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PROGRAM EVALUATION OF THE LARGE LECTURE RETENTION ENHANCEMENT INITIATIVE PILOT PROGRAM AT NORTHERN MICHIGAN UNIVERSITY 2012-2015

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ENHANCEMENT INITIATIVE PILOT PROGRAM AT NORTHERN MICHIGAN
UNIVERSITY 2012-2015

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ABSTRACT

PROGRAM EVALUATION OF THE LARGE LECTURE RETENTION
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The Northern Michigan University Large Lecture Retention Enhancement

Initiative (LLREI) three-year pilot program ran from Fall 2012 to Winter 2015. The

LLREI served 52 sections of courses consisting of 4,336 students over six semesters. Of

that total, 1,390 were freshmen targeted for retention. Between 629-882 total students

enrolled in participating courses depending on the semester. The three-year pilot

program cost approximately $180,000.

The main goal was to reduce the historically high failure and drop rates in large

lecture introductory courses by revamping the content with active learning and

supporting the courses with push-in style undergraduate teaching assistants. Eighty-eight

percent of the course sections achieved that goal. The program designers hoped that

reducing the failure and drop rate would increase the overall institutional retention rate.

The LLREI's unintended outcomes included professional development

experiences for the teaching assistants, collaboration between faculty and teaching

assistants, and new ways to communicate with and support struggling students.

Participating faculty, teaching assistants, and students said they valued the program and

expressed their desires to institutionalize it. In spite of the positive feedback and success

reducing failure and drop rates, university administrators eliminated the program to save money as the university weathered an enrollment crisis (Rowles, 2015).

This post-hoc program evaluation assessed the intended and unintended outcomes of the LLREI. It considered the decision to eliminate the program in the context of institutional leadership, policy and culture. This program evaluation recommended possible considerations for future similar retention programs utilizing undergraduate teaching assistants.

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This thesis follows the format prescribed by the APA *Style Manual* and the School of

Education.

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INTRODUCTION

Northern Michigan University (NMU) averaged a retention rate of 68% of first time full time freshmen in certificate, associate, and baccalaureate programs from 2002-2011 ("3rd_Semester_Retention3.pdf," n.d.). University administrators realized that amidst a declining enrollment trend due to a projected decrease in Michigan's K-12 student population, the university could help offset anticipated lower enrollments with increased retention (Mesloh, 2015). An Academic Affairs committee recommended several retention enhancing initiatives and worked to implement some of those recommendations in 2012. One new retention program was the Large Lecture Retention Enhancement Initiative (LLREI) targeting large lecture introductory courses with historically high failure rates.

This post hoc program evaluation identified the outcomes of the LLREI pilot program at NMU from 2012-2015. Expected and unexpected outcomes using quantitative and qualitative methods determined success. The primary quantitative expected outcome was to reduce the rates of students not succeeding as defined by those who received a final grade of D, F, or withdrew (DFW) in large lecture introductory courses with DFW rates historically at 30% or more. The LLREI hoped to reduce DFW rates by providing faculty with teaching assistants (TAs).

The TAs helped instructors facilitate active learning in the large lecture courses. The TAs also assumed responsibility for routine tasks (attendance tracking, objective grading, etc.) to free up planning time so the faculty member could prepare to integrate the most appropriate active learning strategies for their course.

Active learning includes "anything that involves students in doing things and thinking about the things they are doing" (Bonwell & Eison, 1991, p. 2). This student centered active learning approach stands in contrast to the traditional lecture course where the professor speaks for the entire class period and the students do not interact with the professor, the course materials, or each other. By infusing innovative student-centered active pedagogies into their courses, the faculty hoped to increase the numbers of students succeeding at the course level.

At the institutional level, participants hoped that the retention rate would increase by reducing the DFW rates in those specific courses. Qualitatively, the program envisioned that students would appreciate an improved course experience with active learning and all participants would benefit from the injection of resources focused on student success.

This program evaluation poses the following questions: Did the participating courses reduce their historically high DFW rates? How can those rates then be categorized by placing a value on their success? How did the retention rates among students in participating pilot program courses compare to the institutional retention rates? Did the overall institutional retention rate change because of the LLREI? What characteristics emerged about the students in the pilot program who did not re-enroll? What perceptions did stakeholders have about the LLREI? Did students, faculty, and TAs value the program? Why or why not? Was the program worth the financial investment? What unexpected outcomes emerged from the LLREI? Why did university leadership eliminate the program? What conclusions may be drawn from the outcomes

about program culture, institutional culture, and institutional policy that may be useful for other higher education institutions interested in developing similar programs?

CHAPTER ONE: METHODOLOGY OF EVALUATION

Methodology

This post-hoc program evaluation utilized a mixed-methods approach to determine the success of the LLREI. Program evaluation requires the systematic determination of the quality or value of something (Scriven, 1991). This program assessment employed the dimensional evaluation attributed to Scriven in 1991, where the whole program is evaluated based on clearly defined program dimensions. Dimensional evaluation is "a form of analytical evaluation in which the quality or value of the evaluand is determined by looking at its performance on multiple dimensions of merit (also called criteria of merit) that pertain to the evaluand as a whole rather than separately to its parts" (Davidson, 2005, p. 102). Intended and unintended program outcomes defined the dimensions for this program evaluation. Program documents identified expected outcomes and various data sets identified unexpected outcomes. Unintended outcomes were included because they provide useful information that might otherwise go unnoticed by just evaluating expected outcomes (Scriven, 1972).

This program evaluation assigned values based on merit, or the intrinsic value, to determine the extent to which program outcomes were achieved. "Merit determination is the process of setting "standards" (definitions of what performance should constitute 'satisfactory, good, etc') and applying those standards to descriptive data to draw an explicitly evaluative conclusion about performance on a particular dimension or component" (Davidson, 2005, p. 131). This assessment reached evaluative judgements

only with the presence of robust evidence for some dimensions, whereas deficiencies of evidence prevented evaluative judgements for other dimensions.

Data

Data gathered included student grade outcomes (DFW rates), student retention rates, student surveys, TA surveys, faculty surveys, faculty plans for incorporating TAs into their courses, faculty letters of program support, and numerous institutional reports, memos, and emails. Table 1 summarizes each program dimension and the corresponding data sources.

Table 1. Program Dimension and Data

Dimension	Data Source(s)	Program Goal
Retention Rates	4,336 student data records; NMU institutional rates Characteristics from literature review	Increase retention rates at the course level so institutional level also increases
DFW rates	4,336 student data records; Needs assessment/stated program objectives	Lower DFW rates below 30%
Student Perceptions	1,800 student surveys Characteristics from literature review	Students will positively view the TA program
TA Perceptions	80 TA surveys Characteristics from literature review	TAs will recognize ways they improved the course experience.
Faculty Perceptions	30 Faculty surveys; # of Faculty evaluations of TAs each semester; letters of support when program slotted for elimination	Faculty will appreciate TA assistance & institutional support
TA Professional Development	80 TA surveys Characteristics from literature review	TAs will find training effective.

TAs will develop skills for future graduate school and/or careers |
| Costs | Average per semester | Program will be cost neutral |
| Active Learning | Pre-semester statements Characteristics from literature review | Faculty will infuse course-appropriate active learning strategies into their teaching methods |

The quantitative analysis considered data records from 4,336 participating students obtained from the NMU Registrar's Office. These non-personally identifiable student records included major, gender, declared degree, GPA, initial admit status, grade achieved in the participating course, and last semester enrolled. Admit status, grade achieved, and last semester enrolled were analyzed, whereas the other criteria were not utilized. The three data sets identified trends and patterns showing for whom the pilot program was successful. The interpreted trends help to explain the success, or lack thereof in some cases, of the pilot program.

This program evaluation categorized course level DFW rates based on three trends that emerged within the data results. First, the courses that achieved the most success reduced their DFW rates to below 20%. Second, some courses improved their DFW rates by dropping below the 30% threshold, but maintained course DFW rates between 21-29%. Third, the courses that did not achieve success sustained DFW rates above 30%.

Retention rates provide another data set. This program evaluation compared retention rates by student admit status and grade achieved within the program participants. This evaluation also compared pilot participants' retention rates with the overall retention rates of the university.

Supplemental analysis derived from anonymous surveys collected from approximately 1,800 participating course students. The student surveys provided both quantitative and qualitative results. The totaled student surveys results determined the student perception outcomes for quantitative measurement. This analysis also employed

purposeful sampling to determine qualitative outcomes of student perceptions based on the students' written survey comments.

This program evaluation obtained results from two other end-of-semester surveys. This assessment compared results from the faculty surveys and TA surveys with the student surveys. Faculty surveys were identifiable by name and course. While instructed to remain anonymous, some TAs identified themselves. Purposeful sampling of the faculty and TA surveys provided representative data for the entire program.

Six faculty members wrote letters of support when institutional leadership identified the program for possible elimination as part of larger university budget cutbacks caused by declining enrollments. Faculty wrote the letters during the month of October of 2015, which was during the one-semester extension following the formal three-year pilot program. The letters provide a different kind of insight into the success of the program because the faculty voluntarily constructed letters to argue in support of the program and save it from elimination. Each faculty member provided examples of why they believed the program was successful. Their words produced a lens through which to examine aspects of program culture such as collaboration, peer relationships, values, and beliefs about the worthiness of the program.

This analysis explained estimated program costs, but a return on investment measurement could not be calculated due to the limitations of the data available. It was impossible to identify financial characteristics such as which pilot students received financial aid, scholarships, took advantage of flat tuition rates, if a student dropped a class due to financial reasons, or even determine the return on investment in TA training. Thus, the financial analysis is only generalized and summary in nature. This program

evaluation explicitly recognizes the financial analysis limitation. This program assessment concludes with an analysis of the decision to eliminate the program in the context of institutional leadership, policy, and culture.

Definitions

Large lecture: 70 students or more

DFW rate: percentage of students not succeeding in a course because they received a final grade of D, F, or W.

High DFW rate: 30% or more of students did not succeed.

Introductory courses: 100 or 200 level courses and usually a gateway course for a major.

Good Standing Admit: a student admitted with at least a 2.25 high school GPA; and at least either a score of 19 on the ACT or 900 on the SAT.

Other Admit: a student admitted who did not meet the Good Standing criteria. This category include students in the College Transitions Program, Freshmen Probation, Transfer Probation, and Restricted Admit to Program.

Bias

The author acknowledges personal bias because she was also a teaching-faculty participant for two and one-half years of the pilot program and the Large Lecture Retention Enhancement Coordinator for two years of the pilot program. This author agrees with the constructivist/interpretivist paradigm of program evaluation, which recognizes that "evaluative conclusions can never amount to anything more than the application of personal values in the interpretation of data" (Davidson, 2005, p. 88). Assigning values is always subjective. The author strived to set aside personal bias and

instead use informed judgement to objectively evaluate the evidence available for

program evaluation (Davidson, 2005).

CHAPTER TWO: HISTORICAL BACKGROUND

University retention rates are important indicators of the vibrancy and health of any higher education institution. Universities across the United States strive to keep their students enrolled at their institution and help students achieve completion through graduation. Completion means that a student enrolls in a particular program and at the undergraduate level receives a certificate in a specific trade, such as welding, an Associate's degree, or a Bachelor's degree (The National Center for Education Statistics, 2016). Several non-academic factors ranging from housing, financial aid, and feeling a sense of belonging influence a student's decision to re-enroll (Astin, 1993; Hausmann, Schofield, & Woods, 2007; Tinto, 2002). However, in order for students to achieve completion, they must stay in good academic standing. Universities provide students with various academic and social supports. These retention policies and programs help students achieve completion.

Retention policies and programs fit into the broader context of institutional policies, which guide particular programs that align with stated institutional goals. According to Crosby and Bryson (2005, p.157), policy "can be defined as substantive decisions, commitments, and implementing actions by those who have governance responsibilities … as interpreted by various stakeholders" (as cited in Fowler, 2013, p. 4). While that definition referred to public policy, the same concept applies to institutional policy where institutional leaders formulate and communicate a vision as well as subsequent actions to achieve specified goals at a particular time. Universities across the country share a common goal of retaining their students while varying widely in how

they do that with specific policies and programs (Gee, 2013). Even though universities vary with specific retention policies and programs, they share the same nationally accepted standard of how to measure retention.

