevalent reasons for high incompletion rates. Therefore, any intervention that seeks to improve retention must consider all groups in evaluating success rates.

Native American Retention

Although Native Americans are commonly perceived as residing on remote reservations, separated from the rest of America, the majority live in urban areas, while only about one-third live on reservations and tribal trust lands (U.S. Census Bureau, 2010). The United States Census Bureau reports that there are approximately 3 million people who reported their sole race as American Indian/Alaska Native, and 2.3 million people report their race as combined American Indian/Alaska Native and one or more other races (U.S. Census Bureau, 2011). These numbers evidence an interesting shift from the census in 2000, where 2.5 million people reported their sole race as American Indian/Alaska Native and 4.1 million people reported their race as combined American Indian/Alaska Native and one or more other races (U.S. Census Bureau, 2011). Although the reporting prevalence rates have shifted, there is a significant population of Native American peoples in the United States. It must be noted that Native Americans have numerous and various forms of traditions, customs, and cultural activities.

Native American college dropout throughout the United States is well documented. While retention rates in higher education differ for all student populations, the gap is paramount among African American, Hispanic, and Native

American students (National Center for Education Statistics [NCES], 2004). According to Brown and Robinson Kurpius (1997), 75% to 93% of Native Americans drop out of college prior to completion. The fact is, if Native Americans attain a high school diploma and begin attending college, they have the highest dropout rate compared to any other student population. Although academically capable, a number of reasons contribute to Native American students having the highest educational dropout rate in the United States. For instance, studies have examined the educational system's designs (see Goodlad, 1984; Sherman & Sherman, 1990; Weis, Farrar, & Petrie, 1989); instructor attitudes (see, Deyhle, 1989; Platero, Brandt, Witherspoon, & Wong, 1986; Reyhner, 1990); and ineffective curriculum and instruction techniques (see, Freeman & Freeman, 1988; Reyhner, 1992; Swisher & Deyhle, 1989).

These studies have pointed out that the educational structure is partly to blame for high dropout rates for Native Americans. For instance, the typical seating arrangement in a classroom is structured to resemble a troop of soldiers facing forward toward the drill commander rather than organized as environment of circular, equalized learning. The fact that most classrooms involve the teacher speaking 99% of the time (Goodlad, 1984) is an unreasonable exchange rate for any student, much less minority students who enter the academic environment feeling outnumbered and overwhelmed. Another educational design flaw that does not serve Native American students well is the instructor's overall attitudes toward teaching and instruction. There is an attitude of "English only" teaching throughout learning institutions (Moll, 1992; Reyhner, 1992), disregarding all of the barriers associated with translating all of the different meanings behind language. These identified educational obstacles significantly impede successful progress toward academic achievement.

Usually, because so few Native Americans enter and remain in college, in any efforts to intervene or study this underrepresented group, outcomes are categorized in the broader context of "minorities." However, Native Americans are the minority within the minority. An intervention that significantly improves retention and graduation rates for the highest group of college dropouts would seem adaptable and generalizable to the larger minority groups.

Self-Regulated Learning

The focus on self-regulated learning (SRL) in college/university programs has gained much attention over the past several years (see Garcia, 1996; Pintrich, 1995; Pintrich, Brown, & Weinstein, 1994; Zimmerman & Schunk, 1989). SRL's effectiveness in increasing academic achievement (Biemiller, Shany, Inglis, & Meichenbaum, 1998; Masui & DeCorte, 2005; Schunk & Zimmerman, 1994; Zimmerman & Martinez-Pons, 1990) and promoting the idea of life-long learning (Kriewaldt, 2001; Vermunt, 2000) is well-established. However, the academic literature lacks studies on cultural difference and SRL (Bembenutty,

2007; Pintrich & Zusho, 2007; Schunk, Pintrich, & Meece, 2008). According to Pintrich and Zusho (2007) and Schunk et al. (2008), the absence of these types of studies indicate that college professors might be providing inadequate academic guidance to underrepresented students.

The definition of self-regulated learning has evolved over the years (Aksan, 2009; Zimmerman, 2000, 2001; Zimmerman & Schunk, 2001), but one persistent theme is that students perceive themselves as learners and their use of various processes to regulate their own learning is crucial to achieving academic success (Zimmerman, 2001). Three major constructs of SRL theory are connected across theoretical opinions:

1. the student's learning style;
2. the student's ability to influence and predict his or her daily academic life; and
3. peer assessment and feedback (Cassidy, 2011; Perry 2003; Peterson, Rayner, Armstrong, & Deane, 2008; Schunk 2001; Singer & Bashir, 1999; Zimmerman, 2001).