Universities measure retention rates using third semester enrollment figures. First time full time students who enroll for their first fall semester and then return the subsequent fall semester are used to measure retention rates (FAFSA.gov, n.d.; "Undergraduate Retention and Graduation Rates - Indicator April (2017)," 2017). According to *U.S. News & World Report*, NMU averaged a retention rate of 73% from 2010-2013 ("Freshman retention rate," 2016), which did not signal cause for alarm by itself. (The *U.S. News & World Report* average is higher than the 68.4% average calculated using numbers directly from the NMU Institutional Research website.) According to U.S. News & World Report, ranking 74th out of 150 Midwest public universities, NMU's 73% retention rate is close to similarly sized Midwest public institutions such as University of Wisconsin Oshkosh and University of Minnesota Duluth, both of whom averaged 76% retention rates from 2010-2013 ("Freshman retention rate," 2016). While NMU's retention was likely on par with peer institutions, NMU's enrollment trends threatened institutional stability.

The cause for alarm at NMU stemmed from declining new enrollments every year since 2010 combined with the projected continued decline into the future due in large part to Michigan's declining K-12 student population (Klarin, 2014; Mesloh, 2015; Rowles, 2015). NMU's decreased enrollment trend made retention even more critical because every student who stayed at NMU equated to preserving the funding necessary to keep faculty employed, maintain course offerings, and provide academic retention-based

programs that made NMU an academically attractive institution for students.

Recognizing that enrollment was likely to decline and retention could improve, NMU

formed a committee to recommend potential academic-related retention policies and

programs.

The LLREI was one part of a larger Academic Affairs-based retention investment.

In 2011, the Provost as well as the Vice President for Institutional Research convened an

Academic Affairs committee to create recommendations focusing on academic-related

retention policies and programs. By creating this committee composed mostly of faculty,

these leaders fostered a collaborative culture. They "empowered others to define

organizational policies and develop programs based on the values and beliefs contained

in the philosophy" (Sashkin, 2012, p. 15) where the underlying beliefs explained that

faculty can improve academic-related retention.

Much of the existing literature about academic retention programs focuses on sub-

groups of students such as minorities or first year students (Bedford & Durkee, 1989;

Hyman, 1995). These sub-groups benefit from a sense of community showing that

targeted interventions can positively impact academic success for those students

(Soldner, Lee, & Duby, 1999). The NMU retention committee recognized that while

many factors influence retention, as noted in the existing scholarship, Academic Affairs

should have a primary voice and responsibility for academic-related retention because

students are ultimately in university to complete their academic programs. NMU's

institutional policy for retention from 2012-2015 moved the assigned responsibility for

academic-related retention out of the Student Services division of the university and into

Academic Affairs to improve the academic component of institutional retention. Financial investment supported this institutional policy shift.

The 2012-2013 budget allocated $360,000 for five retention enhancement initiatives (Duby, 2013). First, new courses were created for incoming first-year students on probation. Second, an Academic Quality Improvement Program (AQIP) action project on retention created recommendations for a variety of entities across campus. Third, the English and Math departments institutionalized their departmental TA/tutoring programs. Fourth, the LLREI program came to fruition. Fifth, a new administrative position added leadership responsibility with an Associate Dean of General Education and Retention. This program evaluation did not obtain the precise figures actually allocated from that initial budget for each of the initiatives. However, this program evaluation estimated that $180,000 of the $360,000 supported the LLREI pilot program.

The LLREI received approximately $30,000 per semester over six semesters ($180,000) from that original budget allocation. The number of TAs varied between twelve and eighteen depending on the semester. On average, $18,000 per semester funded the TA stipends and an additional $12,000 funded the Retention Enhancement Coordinator part-time faculty stipend. Therefore, the average cost was $30,000 per semester. The Vice President of Institutional Research voiced strong support for the program and explained to participants that at a flat tuition rate of $4,778.00, if just six struggling students who would otherwise have failed were able to succeed academically and enroll for another semester, this program would theoretically pay for itself because $4,778 x 6 = $28,668, which is almost $30,000. Any students beyond that threshold of six students theoretically would help maintain revenue.

The LLREI utilized funding, training, and coordination to support at least one undergraduate TA to provide in-and out-of-class assistance to large lecture faculty members and their students with the goal of improving students' attendance, academic performance, and ultimately retention. According to the April 12, 2012 Retention Committee Deliberations and Recommendations, "trained and paid teaching assistants would complement the work of the faculty member and help enable the implementation of active learning components within the class, while enhancing the communication and feedback with the students" (NMU Academic Affairs Retention Committee, 2012). Thus, the faculty were required to integrate active learning while the TA would utilize a push-in style of support within the course. Program administrators identified select courses for participation in the LLREI.

Three criteria determined participation eligibility: 1. large lecture introductory level course with at least 70 students enrolled; 2. historically high DFW rate of 30% or more; and 3. instructor willingness to integrate active learning into the large lecture. The two individuals initially responsible for recruiting participants, the Vice President for Institutional Research and a part-time faculty in the English Department and Retention Enhancement Coordinator for the first year, supposedly solicited every faculty member on campus whose courses met the first two criteria. Those figures were not available for this program evaluation. Only a handful of the identified faculty were willing to adhere to the third criteria of integrating active learning; hence, the few who met all three criteria became the initial participants. They recruited TAs and wrote statements about how they would employ the TAs to incorporate new active learning instructional techniques. The

Retention Enhancement Coordinator provided the faculty with active learning website resources and trained the first TAs.

TAs shared similar duties across disciplines and across all the semesters. Typical TA duties included the following:

1. Attend class and assist with active learning logistics

2. Grade objective assessments, track attendance, create quiz questions

3. Meet weekly with instructor to discuss upcoming plans and identify struggling students

4. Reach out to identified struggling students and provide academic interventions

5. Prepare review materials and run study sessions

6. Meet with individual students during office hours

TAs worked ten hours per week and were paid $10/hour. New hires worked fourteen-week contracts and received twelve hours of training as part of their workload. Rehires worked fifteen-week contracts, so they received a raise to reward their efforts. Rehires did not engage in further training, but typically attended a meeting at the beginning of the semester where the Provost or the Vice President of Institutional Research welcomed the participants and reviewed their collective goals.

LLREI administrative personnel shifted over the course of the pilot program. The Vice President for Institutional Research as well as the part-time faculty in the English Department and Retention Enhancement Coordinator created the program and administered the first year of the LLREI. They both left NMU during the summer of 2013. The newly created position of the Associate Dean of General Education and Retention and another part-time faculty member (in the History Department) then assumed responsibility.

The three-year pilot program concluded in the Winter 2015 semester and subsequently ran in the Fall 2015 semester on a one-semester extension. This program evaluation excluded the additional semester from the quantitative portions of this program evaluation because administrators originally scheduled the pilot for three years and the data received from NMU's Institutional Research only pertained to the three-year pilot program. However, this program evaluation includes some qualitative pieces of evidence produced during the extra semester because the evidence pertained to the decision to eliminate the program. Those qualitative pieces included important insights about program worth and program culture.

CHAPTER THREE: QUANTITATIVE FINDINGS AND DISCUSSION

DFW Rates

The program's main goal was to reduce the rates of students failing or

withdrawing from the introductory large lecture courses. Administrators targeted large

lecture introductory courses because of the potential for impact. For example, a course

with 70 students and a 30% percent DFW rate equates to 21 students not succeeding in

that course. Those 21 students could receive academic interventions and benefit from

improved course engagement with the hope of helping more of those students succeed

academically. The precise number of courses with high DFW rates was not available for

this program evaluation. However, all initial participants had a historically high DFW

rate of at least thirty percent.

The results show that students in Good Standing Admit categories earned more

passing grades than students in Other Admit categories. Most participating courses

successfully reduced their DFW rates. Table 2 and Figure 1 depict the percentage of

students that succeeded, split up by admit category:

Table 2. Grade In Class By Admit Type: All LLREI Participants 2012-2015

	Good Standing	Other Admit
% With A,B,C Grade	89.46%	68.28%
% With D,F,W Grade	10.54%	31.72%
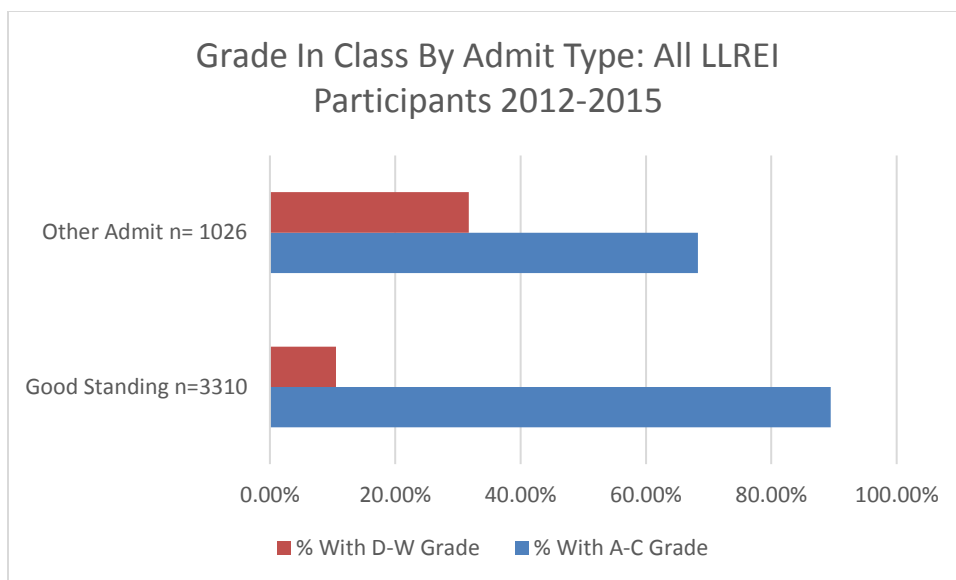
Figure 1. Grade In Class By Admit Type: All LLREI Participants 2012-2015

When viewed in one combined group, the data set shows that students admitted in Good Standing outperformed the students admitted on any kind of conditional admit status. Of the Good Standing Admits, 89.46% achieved a grade of C or better in their class, while 10.54% received a D, F, or W. The Other Admit students did not perform as well. As a percentage, nearly three times as many Other Admit students received a D, F, or W compared to the Good Standing students. Nearly 20% fewer Other Admit students earned a grade of C or better compared to the Good Standing students. This suggests a correlation between the admit category and the grade achieved in the participating class.

The university did not disclose student admit status to the participating faculty for immediate intervention early in the semester. Such a disclosure might have improved the academic success of the Other Admit students and thus improved the overall program outcomes as well.

Most participating sections achieved the desired objective of reducing their DFW rate, but the degree of success varied. Although not explicitly written in any evidence

available for this evaluation, the program designers implied that the goal was to reduce

the DFW rates to below 20%, but any drop in DFW rates counted as improvement. Thus,

three categories emerged from the DFW rates of the 52 course sections and values were

assigned to those trends as follows: Successful (DFW rate of 19% or lower), Improved

(DFW rates of 20-29%), and Not Successful (DFW rate of 30%+). Of the 52

participating course sections, 73% were Successful, 15% Improved, and 12% were Not

Successful. Figure 2 graphically depicts the percentage categories and Table 3 lists the

outcomes at the course level.
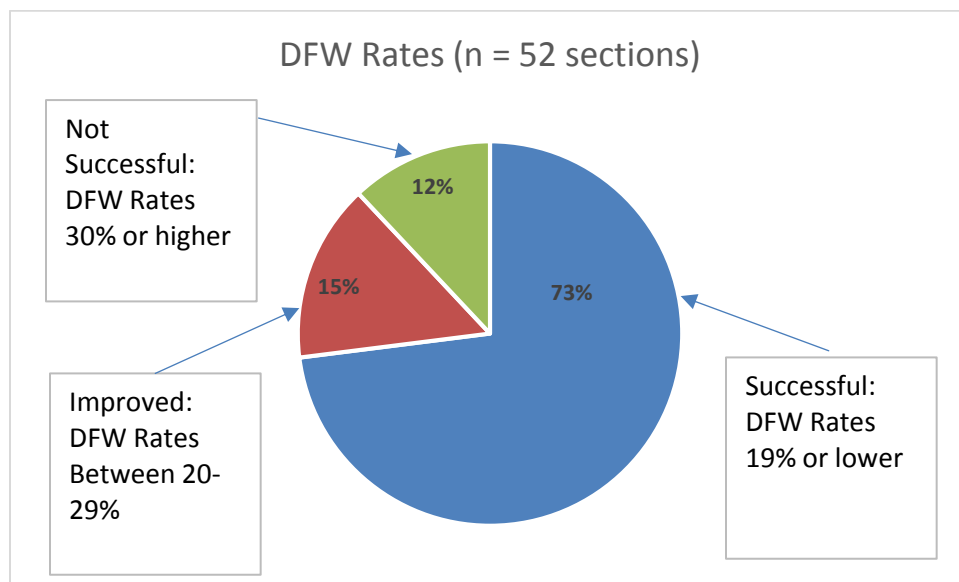
Figure 2. DFW Rates (n = 52 sections)

Table 3. DFW Rates By Outcome

Successful	Number of Sections
Clinical Lab Sciences Intro Series (CLS 100, 109, 190 and 200)	18
Introductory Sociology (SO 101)	9
World History (HS 105)	6
Nutrition for Humans (HN 210)	2
Human Anatomy and Physiology II (BI 202)	2
Psychology as a Natural Science with Laboratory (PY 100L)	1
Subtotal	38
Improved	
Introduction to Criminal Justice (CJ 110)	3
Introductory Sociology (SO 101)	2
Human Anatomy and Physiology (BI 104)	2
Psychology as a Natural Science (PY 100S)	1
Subtotal	8
Not Successful	
Psychology as a Natural Science (PY 100S)	3
American Government (PS 105)	2
World History (HS 105)	1
Subtotal	6
Total Sections	52

Successful Courses

Three courses showed the most improvement in reducing DFW rates and

consistently participated in the LLREI. Those three courses were the Clinical Lab

Sciences series (CLS 100, 109, 190 and 200), Introductory Sociology (SO 101), and

World History (HS105). Three other Successful courses did not formally meet the initial

criteria for program participation. Instead, they received support based on other

justifications that closely aligned with program goals, such as facilitating active learning

in courses without historically high DFW rates. Two of them only participated toward the

end of the pilot program and thus do not have the same data available as other Successful

courses with sustained participation. Those two courses were Human Anatomy and

Physiology II (BI 202) and Nutrition for Humans (HN 210). One section of Psychology

as a Natural Science with Laboratory (PY100L) was Successful, but only participated one semester in the second year of the LLREI.

Clinical Lab Sciences participated all six semesters of the pilot program and achieved the best results. The Clinical Lab Sciences series (CLS 100, 109, 190 and 200) achieved the best results. Every section (18 in total) reduced the DFW rate below 20% and eight of those sections dropped below 10%. One faculty member taught all of the participating sections.

Introductory Sociology (SO 101) participated five of the six semesters. SO 101 achieved Improved results (DFW rates of 26% and 28%) in their first semester participating, but then consistently performed at the Successful level each subsequent semester. In total, two sections of SO 101 improved and nine sections were successful. SO 101's downward trend of DFW rates continued with sustained improvement. It is worth noting that three different faculty members taught SO 101 throughout this time period. There does not appear to be any noticeable difference in the results between their outcomes.

World History (HS 105) achieved Successful results in six sections over five semesters. One faculty member taught five of these sections over all five participating semesters. A second faculty member who opted to participate and work with TAs for the first time taught the sixth section near the end of the pilot program.

Human Anatomy and Physiology II (BI 202) and Nutrition for Humans (HN 210) received TA assistance via the pilot program not for their historically high DFW rates, but for their already exemplary use of active learning in a large lecture introductory course that justified additional instructional support. BI 202 had two participating

sections taught by the same faculty member in the last semester of the program. The historical DFW rates are not available on the NMU Institutional Research website for either course, so it is unclear if the low DFW rates, all in the 12-13% range, actually show any kind of decrease from previous years.

One section of Psychology as a Natural Science with Laboratory (PY100L) was successful. The section during the W14 semester enrolled 273 students, so the outcome of 16.5% is particularly impressive when viewed in isolation. However, comparing the rates with previous semesters taught by the same faculty member yields a different picture. PY100L did not have a historically high DFW rate, but rather received TAs due to the sheer volume of students enrolled each semester. From the Winter 2012 to the Winter 2014 semester, the course enrolled an average of 297 students and the DFW rate averaged 17.88%. Therefore, the 16.5% rate while participating in the pilot program shows persistence in the rate and does not show any meaningful change while participating in the program. Other direct comparisons were impossible because NMU did not rehire the faculty member who only participated in the pilot program that one semester.

Improved Courses

Five sections of three courses improved by reducing DFW rates to the range of 20%-29%. Two of the courses met the initial criteria for participation and one joined later when the faculty member learned of the LLREI. The three courses are Introduction to Criminal Justice (CJ 110), Human Anatomy and Physiology (BI 104), and Psychology as a Natural Science (PY100S).

CJ 110 achieved DFW rates between 24-26% for each of three sections taught during the first year of the pilot program. CJ 110 only participated at the early stages of the pilot program due to faculty teaching assignments. The other faculty who taught the class later in the pilot program elected not to incorporate a TA into the class and thus did not participate. While CJ 110 achieved some progress in reducing the DFW rates, there are no longer term participation outcomes to measure.

BI 104 participated during the last two semesters and showed small improvements. With a historical DFW rate above 30%, the faculty member embraced active learning and working with a TA to produce rates at 28%. The initial program administrators apparently did not invite this faculty member to participate because the faculty member was not aware of the opportunity to participate during the first two years of the pilot. The faculty member learned of the opportunity from the second Retention Enhancement Coordinator while serving on a different committee. This example highlights the effect of institutional communication because the faculty member had never heard about this opportunity and the initial LLREI administrators should have informed the professor from the beginning.

Only one section of PY100S improved. During the first semester of the pilot program, the course achieved a DFW rate of 26.11%. This shows an improvement from the previous semester's rate of 42.9% taught be the same faculty member. However, the drop below the 30% threshold was an isolated event as all other subsequent sections taught by that faculty member remained outside the desired benchmark.

Not Successful

Six sections of three courses were not successful at reducing their historically high DFW rates. Individual faculty members were likely responsible for the lack of success in two courses, where the third course's lack of success was likely due to scheduling issues. These courses are Psychology as a Natural Science (PY 100S), World History (HS 105) and American Government (PS 105).

As noted earlier with the exception of one section, all other sections of PY 100S were unable to achieve the expected results. This is particularly troubling because this course typically enrolls between 200 and 250 students per section. For example, a 30% DFW rate in a section of 200 students equates to 60 students not succeeding in that course. A comparison of all PY 100S sections taught from F09 to W16 (includes semesters both before and after the pilot program) exposes that the DFW rates were probably dependent on the faculty member teaching rather than participating in the pilot program.

Prior to the pilot, one professor taught PY100S with an average DFW rate of 25.93% from F09-W11. A second professor participated in the LLREI from F12-W14 with an average DFW rate of 33.64%. Expanding the outcomes to include an additional three semesters of teaching it without participating in the program, that professor's average DFW rate increased to 35.3% from F12-W16. The second professor's average DFW rate was nearly 10% higher than the first professor's DFW rate. The faculty DFW rate connection is further emphasized when taking into consider the F14 semester. A third professor, who did not participate in the pilot program, taught it during the F14 semester with a 16.4% rate, resulting in the lowest DFW rate for PY 100S in seven years.

The second professor returned to teaching the class during W15, but opted out of the pilot in order to use the section as a control group for their own research purposes. The PY 100S during that Winter 2015 semester DFW rate rose to 39.8% (Northern Michigan University, n.d.).

One section of HS 105 was not successful in achieving the desired reduced DFW rates. The section in the last semester of the pilot program achieved a DFW rate of 34.78%. It was the first time this professor ever worked with a TA so there was a learning curve to determine how best to utilize the TA to support the students who were struggling. The professor was also still new at teaching the course and exploring how best to utilize active learning strategies in a large lecture.

The two sections of PS 105 that participated in the pilot program had the worst results of the entire program. During the F12 semester, both sections had DFW rates in the 50-55% range. While the faculty member and TA tried to incorporate active learning and student instructional support systems, the high failure rates were likely due to the unusually high numbers of students in conditional admit blocks (probation) being scheduled for these two sections. This scheduling was not typical and should not be viewed as a failure on the part of the faculty member.

LLREI Retention Rates

NMU hoped to increase retention rates by reducing course DFW rates in the participating large lecture courses. Institutional retention rates are measured using the national standard of 3rd semester of attendance (National Center for Education Statistics, n.d.). The retention rates of students in the LLREI courses depicted in Table 4 show

mixed results with the best outcomes for freshmen in good standing and the worst results

for freshmen admitted with some kind of conditional status.

Table 4. Retention Rates Of LLREI Freshmen By Admit Category

Academic Year and Student Standing - Right aligned categories show sub-sets of "Other Admit" classification	Total Students	0 or 1 semester beyond initial semester	2+ semesters beyond initial semester
F12 Freshmen (all participating)	297	25.59%	74.41%
F12 Freshmen Good Standing	216	18.98%	81.02%
F12 Other Admit Subtotal	81	43.21%	56.79%
F12 Readmit	6	66.67%	33.33%
F12 Freshmen Probation	45	46.67%	53.33%
F12 College Transition Program	14	57.14%	42.86%
F12 Restricted Admit To Program	14	14.29%	85.71%
F12 Transfer Probation	2	0.00%	100.00%
F13 Freshmen (all participating)	322	31.37%	68.63%
F13 Freshmen Good Standing	283	27.56%	72.44%
F13 Other Admit Subtotal	39	58.97%	41.03%
F13 Readmit	4	100.00%	0.00%
F13 FP	18	55.56%	44.44%
F13 CTP	4	25.00%	75.00%
F13 RATP	13	61.54%	38.46%
F13 Transfer Probation	0	N/A	N/A
F14 Freshmen (all participating)	220	40.00%	60.00%
F14 Freshmen Good Standing	180	32.22%	67.78%
F14 Other Admit Subtotal	40	75.00%	25.00%
F14 Readmit	7	42.86%	57.14%
F14 FP	9	77.78%	22.22%
F14 CTP	5	100.00%	0.00%
F14 RATP	19	78.95%	21.05%
F14 Transfer Probation	0	N/A	N/A

The cohort of freshmen admitted in Good Standing in the Fall of 2012 that enrolled in participating LLREI courses were retained at a rate of 81.02%. This is the best result of the three years. After that, the Fall 2013 and Fall 2014 retention rates for Good Standing freshmen were 72.44% and 67.78% respectively. This shows an overall downward trend difference of 13.24% (F12 rate – F14 rate) in the retention rates among freshmen in Good Standing over these three years of courses participating in the LLREI. While the downward trend among Good Standing freshmen is troubling, it is not as disturbing as the retention rates among conditionally admitted freshmen.

Conditional admit status categories include Freshmen Probation, College Transitions Program, Restricted Admit To A Program, and Transfer Probation. When taken together as one Other Admit status, the downward trend is steeper than the Good Standing admits. The Other Admit retention rates went from 56.79% for the Fall of 2012 to 41.03% and then 25% for the Fall of 2013 and Fall of 2014 respectively. The difference of 31.79% (F12-F14 rate) demonstrates a plummeting decline of retaining freshmen on conditional admit status.

A few exceptions of Other Admits outperforming Good Standing admits are worth noting. The F12 cohort of Restricted Admit To Program freshmen were retained at a rate of 85.71%, which is 4.69% higher than the Good Standing freshmen. During the F12 semester, the Transfer Probation students were retained at a rate of 100%, which is 18.98% higher than the Good Standing freshmen that year. The F13 College Transitions Program freshmen were retained at a rate of 75%, which is close to the rate of Good Standing freshmen during that same time period. These three exceptions of conditionally admitted students being retained at rates higher than the Good Standing freshmen must be

recognized as only 20 out of 160 (12.5%) of Other Admit students. In addition to the

connections between admit status and retention, this program evaluation compared the

participating pilot program retention with overall institution retention rates.

NMU's institutional retention rates over the previous decade prior to the pilot

program (F02-F03/F11-F12) shown in Table 5 reveals an average of 68% among all first

time, full time freshmen including those in certificate programs, associate programs, and

baccalaureate programs ("3rd_Semester_Retention3.pdf," n.d.). Even though the rates

were steady, the threshold of achieving retention rates above 70% has not happened since

the F03-F04 measurement. Every year since then produced rates between 65-69%.

Table 5. NMU Historical Retention Rates

Academic Semesters	Retention Rate
F02-F03	68.8%
F03-F04	70.5%
F04-F05	69.5%
F05-F06	69.7%
F06-F07	65.5%
F07-F08	69%
F08-F09	68.8%
F09-F10	66.3%
F10-F11	67.3%
F11-F12	69.1%
F12-F13	68.7%
F13-F14	67.3%
F14-F15	69.1%
Average	68.43%

When the LLREI retention rates of Fall 2012, 2013, and 2014 were compared to

NMU institutional totals, as shown in Table 6 and Figure 3, the outcomes demonstrate

mixed results. The participating pilot freshmen in F12 and F13 (Good Standing +

Conditional Admits) resulted in retention rates higher than the NMU institutional totals.