The Self-Regulated Learning Course

From 1988 to 2010, the University at Buffalo, SUNY offered a course in Self-Regulated Learning (SRL). Initially funded with a grant from the Fund for Improvement of Post-Secondary Education (FIPSE), the course was designed to improve student learning and thinking. Guided by theoretical insights from cognitive psychology and philosophy, the SRL course was dedicated to the application of critical thinking skills across the curriculum in an effort to assist students in gaining autonomy and taking control of their academic lives. Students received direct instruction in active strategies for self-regulated learning, specific routines for academic success, and frameworks for critical thinking. The four active SRL strategies included:

1. discovering questions pertaining to a course and the methodology for answering them;
2. cognitively engaging with material;
3. identifying teachers' goals and working to meet them; and
4. monitoring one's own comprehension.

In addition to this theoretical background, students learned techniques for fulfilling the strategies, including note-taking, active reading, concept mapping, creating concept elaborations, and developing mock exams.

The SRL course was a 3-credit elective in the School of Education that any undergraduate student could take, resulting in representation of a large cross-section of the university population in the course. There were some specific populations, however, that commonly enrolled, including students in the Educational Opportunity Program (EOP), athletes, students on academic probation, and students conditionally accepted into medical school.

In addition to twice-weekly, 50-minute lectures, SRL students had regular contact with peer monitors. To qualify for a monitor position, students had to be either enrolled in the Honors Program or undergraduates who had taken the course, received an A, and demonstrated strong interpersonal skills. Professional staff and graduate teaching assistants trained and carefully supervised the monitors. Monitors and students met for weekly, 30-minute, one-on-one sessions, in which students showed their monitors the application of SRL strategies to their other courses. Although monitors offered concrete feedback on the students' work, the ultimate goal of these meetings was for students to assess their own efforts, which is the aim of self-regulated learning. Students and monitors would work together to determine areas for improvement. Final grades on assignments were not based on averaging past scores together, but rather reflected the students' most successful attempts. This mode of assessment is consistent with the overall philosophy to which the SRL course ascribed.

This study examines the influence of the SRL course on retention and graduation rates, specifically for Native Americans, the most underrepresented student group on many U.S. college campuses. The article's general aim is to investigate the effects of a self-regulated learning course on college students, with a specific interest in Native American college students' retention and graduation rates. Although the course was designed to advance students' learning and thinking skills and not as an intervention for retention purposes, this article investigates whether a link exists.

METHOD

Data Source and Sample

The analyses in this study are based on University warehouse data for cohorts of entering domestic freshmen from fall 2000 through fall 2010 who volunteered their racial/ethnic group, resulting in a sample of 29,319 students, 4,681 (16.0%) of whom successfully completed the SRL course, titled "Methods of Inquiry," at some point during their undergraduate course work. Successful completion of the course is operationally defined as earning a grade of C– or higher. Students earning less than a C– (70 out of 100 points) failed the course and were not included in the analyses as successful completers since they did not show evidence of internalizing the strategies. Thus, they would not be expected to reap continued benefits from SRL course content. Of those who completed the course, 3,748 (80.1%) earned a grade of either A or B.

Because the data used in this study are taken from central University records and collected as part of normal educational practices, students are in no way identified and there are no risks to students whose data are used. Therefore, this research is classified as exempt from IRB review. While the focus of the present analysis relates to the ethnic differences in SRL impact, additional demographic

and educational background variables thought to relate to retention and year to graduation were selected for inclusion in the final data file. Among the demographic variables are gender, expected family contribution to educational costs, and first-generation college student status. Since expected family contribution and first-generation college student information are taken from the *Free Application for Federal Student Aid* (FAFSA), only students who filed the FAFSA have data available for these two variables (N = 23,688). Educational background factors include a dichotomous indicator of participation in the Educational Opportunity Program (EOP), high school average, and SAT combined score (Math and Critical Reading). Table 1 displays the make-up of each ethnic group according to these demographic and academic background variables.

Research Questions

As Table 1 displays, students from different ethnic groups have various background characteristics that affect their likelihood of academic success. For example, students who identify as White are the least likely to be first-generation college students and to come from very low income homes. Students who identify as Asian or Pacific Islander are the most likely to be first-generation students, and the remaining groups are close behind them. African-American students are the most likely to come from very low income homes, followed by those identifying as Hispanic and Asian/Pacific Islander. In addition, African-American students and those identifying as Hispanic have the lowest high school averages and SAT scores; the remaining three groups score more closely on these measures. Low income and first generation student are placed at a disadvantage academically. Thus, students from different ethnic groups enter the university with different probability of success. The remaining analyses will determine whether SRL can create an even playing field for students from all backgrounds. In addition, this study seeks to determine if the program varied in its effects across different ethnic groups.