This is also true of the Good Standing freshmen in F12 and F13. The highest gap

between Good Standing freshmen and the NMU institutional rate happened in F12 when

the Good Standing freshmen retained at 12.32% more than the overall NMU rate. The

F14 freshmen closely approached, but still fell short of, the NMU institutional retention

rate.

Table 6. LLREI retention rates

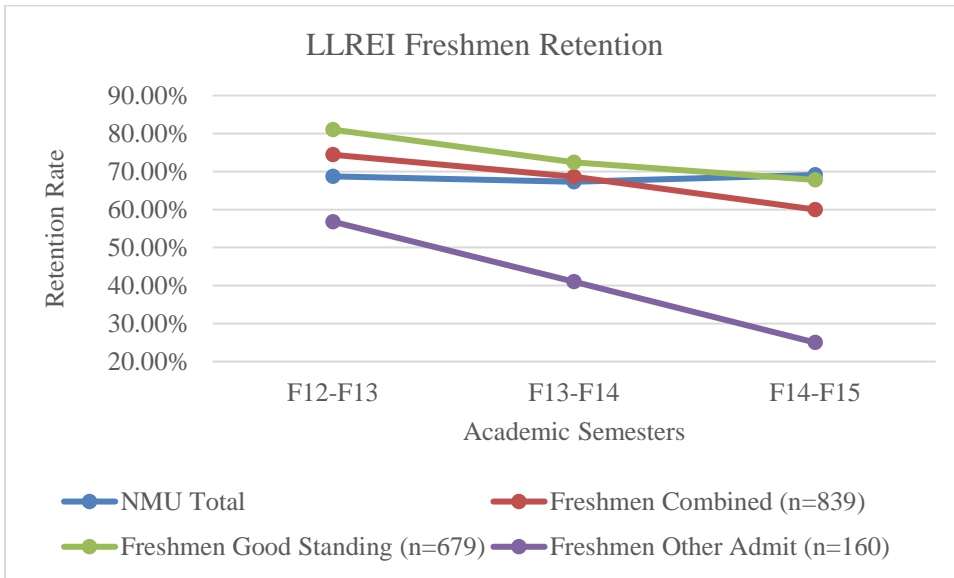|	F12-F13	F13-F14	F14-F15
NMU Total	68.70%	67.30%	69.10%
Pilot Freshmen Combined	74.41%	68.63%	60.00%
Pilot Freshmen Good Standing	81.02%	72.44%	67.78%
Pilot Freshmen Other Admit	56.79%	41.03%	25.00%

Figure 3. LLREI Retention Rates and NMU Institutional Retention Rates

The conditionally admitted freshmen were retained at lower rates. The

plummeting results should raise red flags about what is happening to these students. The

F12 Other Admits were retained at 11.91% lower than the NMU institutional rate. The

F13 Other Admits were retained at a rate of 26.27% lower than the NMU institutional rate. Most concerning, the F14 Other Admits were retained at a rate of 44.1% lower than the NMU institutional rate.

Students Not Retained

Why were these students dropping out and what accounts for the decreased retention rate over the three years of the pilot program? At best, this analysis can rule out a few explanations, but no clear answers emerge from this data set. The sharp decrease in the retention rate from F13 to F14 cannot be attributed to a disproportional number of Other Admit students participating in the LLREI because there were almost the exact same numbers: 39 students in F13 and 40 students in F14 classified in other admit categories.

Nor can the TAs account for the retention drop because like all of the other semesters, the F14 student perception survey responses were overwhelmingly positive. For example, 69.3% said the number of TAs in classes should be increased and 27.3% said the number should stay the same. Together, 96.6% of the student respondents positively viewed the TA program. Only 3.4% out of 355 responses during the F14 semester said the number of TAs on campus should decrease, suggesting that only a tiny minority of students found no use or negatively viewed the TAs in their classes. These rates are nearly identical to every other semester.

According to the NMU Registrar's Office, university admission standards did not change from 2012-2015, so that was ruled out as a factor to explain the retention declining trend (G. Daniels, personal communication, December 5, 2016). While the data does not explain why the students left the university, the data does provide some

characteristics about the students who were not retained that may be useful for institutional retention policies.

      While the percentages show that Good Standing admits outperformed Other Admits, a different picture emerges with the total numbers. When isolating the freshmen participating pilot students who were not retained, the numbers indicate that more freshmen students admitted in Good Standing were not retained compared to students on any kind of other conditional admit category.

Freshmen Not Retained By Admit Type

	F12	F13	F14
Good Standing	41	76	58
Other Admit	35	24	30

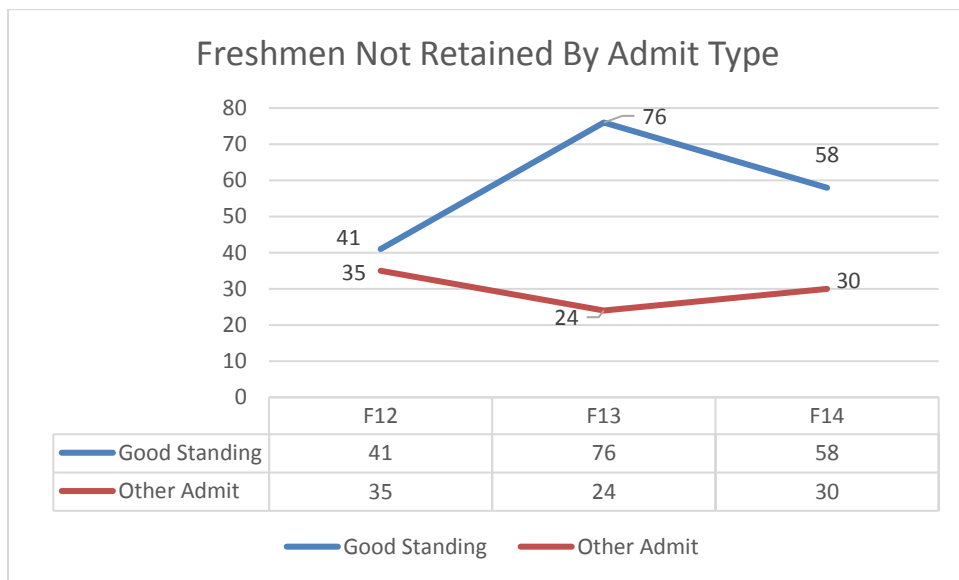Good Standing   Other Admit

Figure 4. Number of Freshmen Not Retained By Admit Type

      One conclusion that can be drawn from the students not retained is to recognize that pilot program freshmen students in the Biology, Clinical Lab Sciences, Psychology, and Sociology withdrew from the university in higher numbers than students in Criminal Justice, Human Nutrition and History as indicated in Table 7.

Table 7. Number of LLREI Freshmen Not Retained By Course

	F12	F13	F14
Human Anatomy and Physiology (BI 104)	-*	-	18
Introduction to Criminal Justice (CJ 110)	6	-	-
Clinical Lab Sciences Intro Series (CLS 100, 109, 190 and 200)	12	13	19
HN 210	-	-	4
World History (HS 105)	-	5	8
Psychology as a Natural Science (PY 100S)	30	31	-
Introductory Sociology (SO 101)	28	51	39

*Course did not participate in the LLREI

These numbers of students are surprising because two courses have retention numbers that negatively correlate to the DFW rates of the same classes. For example, the Clinical Lab Sciences Intro Series reduced historically high DFW rates above 30% to below 20% and remarkably even had eight sections with DFW rates below 10%. Yet, Clinical Lab Sciences Intro Series had persistent numbers in the teens of freshmen not retained. Similarly, nine out of eleven Introductory Sociology sections successfully reduced their DFW rates below 20% and the other two improved between 20-29%. Therefore, all of the Introductory Sociology sections reduced their numbers from historically high DFW rates above 30%. Yet they still had some of the largest numbers of freshmen students not retained. The negative correlation suggests there was no connection between lowering the DFW rates and increasing retention in the Clinical Lab Sciences Intro Series and Introductory Sociology courses.

Two courses have numbers that positively correlate to DFW rates. The high numbers of freshmen not retained in Psychology as a Natural Science mirror the consistently high DFW rates because only one section was able to reduce their DFW rate to 26.11%, while the other three sections ranged from 34-38%. Thus failing to achieve the intended objective, the high numbers of freshmen students not retained and the DFW

rates reinforce each other.   The numbers in World History demonstrate a positive correlation where DFW rates dropped below 20% for six of the seven sections involved and World History had some of the lowest numbers of students not retained. The positive correlation suggests a connection between DFW rates and retention for Psychology as a Natural Science and World History.

NMU did not conduct any kind of inquiry with the students who were not retained, so it impossible to determine the precise reasons why those students left the university. One can only speculate that the students possibly transferred to another school, sought employment, moved home for family reasons, joined the military, did not like living in the Upper Peninsula, did not like something about NMU, or decided to hike the North Country Trail. This evaluation wonders how many of these students not retained were in more than one large lecture introductory course, but that information was not available in the data set. This author recommends that NMU conduct a formal inquiry with future students to determine why they left the university. A simple telephone survey or even a post card with pre-paid postage might give the university some insight on this matter. Alternately, NMU could probably more easily ask current 2nd-4th year students why they stayed at NMU. This may even be useful for ongoing strategic planning and yield insight to improve NMU's graduation rates.

Costs

University administration did not share overall student retention programs budget information. Therefore, this program evaluation considered estimated costs. Additionally, this program evaluation used approximate costs because precise expenditures from the first year of the pilot were not readily available. The program cost

approximately $30,000 per semester, where on average $18,000 funded the TAs and the

faculty coordinator received a stipend of approximately $12,000 per semester. Funding

for TAs varied between $15,000 and $19,500 depending on the number of TAs per

semester. Each new hire TA earned a stipend of $1,400 and rehires earned $1,500 per

semester. Over six semesters, the total LLREI expenditure was approximately $180,000.

Administrators designed the LLREI to be cost neutral or even potentially generate

an upward growth of revenue when compared to the projected loss of funding from

declining enrollment. The former VP of Institutional Research repeatedly explained to

participants that if each TA could save at least one struggling student from failing, then

the program would be financially viable. For example, at the 2014-2015 flat tuition rate

of $4,778.00, if six struggling students who would otherwise have failed, instead

succeeded academically and enrolled for another semester, the program paid for itself by

nearly breaking even ($4,778 x 6 = $28,668). Any students beyond that would help

maintain revenue.

Based on the earlier discussed decreased DFW rates, it appears that the financial

costs were likely revenue neutral due to the number of students that succeeded

academically. Hypothetically, if a class with 70 students previously had at least a 30%

DFW rate, 21 students in that class did not pass. If the DFW rate dropped to 20%, then

14 students did not pass. That seven student difference hypothetically should increase

retention, which should result in another semester of tuition from the seven students who

might otherwise would have left the university. However, there is no way to measure

actual cost recuperation due to the anonymity of student records and data available for

this analysis. Any return on investment calculation must be able to account for other

potentially influential factors in order to be credible (Phillips, 2003). It is impossible to

know if the pilot program was the determining factor for any student to stay enrolled for

another semester when that student might otherwise have left. Therefore, it is impossible

to control for the other factors necessary to determine the program's return on

investment.

It is also impossible to measure the return on investment of the TA training. A

return on investment calculation, also known as a benefits/cost ratio, would "compare the

actual expenditure for the program with the monetary benefits driven from the program"

(Phillips, 2003, p. 19). The TA training benefits to costs ratio cannot be calculated

because no data was captured to measure that ratio. The costs were only closely

estimated and the financial benefits were not captured. While the financial aspect was not

possible to measure with hard data, the soft data provided from the surveys suggests that

the TAs engaged in useful training that helped them succeed with their positions.

This program evaluation explicitly recognizes the inability to calculate the return

on investment as a limitation of this assessment. This author suggests that any future

similar program carefully consider how to accurately track the costs and measure the

return on investment of the overall program and the return on investment in training.

CHAPTER FOUR: QUALITATIVE FINDINGS AND DISCUSSION

Surveys

Participating pilot program students, faculty, and TAs answered "cross-sectional surveys" (Creswell, 2012, p. 377) at the end of each semester. Analysis of data from those surveys corroborates some of the existing literature about the role of undergraduate TAs in large lecture courses.