Procedures and Data Analysis Techniques

The outcome variables were also derived from data in the University data warehouse. This study examines all available undergraduate semester records through fall 2011 for each participant. We created a retention outcome variable for each year of the study by coding anyone who was enrolled in the subsequent fall or who had graduated by that fall as a "1," and coding all others "0." This method of combining retention and graduation into a single outcome variable provides an accurate indicator of those who continue enrollment or graduate, versus those who simply leave the University. We created the years-to-graduation variable specifically to examine 4- and 5-year graduation rates.

For each year's analysis of retention, only those students who had completed SRL successfully before the fall of the retention year were coded as SRL students,

Table 1. Sample Composition by Ethnicity

Variable	African American (N = 2055)	Asian (N = 2,722)	Hispanic (N = 1261)	Native American (N = 137)	White (N = 23,144	Overall (N = 29,319)
Dichotomous Variables	%	%	%	%	%	%
Gender (Percent female)	55.9	48.5	45.7	48.9	45.2	46.3
First Generation College[a]	42.7	48.8	46.4	37.5	21.7	26.9
Zero Expected Family Contribution[a]	37.5	30.4	32.2	21.8	11.3	16.1
Educational Opportunity Program	34.4	14.5	29.3	10.2	1.1	5.9
Completed SRL Course	28.5	14.9	21.2	8.0	14.7	16.0
Continuous Variables	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)
High School Average	86.2 (5.9)	89.4 (6.1)	87.5 (6.4)	89.4 (5.7)	91.2 (4.7)	90.5 (5.2)
SAT Combined Score	996.9 (141.2)	1154.8 (142.0)	1064.4 (152.0)	1139.1 (139.5)	1166.4 (121.5)	1148.9 (134.8)

Notes: Typographical symbols represent statistically significant differences: *$p < .05$; **$p < .01$; ***$p < .001$.
[a]Based only on students who filed the *Free Application for Federal Student Aid* (FAFSA, N = 23,688).

so as not to include students who had not yet taken the course. Separate chi-square analyses were computed to examine the relationship between SRL completion and retention to year two, year three, year four, and year five. Similar analyses were conducted to examine the relationship of SRL completion to graduation within 4 and 5 years.

Binary logistic regression analyses were used to compare the impact of SRL completion among the five ethnic groups. The baseline impact of SRL on each of the retention and graduation variables was assessed for students in general, with the demographic and academic background variables serving as control variables. Then, each analysis was run with five key predictors, each indicating ethnic group membership and SRL status. For example, in the analysis to predict retention to the second year, one of the key predictor variables had a coding scheme where African-American students who had completed SRL in year one were coded "1" and all others were coded "0." Including such a key predictor for each ethnic group in each analysis allowed for comparison of the relative impact of SRL on the success outcome variables by ethnic group membership.

RESULTS

Retention of SRL Students

Table 2 shows the results of the analyses of retention rates for SRL and non-SRL students among all domestic freshmen and within each ethnic group. Even without statistically controlling for demographic and academic background variables, the advantage gained by successfully completing SRL is evident. SRL students are more likely to be retained or to graduate by the second, third, fourth, or fifth year than students who do not complete the SRL course. The χ^2 for each year is statistically significant at the $p < .001$ level. When demographics and academic background variables are controlled in logistic regression analyses, the odds ratios suggest that students who complete SRL during their freshmen year are nearly twice as likely to be retained to the second year (1.85), regardless of background characteristics. The odds that SRL completers will succeed (either by staying enrolled or graduating) increase each year through the fifth year.

Table 2 also includes analyses for each ethnic group. Among three of the ethnic groups, African Americans, Hispanic students, and White students, SRL completers are more likely to be successful each year, compared to non-completers. For students who identify as Asian or Pacific Islander, only the chi square results for comparisons for the third through fifth years are statistically significant, although a greater percentage of SRL completers than non-completers is retained to the second year.