The former Vice President of Institutional Research created the surveys with the intention of internal monitoring purposes only. The survey questions and answers may be viewed as having some bias toward reinforcing the pilot program. The questions were limited in scope and only addressed certain topics. The answer choices did not include options such as Not Applicable. The survey grouped together choices that would likely be separated in a more academically rigorous survey. Thus, the survey data is prone to potential validity errors. Even so, the existing data set yields enough evidence for interpretation for this program evaluation.

Student Surveys

An anonymous survey administered at the end of each semester measured students' perceptions of the LLREI. The number of student responses varied from semester to semester and even question to question as indicated in the chart below. The total response rate was about half of the entire LLREI participating student population, thus providing a large enough sample to gain meaningful conclusions about student perceptions of having TAs provided for additional instructional support in these classes. Table 8 shows the number of responses.

Table 8. Numbers of Student Survey Responses By Semester

	Q1	Q2
F12	319	354
W13	348	355
F13	304	310
W14	157	160
F14	328	355
W15	340	355
Total	1796	1889
Average	1842	

The survey consisted of eleven questions; ten were multiple choice and one was extended response. Seven questions were deemed not useful for the purposes of overall program evaluation because they dealt with issues such as awareness of having TAs in the courses, TA office hour availability, and perceptions of the TAs helping students understand the professor's presentations or prepare for tests. While those questions were relevant to course-level evaluations, they did not yield meaningful macro level insights due to the nature of the specific course content and varied instructional preferences at the course level. Furthermore, those questions contained "unbalanced response options" (Creswell, 2012, p. 389) using words such as *frequently, sometimes, and somewhat* – none of which were defined. These unbalanced response options raise issues of validity, so that provided further justification to exclude them from this program evaluation. However, two questions provided meaningful data extrapolated for the purposes of overall program evaluation.

Question 1 asked students about their perceptions of the TA helping the students earn a higher grade in the course.

Q1: In your opinion, did using the TA(s) help you earn a higher grade than without their assistance?

Table 9. Q1 Survey Results

	F12	W13	F13	W14	F14	W15	Average
a. Definitely yes	21.9%	31.6%	22.70%	26.1%	22.90%	20.6%	24.3%
b. Probably yes	45.5%	42.0%	49%	47.8%	50.30%	49.4%	47.3%
c. Definitely no	32.6%	26.4%	28.30%	26.1%	26.86%	30.0%	28.4%
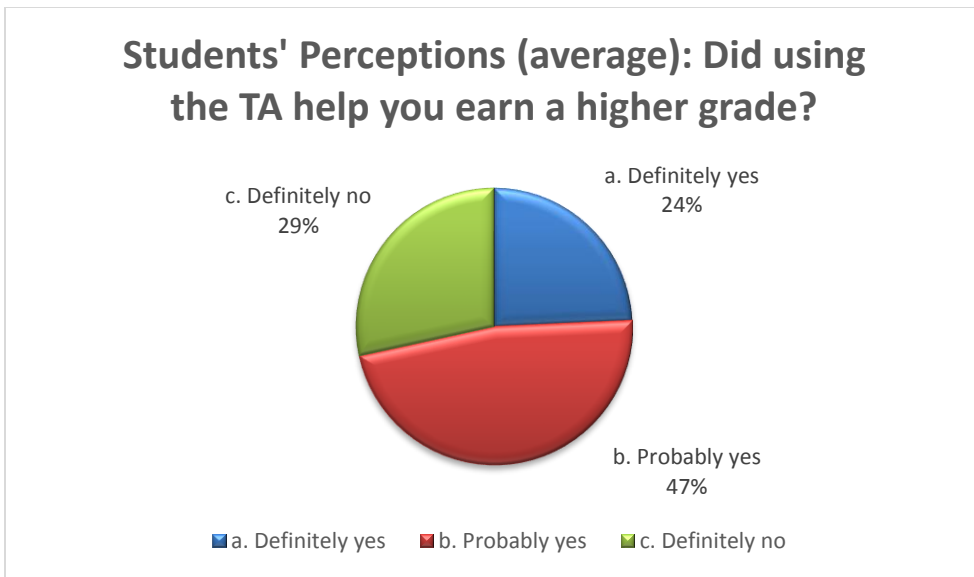
Figure 5. Q1 Survey Results (n=1796)

While there was some variation from semester to semester, the totaled average over all six semesters provides a picture that indicates students believed the TAs helped the students achieve higher scores. The Definitely Yes and Probably Yes categories indicate positive views. Taken together, 71.6% of students perceived that the TAs helped them achieve higher scores.

These perceived benefits on students' scores enrich the argument that Fingerson and Culley (2001) presented about incorporating undergraduate TAs into twelve sections of a Sociology course for one semester. They argued that students valued the TAs who ran study sessions outside of class because the students viewed those TAs as

knowledgeable and able to help the students with course content. The students in those sociology classes less favorably viewed the TAs who facilitated active learning within the classroom because students thought those TAs just helped the professor with menial tasks and did not provide any real value to the students (Fingerson & Culley, 2001). Interestingly, NMU's LLREI findings did not corroborate that perception. In fact, as noted later in the qualitative comments section, students appreciated the active role of the TAs in their courses.

Question 2 gathered students' perceptions about the extent to which the students would like to see TAs in their other courses.

Q2: This course was a pilot test of using teaching assistants to provide additional support to the students in selected large lecture classes. Would you like to see the number of classes where this takes place increased, decreased, or remain the same?

Table 10. Q2 Survey Results

	F12	W13	F13	W14	F14	W15	Average
a. Increased	61.0%	60.0%	62.30%	63.10%	69.30%	69.60%	64.2%
b. Remain the same	32.8%	33.8%	32.30%	33.80%	27.30%	29%	31.5%
c. Decreased	6.2%	6.2%	5.50%	3.10%	3.40%	1.40%	4.3%
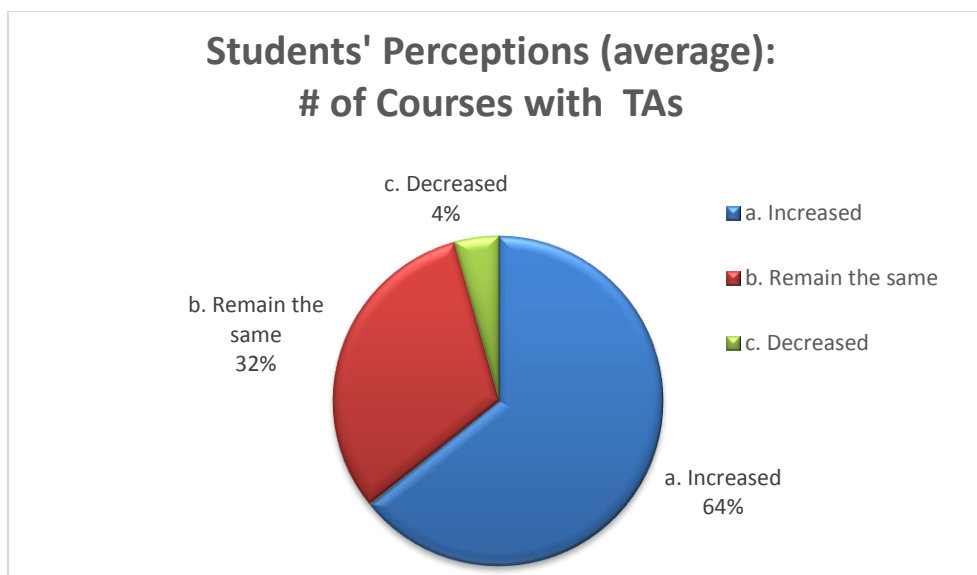
Figure 6. Q2 Survey Results (n=1889)

The results again paint a positive picture of the students' perceptions of the TAs. The averaged responses show that a majority (64.2%) of students expressed their desire for the number of courses with TAs to increase while 31.5% indicated the number of courses with TAs should remain the same. Combined, 95.7% of students expressed a positive view of maintaining or even expanding the instructional support they received via the LLREI. Only a small fraction of 4.3% preferred the level to decrease and might have seen the program as an inefficient use of university resources.

When viewed together, the responses from both questions indicate that the students saw value in the university's commitment to providing additional instructional support via TAs in these large lecture courses because the TAs helped the students earn higher grades. The students also expressed their desire to at least maintain, or preferably increase, the number of courses that provide this kind of academic support to the students in these large lecture introductory courses.

The extended response allowed students to write about anything related to their experiences with the TAs in their pilot course.

Q11. Your opinion is valuable to us. Please take a moment to comment on your experience and/or to offer any suggestions on how to improve.

The Fall 2013 semester was selected for purposeful sampling of student survey written comments for four reasons. All participating courses during this semester had previously participated for at least one semester and had some experience integrating TAs into their courses. It was the only semester no new participants joined the program (Johnson, 2015). The Fall 2013 student comments mirror the student comments in other semesters. The sample yielded 153 student comments, which is large enough to be representative while also a manageable size for coding.

The first round of coding utilized the "in vivo method" (Creswell, 2012, p. 244) to identify the most frequent words students wrote in their comments. Comments that were not relevant to the TAs were excluded from the coding process. The second round of coding combined similar words into categories to avoid overlap. The third round of coding identified themes prevalent in the student responses.

Table 11. Coding of Student Survey Responses

Coding Stage 1 – In Vivo Coding   Coding Stage 2 - Categories

Coding Stage 1 – In Vivo Coding	Coding Stage 2 - Categories
Friendly	Friendly
Approachable	
Nice	
Easier to relate to TA than professor	
Helpful	Helpful
Knowledgeable	
Answered questions	
Improved student grades/scores	
Study sessions were good/useful	
Freed up time for professor	
Not knowledgeable	Not Helpful
Unable to answer questions	
TA not friendly/respectful	
Did not improve student grades/scores	
Did not show up to assigned office hours	
Others benefited from TA	General positive view of TAs
Appreciate having them even if didn't need them	
Good job	
Good idea to have TAs	
Great	
The bomb	
Invaluable resource	
We should have more TAs on campus	
Appreciated their participation in class	
Did not need TA for this particular course	TAs not needed
Scheduling conflicts with TA study sessions	Scheduling conflicts

Six categories emerged during the Stage 2 coding process. These six categories were combined into three themes during the Stage 3 coding process: positive, negative, and a category for those who clearly did not utilize the TAs and indicated neither positive nor negative perceptions of the TAs.
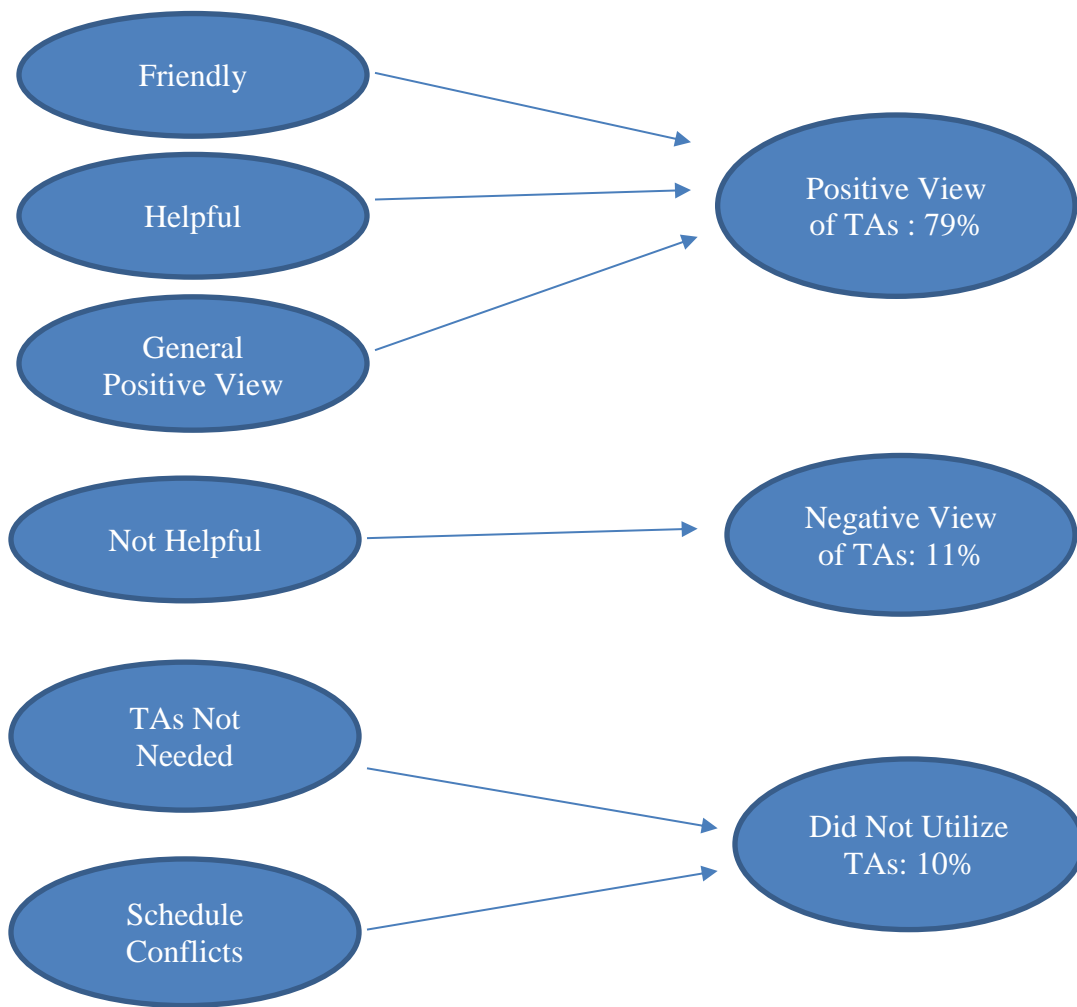
Figure 7. Coding Stage 3 – Themes

The numbers of comments in each theme reveal that the students had an overwhelmingly positive view of the TAs. Of the students that responded, 79% expressed a positive view of the TAs, 11% of the students made negative comments about the TAs, and 10% of the students did not utilize the TAs and indicated neither a positive nor a negative view. When rounded, the numbers show that about 80% of the students positively viewed the TAs, while the other 20% either did not have an opinion or negatively viewed the TAs.