Among students who identify as Native Americans, equivalent percentages of SRL completers and non-completers are retained to the second year (75.0% and

Table 2. Students Retained/Graduated Over 5-Year Period by Ethnicity and SRL Completion

Student group	Retention year	Percentage retained/graduated			χ^2	Odds ratio
		Total	SRL	Non-SRL		
All students	Second year	86.3	90.9	86.0	35.43***	1.85***
	Third year	76.2	83.7	75.2	103.94***	2.09***
	Fourth year	71.4	81.6	69.7	208.92***	2.32***
	Fifth year	67.7	79.6	65.1	305.00***	2.42***
African-American students	Second year	87.7	93.5	86.6	12.32***	3.04***
	Third year	73.6	79.6	71.7	11.21***	2.18***
	Fourth year	68.6	76.4	65.4	19.97***	2.45***
	Fifth year	63.2	71.1	59.6	19.02***	2.29***
Asian students	Second year	90.2	94.6	89.9	3.35	2.87***
	Third year	79.8	88.5	78.8	21.94***	3.38***
	Fourth year	74.7	83.5	73.3	13.90***	3.33***
	Fifth year	72.3	83.0	70.0	23.01***	3.73***

Hispanic students	Second year	83.5	91.8	82.4	8.39**	2.22*
	Third year	70.5	76.6	69.3	4.08*	1.67**
	Fourth year	64.1	72.4	61.8	8.50**	1.82***
	Fifth year	56.9	69.2	52.4	19.91***	1.89***
Native American students	Second year	74.5	75.0	74.4	0.01	—
	Third year	60.4	75.0	59.2	0.77	1.74
	Fourth year	53.8	85.7	51.2	3.11	2.65
	Fifth year	50.6	85.7	47.4	3.77#	3.26
White students	Second year	86.0	89.7	85.7	15.06***	1.51***
	Third year	76.4	84.7	75.5	88.27***	2.01***
	Fourth year	71.8	83.2	70.1	185.47***	2.62***
	Fifth year	68.3	81.5	65.6	272.35***	2.40***

Note: Asterisks represent statistically significant differences: #$p < .06$; *$p < .05$, **$p < .01$; ***$p < .001$.

74.4% respectively). However, only four Native American students completed SRL during their freshman year. As more students complete SRL each year, the resulting χ^2 statistics become larger in magnitude and finally approach statistical significance in year five. The simple percentages, however, clearly indicate the strong effect of SRL on these students. In general, only 50.6% of Native American students stay enrolled to or graduate by the fifth year. For those who complete SRL at some point during the first 4 years, that percentage increases to 85.7%, which is greater than the percentage of students overall who complete SRL (79.6%), as well as the percentage of students from all other ethnic groups who complete SRL, with percentages ranging from 69.2% for Hispanic students to 83.0% for students who identify as Asian/Pacific Islander.

In terms of the relative impact of SRL among the five ethnic groups, students who identify as Asian/Pacific Islander appear to reap the greatest rewards. Among these students, SRL completers are between three and four times as likely to have a successful outcome each year (i.e., to be retained or to graduate) as compared to non-completers. African-American students saw a large impact for retention to the second year (*OR* = 3.04), but retention decreased to 2.29 by year five. Hispanic and White students who completed SRL were around twice as likely to have a successful outcome each year than their non-SRL peers. For Native American students, the small sample size prevents a finding of statistical significance at each time point, but the odds did increase from year to year as more students complete SRL.

Time-to-Graduation of SRL Students

Table 3 shows the results for analyses relating to 4- and 5-year graduation. Among all students, SRL completers were significantly more likely to graduate in 4 years and in 5 years. In addition, based on results of the logistic regression analyses, SRL completers were 1.63 times as likely to graduate in 4 years, and twice as likely to graduate in 5 years.

Among the five ethnic groups, students identifying as Asians/Pacific Islanders experienced the strongest and most consistent impact of SRL. SRL completers in this ethnic group were nearly twice as likely (1.83 times) to graduate in 4 years, and nearly three times as likely (2.73 times) to graduate in 5 years compared to non-completers. White SRL completers also reaped consistent benefits for graduation in 4 years and 5 years. They were nearly twice as likely to graduate in 4 years (1.75 times) and over twice as likely (2.14 times) to graduate in 5 years compared to non-completers. For both African-American and Hispanic students, the impact of SRL completion was not statistically significant for 4-year graduation, but it was for 5-year graduation. Among African-American students, SRL completers were 1.62 times as likely to graduate in 5 years as non-completers, and for Hispanic students, SRL completers were 1.80 times as likely to graduate in 5 years than non-completers.