Faculty and TA Surveys

Faculty and TAs also completed end-of semester cross sectional surveys about their own perceptions, as well what they thought about their students' perceptions of the initiative. The faculty survey consisted of nine multiple-choice questions and one extended response question. In addition to the survey, faculty completed an end-of semester TA evaluation with ten multiple-choice questions and one extended response question. The TA survey contained ten multiple-choice questions and four extended response questions. Like the student surveys, these instruments were intended for internal institutional purposes only and are subject to validity error.

The Fall 2013 semester was selectively sampled for the same reasons outlined above regarding student survey selective sampling. The data sample yielded five faculty surveys, twelve faculty evaluations of their TAs, and sixteen TA surveys. Not all questions were relevant for this program evaluation. Questions were selected based on the criteria of being similarly phrased on both the TA and faculty instruments to compare perceptions on specific items.

Faculty and TAs agreed that students' attitudes toward TAs at the end of the semester were "mostly positive." Out of all the TAs and faculty, only two TAs selected the option of students' perceptions being "equally mixed negative and positive". Faculty and TAs also agreed that it did not take long before students began accepting the help offered in the TA study sessions. Combined, seven said it took one week, ten said it took two-three weeks, and the rest answered four-six weeks. The question, however, only inquired about study sessions and did not inquire about TAs during class. In fact, no questions on the surveys asked about TAs' participation with class activities.

The only question approaching their participation asked about changes implemented in the class stemming from TA suggestions. The wording was slightly different for faculty and TAs. The faculty survey asked "How much change in the classroom instructional practices did you implement as a result of your teaching assistant's input?" The TA survey phrased the question as "What changes in the classroom instructional practices did you observe from your instructor as a result of your feedback concerning student progress?" They were offered the same answer choices. The responses are similar, but there is also some variation. Only one faculty member indicated they implemented "Substantial change", whereas five (out of sixteen) TAs selected "Substantial change." The other four faculty members selected "Some change" and eight TAs selected the same. Significantly, no faculty members selected "No change" or "Not applicable", whereas two TAs selected one each of those answer options. While most faculty and TAs agree there was at least some change implemented, they do not agree on the extent. The data set does not include any information to explain why two TAs thought no changes happened in their pilot courses. Nor did the survey inquire about the kinds of changes implemented in each course. A follow-up question could have asked all respondents to explain their answer selections.

Another question asked participants about their working relationship with their faculty or TA counterparts. Their answers corroborate each other. All faculty selected "positive" to describe their relationship with the TAs. Fifteen TAs also selected the same option. Only one TA selected "acceptable" as a choice. Again, a follow-up question could have asked respondents to explain their answer selection.

A few questions on the TA and faculty surveys inquired about the TA trainings and level of support they received from the Retention Enhancement Coordinator. The existing literature on TAs provides a wealth of knowledge on the topics of training (Lambert & Tice, 1993; Russell, 2009), international students as TAs (Bailey, 1983; Marincovich, Prostko, & Stout, 1998; Rubin, 1992; Rubin & Smith, 1990), and graduate level TAs (Lambert & Tice, 1993; Marincovich et al., 1998; Nyquist, 1991). All of these studies support the conclusion that TAs succeed most when they are systematically prepared for their positions. In order to do this, new TAs participated in twelve hours of training facilitated by the Retention Enhancement Coordinator throughout the semester.

Training topics included institutional policies like The Family Educational Rights and Privacy Act (FERPA) compliance and sexual harassment, facilitating study sessions, professional behavior, active reading strategies, learning styles, working with students with disabilities, and campus support programs. All new TAs successfully completed their training each semester of the pilot program. In this author's opinion, this is a positive outcome of the program and an indication of the value of the training.

The Fall 2013 sample population of survey results from the faculty and TAs indicate they favorably viewed the pilot program TA training. The surveys did not include a "not applicable" option for TAs who were already experienced so several TAs wrote in the margins indicating they did not attend any additional trainings. Of the fourteen who circled options, ten indicated training was effective and four indicated it was somewhat effective. Three faculty said it was effective and one circled it was somewhat effective. One wrote in the margins that they did not know. No one indicated the training was not effective.

The results of the student surveys, faculty surveys, and TA surveys indicated they shared a positive view of the LLREI. All three stakeholder groups perceived value in the program. They identified value in the benefits to the students' scores, the attributes of effective TAs, and the collaboration between faculty and TAs.

Active Learning

One major program goal was to facilitate active learning to engage the students in the large lecture courses in order to reduce DFW rates. Higher education active learning benefits are well documented in the existing literature. For example, active learning promotes higher level thinking among the students (Beichner et al., 2007; Bonwell & Eison, 1991; Zohar & Dori, 2003). Students comprehend the material better when they learned using active strategies (Crouch & Mazur, 2001; Handelsman et al., 2004; Kvam, 1999b). Some studies even showed higher retention rates of students in general populations and minority populations when the students engaged in active learning (Cortright, Collins, Rodenbaugh, & DiCarlo, 2003; Kvam, 1999a; Lorenzo, Crouch, & Mazur, 2006). While active learning played a role in the LLREI, the active learning outcomes were not explicitly captured. This is another obstacle for this program evaluation. Even so, some conclusions were reached about active learning in the LRREI.

All initial participants in the LLREI were required to integrate active learning into their courses. Participants received a compiled resource from the program administrators. The twelve-page resource contained suggestions for engaging students, best practices for taking attendance in large lecture courses, tips on conducting group activities, links to active learning websites, tips on how to write course learning objectives, and an explanation of backward course design. The faculty could use the

resource as they desired, but they were not required to specifically use anything from that resource. However, they were required to write statements of their intended active learning strategies at the beginning of the semester. These statements are the only pieces of evidence available to assess active learning, and thus they fall short of the yardstick needed to measure active learning outcomes because they only expressed intended active learning goals.

The outcomes of those intended active learning goals are not possible to measure because no data was collected to determine to what extent, if at all, active learning strategies were actually incorporated into the large lecture courses as a result of participating in this pilot program. Several questions should have been added to the existing surveys, such as: What new active learning strategies were employed? How did the students, TAs and faculty perceive those strategies? How did the TAs help facilitate active learning in the class?

Even though the outcomes are impossible to analyze, three statements of how faculty planned to incorporate active learning into their large lecture course were located for this analysis. While only a small sample, they represent the kinds of similar strategies faculty planned to incorporate such as think-pair-share, one-minute essay, ticket out, question of the day, case studies, role-play simulations, small group discussions, jeopardy-style interactive competitions, jig-saw activities, and debates. The faculty planned to utilize the TAs to help plan the activities, implement the activities, and free up faculty time for more preparation by the TA conducting attendance and some objective grading (LLREI Professor 6 & LLREI Professor 7, August 2012; LLREI Professor 8, personal communication, January 2013). These examples of TAs intending to facilitate

active learning, if actually measured, would likely corroborate one of the earliest studies

where TAs increased interaction within a large sociology class by conducting small group

discussions (Wallace, 1974).

The following circumstances explained the small data set available. Some faculty

submitted their plans to the original administrators of the program, both of whom left the

university and only some of that information transferred to the second wave of

administrators. Another factor is that faculty created one goal statement before their first

semester and then were not required to create additional revised statements for

subsequent semesters because faculty were still implementing the goals from the first

statements. As the program progressed and new faculty were recruited, the second

program administrators removed this requirement and either obtained the same

information verbally or via email, but the information was not retained for program

evaluation. Upon reflection, that kind of documentation would have been useful for

program evaluation, as well as ongoing program decisions.

TA Professional Development

The survey instruments did not include any measure to explicitly gather data

about TA professional development. Yet, program stakeholders likely recognized the

potential for professional development in areas such as mentoring, experience with

teaching duties, and communicating with students. Faculty letters of support provided

some evidence about TA professional development. All of the letters provided examples

of TA professional duties and explained how those duties benefited the students, but only

one explicitly addressed the TAs' professional development. While all faculty would

likely agree that the TAs benefited from professional development in their positions, one

faculty member explicitly noted it as an outcome in their letter of support for the program. "Not only do I mentor them in the nuances of teaching, but they gain valuable experience, which will help them in graduate school or subsequent employment" (LLREI Professor 1, personal communication, October 5, 2015).

Another professor collaborated with two TAs on a scholarship of teaching and learning research project, which exposed the TAs to the research skills required in graduate school. The professor and two TAs created a poster presentation, which provides another piece of evidence about TA professional development. They conducted a study of the quasi-personalized system of instruction where students in the course could attend TA office hours and take practice quizzes for extra credit. Their findings suggested a modest correlation between attending the TA-led practice sessions and higher grades. While not an intended outcome, their findings also explained that "Tutors [TAs] felt it improved their explanatory skills and content mastery as well as comfort with student questions" (Kapla, Stuart, & Torrence, 2015).

The TAs developed professionally in this situation in several ways. First, they improved their content knowledge and ability to work with students. Second, they conducted a research project with their cooperating faculty member. Third, they presented their research at a nationally recognized conference devoted to "teachers of psychology who wish to explore new ideas that will enhance and broaden their teaching skills" ("General information: 37th Annual National Institute on the Teaching of Psychology," 2015). All of these illustrate the benefits of TA professional development in the LLREI.

This evaluation recommends that any future TA program design an instrument to gather data about TA professional development. As universities increasingly seek to provide students with meaningful employability skills, TA positions may become increasingly prevalent in some programs such as education (Fallows & Steven, 2000).

Beliefs About Program Value

Programs and policies are manifestations of an organization's beliefs and values (Sashkin, 2012). Faculty letters identified ways the faculty valued the TAs, valued the program for themselves, and valued the program for their students. They argued the program was worthy of continued investment because of the value to the stakeholders. How one individual defines worth or value is culturally contextual. "Worth is the value of something to an individual, an organization, an institution, or a collective; the term is used interchangeably with value" (Davidson, 2005, p. 2). Faculty valued the program because the program promoted a culture of collaboration, bridged generational divides, revamped course material to make it more exciting for the students, and because the program fostered student success.

Faculty members noticed the ways the TAs modeled professionalism when interacting with students. In their letters of support, five faculty members commented about how TAs were peer role models and mentors for their students. By virtue of their very stage in life as upper class university students, the TAs reached their fellow students in ways that a professor could not accomplish. For example, one faculty member noted that TAs "reach students in a way I simply cannot, and bridge barriers which often keep our students – most especially first-generation first-year-students – from obtaining

assistance when they need it" (LLREI Professor 3, personal communication, September 29, 2015).

In their letters of support, five faculty members expressed gratitude for their TAs and highlighted examples of how teamwork between the TA and the professor contributed to the success of the program. TAs and faculty coordinated on revising course content, implementing active learning in the classes, fielding emails from students, identifying new resources, creating quiz questions, conducting meetings with outside organizations for academic service learning projects, etc. Faculty embraced their TAs and considered them valuable additions to their courses as illustrated in the following examples:

- "It is my belief that the TA program has been (and continues to be) a win-win arrangement for students and faculty alike" (LLREI Professor 1, personal communication, October 5, 2015).