Table 3. Graduation in 4 and 5 Years by Ethnicity and SRL Completion

Student group	Graduation year	Percentage graduated			χ^2	Odds ratio
		Total	SRL	Non-SRL		
All students	Fourth year	41.9	48.1	40.5	76.20***	1.63***
	Fifth year	59.1	69.4	56.6	198.56***	2.08***
African-American students	Fourth year	27.2	27.6	27.0	0.06	1.17
	Fifth year	49.4	54.6	46.6	7.86**	1.62***
Asian students	Fourth year	39.6	45.2	38.3	5.23*	1.83***
	Fifth year	54.2	61.0	52.6	23.12***	2.73***
Hispanic students	Fourth year	24.1	22.8	24.6	0.32	0.83
	Fifth year	47.4	56.4	43.8	10.00**	1.80***
Native American students	Fourth year	18.8	42.9	16.7	2.88	1.12
	Fifth year	34.2	71.4	30.4	4.75*	2.06
White students	Fourth year	44.5	54.1	42.6	127.86***	1.75***
	Fifth year	60.7	70.6	58.3	15.59***	2.14***

Note: Asterisks represent statistically significant differences: *$p < .05$, **$p < .01$; ***$p < .001$.

Again, the sample sizes for Native American students make it difficult to find statistical significance. An examination of the simple percentages of Native American SRL completers, however, reveals that SRL completion did indeed have a strong impact on 4- and 5-year graduation. In general, only 18.8% of Native American students graduated within 4 years, and only 34.2% graduate within 5 years. However, among SRL completers these percentages increased to 42.9% and 71.4%, respectively. In fact, Native American students who completed the SRL course exceed all other ethnic groups and the general student population in terms of their 5-year graduation rate.

DISCUSSION

As evident in Table 3, all students benefited from the SRL course in terms of retention and graduation rates. With the overall high success of Native American students, certain components of the SRL course appeared to connect with this population's thinking and learning styles in particular. Research shows that Native American students do not work well in isolation (Good, 1973; Vygotsky, 1986). The monitoring component, in which SRL students worked one-on-one with a peer monitor each week, helped alleviate that sense of isolation and allowed students to feel more connected to the course. Additionally, because the SRL class required students to implement concrete techniques in their other courses, students could see the benefit of their application, typically a higher grade, which would in turn boost academic self-esteem. Given the ample evidence that minority students feel like they do not belong in academic settings (Steele, Spencer, & Aronson, 2002; Walton & Cohen, 2007, 2011) this benefit is undoubtedly significant.

Furthermore, the mastery learning philosophy of rewarding effort also provides support to this population. Traditional grading policies typically average together all scores. Native students who may already have low academic self-esteem can interpret a low score as evidence that they should not be in college. The knowledge that each and every score has an impact on their grade can be discouraging. Mastery learning, on the other hand, only looks at a student's last, best effort when assigning final scores. When armed with this knowledge, Native students have more permission to make mistakes as they learn while simultaneously working toward comprehension.

With retention rates so low, most colleges offer study skills assistance to students. The SRL course was unique because of the built-in support system of peer monitoring, a mastery learning grading system, and required application of study techniques. While there has been debate whether Native Americans have their own cultural learning styles (Bland, 1975; Harris, 1985; Kleinfeld & Nelson, 1991), thinking and learning is grounded in one's own culture (Good, 1973; Greymorning, 2000; Vygotsky, 1986; Worthly, 1987). One of the main reasons for Native American and other student dropout is unsuitable matching of learning styles (Archibald, 1988; Shortman, 1990). Instructors oftentimes ignore

the importance of each student's different learning styles and how to adjust their own style of teaching to accommodate these differences. The instructor usually requires that the student make the necessary adjustments for their own learning, rather than take the responsibility of learning about cultural differences and how to best fulfill the needs of individual learners. If teachers do not consider or ignore how learning styles are grounded cultural differences, students oftentimes react negatively and become disheartened (Ladson-Billings, 2001). Because the goals of SRL are to understand one's own learning style, matching teaching and learning strategies could benefit Native Americans (Stairs, 1994, 1999; Swisher & Pavel, 1994). SRL courses might reduce the conflicting expectations of Native American students and instructors.

Limitations

One consideration in these findings' limitations is the possibility of selection bias or the implication that students who would choose the SRL course on their own are already more motivated to improve their academic lives. In its current form, some students self-select the SRL course while others are directed to it through advisors, so it is difficult to judge whether a bias exists. The only ways to dismiss this possibility would be to compare a section of the course comprised of self-selected students to a section comprised of mandated students or to require all first-year students take the SRL course.

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