- "Teaching Assistants immediately began suggesting ideas for improvement that had not even occurred to me. Despite handling their own course work, they infused new life into an old, tired course. Since then I have been grateful to have my lecture TAs …. [who] contribute so much to my course" (LLREI Professor 4, personal communication, October 6, 2015).

- "I have been fortunate to have a TA ….. During the years without a TA, I was only able to attend to a very limited number of teams. With a TA, more teams benefit from personalized guidance and attention" (LLREI Professor 5, personal communication, October 10, 2015).

In addition to the expressions of gratitude and examples of collaborative relationships between the faculty and TA, the faculty demonstrated a belief that their efforts were successful and the overall program was worthy of continuance. All six faculty members who wrote letters of support argued that the program worked well. The language used in their letters revealed their underlying assumptions that the program was worthy by using positive words in their carefully constructed letters as illustrated in the following examples:

- "It is my sincere hope that we can preserve this valuable program as NMU weathers a temporary budget shortfall" (LLREI Professor 1, personal communication, October 5, 2015).

- One participating faculty included a graph comparing student test scores of students who attended TA study sessions with those who did not attend and explained that, "it shows that the program appears to be working splendidly" (LLREI Professor 4, personal communication, October 6, 2015)
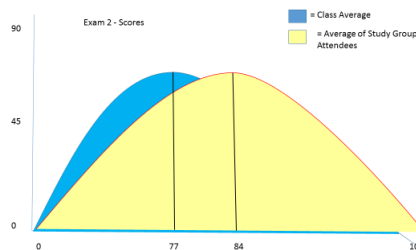
- "I'd like to show my strong support for the Large Lecture Retention TA Initiative program. This program significantly improved students' participation and performance in class, and contributes to retention in my SO101 and SO113 classes" (LLREI Professor 5, personal communication, October 10, 2015)

- [I] "have greatly enjoyed being part of this catalyst project" (LLREI Professor 6, personal communication, October 19, 2015)

- "The TAs in World History, who obviously do not duplicate existing tutoring services already offered on campus, clearly help me provide NMU students with high impact learning experiences that develop NMU alumni who will want to excitedly promote the valuable multicultural and engaging education they received here in Marquette. The TAs provide valuable intellectual and cultural contributions that promote retention and even recruitment." (LLREI Professor 7, personal communication, October 21, 2015)

- "The core mission of Northern Michigan University is to educate students. The Large Lecture Teaching Assistants are a part of this core mission….Large Lecture Teaching Assistants make possible the otherwise impossible." (LLREI Professor 3, personal communication, October 10, 2015)

One faculty member did not respond to the inquiry for letters of support when administrators identified the program for elimination. However, earlier that year that person expressed gratitude in an email to the Associate Dean and Retention Enhancement Coordinator in the context of sharing the poster presentation at the 37th Annual National Institute on the Teaching of Psychology in January of 2015. "I want to thank you and NMU's Retention Initiative for the support we needed to implement our course improvement" (LLREI Professor 2, personal communication, January 6, 2015). That professor enthusiastically expressed appreciation and implied that they valued the program when they said they would "pledge to use this experience to continue improving the course and we all pledge to keep moving toward being more effective in the

classroom!" (LLREI Professor 2, personal communication, January 6, 2015). All of the above examples illustrated how the faculty valued the TAs and the program.

Decision To Eliminate The LLREI

NMU faced difficult budget cuts due to decreased enrollment in 2015 (Finance Committee, 2015). The new administration decided to move academic-related retention policies and programs to the institutional backburner by eliminating the LLREI and the two staff positions responsible for cross-departmental academic-related retention programs (NMU Provost, personal communication, October 28, 2015). This action was contrary to nationwide trends among universities who succeed in retaining their students.

In a plea to university leaders nationwide about the need to help students achieve degree completion, the National Commission on Higher Education Attainment recognized that assigning ownership is crucial for successful retention policies because "putting somebody in charge of developing and implementing plans to increase student achievement focuses energy and attention" on the issue of retention (Gee, 2013, p. 11). NMU's institutional policy for retention from 2012-2015 clearly mandated and assigned responsibility to promote academic-related retention in middle-level administration within Academic Affairs. The Associate Dean for General Education and Retention also supervised a faculty member who ran the LLREI.

The provost eliminated these two positions and moved retention responsibility to the director of Academic and Career Advisement Center (ACAC) in the Student Services division. While ACAC certainly plays an important role in retention with advising and overseeing the First Year Experience program, this change in organizational responsibility presented institutional culture and institutional policy problems in the areas

of communication, trust, transparency, program evaluation policies, and leadership succession.

Institutional culture "is the complex pattern of norms, attitudes, behaviors, values, ceremonies, traditions, and myths that are deeply ingrained in the very core of the organization. The culture is the historically transmitted pattern of meaning that wields astonishing power in shaping what people think and how they act" (Barth, 2013, p. 198). This anthropological definition of culture usefully adapts to any educational institution. Institutional culture shapes the ways things happen at that institution. NMU's institutional culture from 2012-2015 displayed several areas of concern.

A widely held perception is that a cultural divide exists between Academic Affairs and Student Services that sometimes deters meaningful cooperation between the two NMU branches. This view is based on anecdotal evidence and is admittedly not supported by any kind of researched data for this study. The anecdotal evidence suggests that the two divisions of the university are sometimes territorial and not collaborative. This division creates a less than positive or even possibly a toxic culture. As Barth points out, "to change a school's culture requires the courage and skill not to remain victimized by the toxic elements of the school's culture but rather to address them" (Barth, 2013, p. 200). The creation of the LLREI unintentionally perpetuated the negative territorial attribute of NMU's culture.

When the LLREI began in 2012, the Student Affairs ACAC director who lost part of this responsibility over retention verbally stated disagreement about retention leaving that domain in 2012. The ACAC director openly expressed opposition to the change in

organizational responsibility. When the Provost eliminated the LLREI in 2015, retention responsibility reverted back to the ACAC director.

Whether the Provost knew about the institutional cultural history and used that information to inform the decision is not clear. From anecdotal information, it appears that the Provost believed that retention was always the responsibility of the ACAC director, even after receiving evidence about the purpose of the Academic Affairs retention committee. Even so, the perceived animosity likely perpetuated a cultural divide within the broader university that may present a barrier to achieving the goal of improving institutional retention. The lack of clarity on how leadership made the decision also illuminates a perceived lack of institutional transparency.

The lack of transparency with decision making is another indicator of problems with NMU institutional culture and policy. Transparency and shared decision making are hallmarks of a collaborative culture in schools (Kohm & Nance, 2009). The lack of transparency at NMU contributed to a lack of trust with the leadership's decision-making. NMU faculty and staff widely recognized this as a defining characteristic of NMU culture. Novak states, "In schools, everything we do matters, and every way we do things matters" (2009, p. 72). Constituents trust that institutional leaders are "honest, fair, competent and forward looking" (Evans, 2000, p. 136). Understanding there was a widely perceived lack of trust and transparency, the NMU 2014 AQIP review openly addressed trust problems at NMU.

This AQIP report identified ways to improve the trust within NMU regarding leadership decision making and communication. Among other findings, the appraisal reported as satisfactory the shared governance model, identified areas to improve with

vision and mission statement communication, and explained that an AQIP action project

plan would be initiated in January of 2014 (*Systems appraisal feedback report in*

response to the Systems Portfolio of Northern Michigan University for the Higher

Learning Commission., 2014). The NMU AQIP action project on transparency surveyed

faculty and students and then presented their findings to a campus town hall forum on

February 11, 2016. Those findings collaborated some satisfactory decision making

transparency, but also expressed serious concerns about trust in NMU's leadership

decision making. The AQIP project timeframe coincided with the LLREI and the AQIP

findings help to illuminate the context of the decision to eliminate the LLREI.

The NMU AQIP transparency committee opened their findings presentation with

an image of the famous Black Rocks in Marquette, Michigan and the following quote:

"Morale has hit rock bottom" (NMU AQIP Transparency Project Committee, 2016).

The presentation explained factors that contributed to the low morale on campus. For

example, when asked if "Decisions having campus-wide impact are effectively

communicated", 71% of employees either disagreed or strongly disagreed. Of the

respondents, 83% of employees either disagreed or strongly disagreed "that there is

climate of trust on our campus" and 72% of employees either disagreed or strongly

disagreed there is transparency in budget decisions. In a question about "satisfaction with

the level of transparency and involvement in restructuring decisions," 16% had no

opinion, 18% agreed or strongly agreed, and another 66% of employees either disagreed

or strongly disagreed (NMU AQIP Transparency Project Committee, 2016).

The morale level due to a lack of trust and transparency also emerged in the

qualitative comments solicited from the surveys. The coded findings identified six

problem-areas of ineffective decision-making: "lacking sincere attempts for employee input, how budget related issues are explained, cutting classes and positions, lack of a clear explanation, informed after the fact, and information is not shared nor available" (NMU AQIP Transparency Project Committee, 2016). The decision to eliminate the LLREI fits into this broad pattern of a lack of trust, lack of input, and lack of transparency. This program evaluation includes that decision to provide the broader context and background that is worth considering as part of the decision not to institutionalize the LLREI.

NMU leadership appears to have considered the letters of support, evidence showing the overwhelmingly positive student view of the program, and the decreased DFW rates in most participating courses, and still chose not only to not institutionalize the program, but also to eliminate the program. Although, the Provost did not view the decision as completely eliminating the program. Instead, the Provost suggested that the program was successful and would change when moved under the direction of ACAC. Those changes are not part of this program evaluation.

The Provost did not announce the decision to participating faculty in any kind of common announcement. Nor was the decision announced university-wide. The lack of announcement did not help build trust among program participants or bridge existing divides between university branches. The Provost notified the TAs via email announcement that potential TA positions might exist in a new form under ACAC coordination (NMU Provost, personal communication, October 28, 2015). That email created some confusion among the TAs who believed their efforts to save their TA program were successful, even though their jobs as they knew them would no longer

exist. From a broader organizational and leadership perspective, it is possible that

because the Provost was still new in the position that inexperience may have influenced

both the decision to eliminate the program and the way in which that decision was made

and shared.

NMU also had an institutional policy problem with leadership succession,

especially during the LLREI program when the leadership changed several times at the

highest levels. NMU did not have clear policies that promoted a culture of sustainable

leadership (Hargreaves, 2009). Three university Presidents guided NMU from 2012-

2014 ("President Fritz Erickson Profile," n.d.; Signorelli, 2012). Three Provosts served

NMU during 2015, which influenced leadership stability. The previous Provost passed

away in January of that year (ABC 10, 2015). The previous Provost was a champion of

the LLREI and planned to institutionalize the program at the end of the three-year pilot

program provided the results were beneficial. Hopes of institutionalizing the LLREI died

with that previous Provost. During the Winter 2015 semester, the Interim Provost denied

the request to make the program permanent, opted to extend the program for one

additional semester, and deferred the decision to the next official Provost. The official

next Provost assumed responsibilities July 1, 2015 and made the decision to eliminate the

program half way into the Fall 2015 semester.

NMU recognized the lack of sustainable leadership and tried to address the

institutional policy problem with another AQIP Action Project. From January 2014 to

April 2015, the Developing Leadership Training and Succession Planning NMU AQIP

Action Project sought to identify internal candidates for leadership succession, develop a

training program, create policies to hire and keep leadership, and provide ongoing

supervisory skill support for administrators ("AQIP_Leadership_Action_Project.pdf,"

n.d.). While the AQIP Project was too late to help ease the leadership instability from

2012-2015, leadership since 2015 has remained stable.

SUMMARY AND CONCLUSIONS

The LLREI pilot program from 2012-2015 at Northern Michigan University achieved the stated objective of reducing historically high DFW rates in most of the participating courses and sections of courses. DFW rates were likely faculty-dependent. The courses and sections of courses that did not achieve the goal were likely due to individual faculty circumstances such as curriculum choices, expectations for student success, teaching methods, utilization of TAs, etc. Future programs should gather data on these circumstances and consider these differences when conducting program evaluation.

Further study is needed to determine if reducing course DFW rates could achieve the desired goal of increasing retention rates for the university. While limited in scope, this study showed that retention rates correlated to student admit status for students in the pilot program. Students admitted in Good Standing stayed at the university at higher rates compared to students admitted on any kind of conditional status. Good Standing admits stayed at the university at rates higher than the overall institutional rate for two out of the three years. However, Other Admit students stayed at the university at rates alarmingly lower than the overall institutional rate. In the future, NMU could provide faculty with students' admit status so faculty may quickly identify students in Other Admit categories who would likely benefit from early interventions and other increased institutional supports. Sufficient evidence was not available to explain why the Other Admit students left the university. Much could be learned from a comprehensive study at NMU of why students remain at the university and why they leave the university.

The unintended outcomes offer an opportunity to reflect on program areas that are worth including in future TA program assessment models. The students found value in the TAs in their large lecture introductory courses and identified the TAs as a contributing factor to student success. Faculty also valued collaborating with their TAs and infusing new ideas into their courses. Faculty relied on their TAs to bridge communication and generational divides between the faculty and students. TAs expanded their content knowledge, honed communication skills when working with students, and enjoyed mentoring the students. In addition to professional development experience by performing their regular duties, TAs benefited from the mentoring of their faculty and learned about the teaching profession. A few TAs engaged in scholarship of teaching and learning projects, presented at an academic conference, and learned valuable skills for their graduate studies. This is an opportunity where more faculty could devote attention to developing undergraduate research skills, which would likely enhance student learning and performance in other course work.

The decision to eliminate the program illuminated broader issues with institutional policy and culture. NMU experienced a series of leadership changes for most of the pilot program. NMU recognized that internal policies need to support more sustainable leadership and took action to implement changes. At the same time, NMU identified a lack of trust in the culture at the university and took action to improve the climate.

This program evaluation encountered several data-related obstacles. First, very few faculty opted to participate in the entire program due to shifting faculty teaching assignments, course releases/sabbaticals, faculty opting not to participate for their own

research control group purposes, faculty not being aware until late in the program, and courses being added to the program due to needing TAs instead of meeting the initial criteria. Second, the precise costs were impossible to obtain. Third, the return on investment of the entire program and of TA training was not possible to measure because such data-capturing systems were not designed into the program from the beginning. Fourth, the program creators designed the surveys for internal instead of formal program evaluation purposes. Future similar programs should anticipate and avoid these data-gathering issues with careful planning.

While the LLREI was not set up as a formal study, it did show some important benefits to student success based on the information gathered. NMU and other higher learning institutions may find it worthwhile to invest in a similar program that meets the following carefully established research criteria: consideration of the students' total course load, data on other university services received by Other Admit students, surveys of students who leave the university, cost information for the TA training, and overall cost benefit analysis.

This study raises questions for further research. What are the retention trends of students admitted in good standing compared to the students conditionally admitted at similar universities? How might universities compare outcomes of participating in a program like the LLREI when students also receive other academic services? How might retention programs help with recruiting? How could the impact of TAs on active learning be measured? How do the retention trends at universities with noted institutional policy and culture issues compare to universities with recognized collaborative cultures and sustainable leadership policies?

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APPENDIX A

MEMORANDUM

TO: Kathryn Johnson

                 History Department

CC: Joe Lubig

                 School of Education, Leadership, and Public Service

FROM: Robert Winn, Ph.D

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Interim Dean of Arts and Sciences/IRB Administrator

DATE: September 7, 2017

RE: Extension for IRB HS16-728

                 New Project Approval Dates: 9/7/2017-9/7/2018

                 "Large Lecture Teaching Assistants at Northern Michigan University"

APPENDIX B

ADDITIONAL DATA TABLES

Chart with all DFW rates by course and semester

Term & Course	Success Rate (A, B, C, or S)	DFW Rate
F12 CJ110	75.38%	24.62%
F12 CLS 100 S/U	91.46%	8.54%
F12 CLS 109	83.10%	16.90%
F12 CLS190	82.54%	17.46%
F12 PS105-01	44.07%	55.93%
F12 PS105-02	49.09%	50.91%
F12 PY100S	73.89%	26.11%
W13 CJ110-01	75.41%	24.59%
W13 CJ110-02	73.58%	26.42%
W13 CLS100 S/U	96.67%	3.33%
W13 CLS109	86.67%	13.33%
W13 CLS200	91.11%	8.89%
W13 HS105	88.73%	11.27%
W13 PY100S	65.75%	34.25%
W13 SO101-02	73.17%	26.83%
W13 SO101-03	72.00%	28.00%
W13 SO101-04	88.07%	11.93%
F13 CLS100 S/U	91.78%	8.22%
F13 CLS109	85.71%	14.29%
F13 CLS190	89.83%	10.17%
F13 HS105	90.14%	9.86%
F13 PY100S	62.33%	37.67%
F13 SO101-02	89.33%	10.67%
F13 SO101-03	80.85%	19.15%
F13 SO101-04	88.04%	11.96%
W14 CLS100 (S/U)	88.52%	11.48%
W14 CLS109	82.93%	17.07%
W14 CLS200	90.70%	9.30%
W14 HS105	82.61%	17.39%
W14 PY100L	84.81%	15.19%
W14 PY100S	61.59%	38.41%
W14 SO101	90.32%	9.68%

F14 BI104	71.30%	28.70%
F14 CLS100 (S/U)	87.88%	12.12%
F14 CLS109	95.92%	4.08%
F14 CLS190	86.36%	13.64%
F14 HN210	88.61%	11.39%
F14 HS105-01	83.58%	16.42%
F14 HS105-03	84.06%	15.94%
F14 SO101-03	87.78%	12.22%
F14 SO101-04	83.74%	16.26%
W15 BI104	71.74%	28.26%
W15 BI202-01	87.10%	12.90%
W15 BI202-02	87.27%	12.73%
W15 CLS100 (S/U)	94.12%	5.88%
W15 CLS109	86.84%	13.16%
W15 CLS200	95.74%	4.26%
W15 HN210	87.65%	12.35%
W15 HS105-01	65.22%	34.78%
W15 HS105-02	88.89%	11.11%
W15 SO101-02	84.75%	15.25%
W15 SO101-03	83.49%	16.51%

Chart comparing Admit Status and Grade for all LL participants

	Admit Type	
Grade in class	Good Standing	Other
A (4.0)	1011	56
A- (3.7)	315	23
B+ (3.3)	339	35
B (3.0)	442	41
B- (2.7)	281	47
C+ (2.3)	259	48
C (2.0)	313	99
C- (1.7)	132	41
A-C Subtotal	2961	349
D+ (1.3)	97	27
D (1.0)	79	37
D- (0.7)	37	48
F or W (0)	359	174
D, F, W Subtotal	704	327

APPENDIX C

Surveys – Student, faculty, and TA versions

Student Evaluation of Initiative – Winter 2014

1. Were you aware that undergraduate teaching assistants were available to provide you with support during your *(Insert Class Here)* class this semester?
      a. Yes   b. No

2. On how many occasions did you utilize their help during the length of the course?
      a. Ten or more times
      b. Seven to nine times
      c. Four to six times
      d. One to three times
      e. Zero times

3. Did you attend any of the office hours provided by the teaching assistants?
    a. Yes, frequently   b. Yes, infrequently   c. No

4. How often did the teaching assistant help you understand the course material?
      a. Most of the time
      b. Some of the time
      c. None of the time

5. Did the teaching assistant help you to prepare for the course tests?
      a. Yes   b. Sometimes   c. No

6. Did the teaching assistant help you to better understand the professor's presentations?
    a. Definitely yes   b. Sometimes   c. Definitely no

7. Was your teaching assistant open and approachable when you had questions?
    a. Very open   b. Somewhat open   c. Not open at all

8. In your opinion, did using the TA's help you earn a higher grade than without their assistance?
    a. Definitely yes   b. Probably yes   c. Definitely no

9. In your opinion, what effect do you feel the TA's assistance had on your overall course grade?
    a. My grade was significantly improved *(1 letter grade higher)*
    b. My grade was marginally improved *(1/2 letter grade higher)*
    c. There was no effect on my grade
    d. My grade was made worse *(1/2 letter grade or more lower)*

10. *(Insert Class Here)* was a pilot test of using teaching assistants to provide additional support to the students in selected large lecture classes. Would you like to see the number of classes where this takes place increased, decreased, or remain the same?
   a. Increased   b. Remain the same   c. Decreased

11. Your opinion is valuable to us. Please take a moment to comment on your experience and/or to offer any suggestions on how to improve.

End of Course Feedback from Instructors – Winter 2015 Semester

1. What was the attitude of the students toward the teaching assistant's sessions at the end of the semester?
    a. Mostly positive   b. Equally mixed negative and positive
    c. Mostly negative
2. In general, estimate how long was it before student began accepting the help the sessions offered.
        a. One week   d. 6 or more weeks
        b. 2 – 3 weeks   e. Have not accepted it
        c. 4 – 5 weeks
3. In your opinion, did attending teaching assistant sessions help students earn a higher grade?
   a. Probably yes   b. Not really   c. Probably no

4. How effective do you feel the pre-service (before the start of sessions) training provided was in preparing your teaching assistants for their job?
   a. Effective   b. Somewhat effective   c. Ineffective
5. How effective do you feel the in-service (during the semester) training provided was in preparing your teaching assistants for their job?
   a. Effective   b. Somewhat effective   c. Ineffective
6. You would describe your working relationship between you and the teaching assistant as:
   a. Positive   b. Acceptable   c. Negative
7. How much input did you provide the teaching assistant in developing materials for sessions?
   a. Substantial input   b. Some input   c. No input
8. How much change in the classroom instructional practices did you implement as a result of your teaching assistant's input?
   a. Substantial change   c. No change
   b. Some change   d. Not applicable
9. In your opinion, did your teaching assistants conduct effective sessions overall?
   a. Probably yes   b. Not really   c. Probably no
10. Comments:

Teaching Assistant Evaluation
Winter 2015 Semester

Teaching Assistant: _____

Large Lecture Faculty: _____

Course Name and Section: _____

1. You would describe your working relationship between you and the teaching assistant as:
   a. Positive   b. Acceptable   c. Negative
2. The teaching assistant had a positive attitude.
   a. Most of the time   b. Sometimes   c. Rarely
3. The teaching assistant met your attendance expectations.
   a. Most of the time   b. Sometimes   c. Rarely
4. The teaching assistant kept agreed upon records in the way requested.
   a. Most of the time   b. Sometimes   c. Rarely
5. The teaching assistant submitted work in the time requested.
   a. Most of the time   b. Sometimes   c. Rarely
6. The teaching assistant took initiative, followed directions, and/or took advice.
   a. Most of the time   b. Sometimes   c. Rarely
7. The teaching assistant communicated with you clearly and frequently.
   a. Most of the time   b. Sometimes   c. Rarely
8. The teaching assistant communicated with your students clearly and precisely.
   a. Most of the time   b. Sometimes   c. Rarely

9. You would classify the teaching assistant's engagement with students in the class as:
    a. Good   b. Fair   c. Poor
10. You would choose to work with this teaching assistant again.
    a. Yes   b. No
11. Comments:

End of Course Feedback from Teaching Assistants – Winter 2015 Semester

1. What was the attitude of the students toward sessions at the end of the semester?
    a. Mostly positive   b. Equally mixed negative and positive
    c. Mostly negative
2. In general, estimate how long it was before students began accepting the help the sessions offered.
    a. One week   d. 6 or more weeks
    b. 2 – 3 weeks   e. Have not accepted it
    c. 4 – 5 weeks
3. How would you characterize the level of administrative support you received from your supervisor (Ms. Kathryn Johnson)?
    a. Positive   b. Acceptable   c. Negative
4. How effective was the pre-service (before the start of sessions) training in preparing you for the job of teaching assistant?
    a. Effective   b. Somewhat effective   c. Ineffective
5. How effective was the in-service (during the semester) training in preparing you for the job of teaching assistant?
    a. Effective   b. Somewhat effective   c. Ineffective
6. You would describe the working relationship between you and the instructor as:
    a. Positive   b. Acceptable   c. Negative
7. How much input did your instructor provide in developing materials for sessions?
    a. Substantial input   b. Some input   c. No input
8. What changes in the classroom instructional practices did you observe from your instructor as a result of your feedback concerning student progress?
    a. Substantial change   c. No change
    b. Some change   d. Not applicable
9. Did your supervisor (Ms. Kathryn Johnson) provide adequate resources/communication/ materials to help you with your role?
    a. Useful   b. Adequate   c. Not useful
10. Did your instructor provide adequate resources/communication/materials to help you with your role?
    a. Useful   b. Adequate   c. Not useful
11. What additional training and support do you feel would help you?

12. What were some difficulties you experienced as a teaching assistant?

13. What did you enjoy or find rewarding about being a teaching assistant this semester?

14. What other activities, services, or training would you like to see occur?