

**Tutoring Center**

**Center for Academic Success**

**January 4, 2017**

**Universal Design for Learning Peer Program: A Collaborative Learning  
Experience**

**Review of the Goals of the Project:**

During the academic year 2015-2016, Academic Success Programs (ASP) established a collaborative, peer-led, group-based tutoring program. It was designed to increase retention and graduation rates for students in large courses at the University of Vermont (UVM). Universal Design for Learning (UDL) served as the center of the program. It used UDL principles to foster students working together in regular study sessions managed by trained peer tutors.

**Outcomes: Retention Data**

Tables One and Two demonstrate that the UDL Peer Program was effective in increasing retention rates for those students who participated in the program. Table One shows the retention rates for UDL Peer Program participants who returned to UVM in fall 2016. Table Two provides a comparison of the average retention rates over the five years prior for the same courses.

Based on data over the last five years, participants in the UDL Peer Program outperformed recent cohorts in the percentage of year-to-year retention in each of the four courses. On average, 6.6%, or 32, more students returned to UVM in the following fall semester than in recent years.

The Tutoring Center will continue to track the students who participated in the UDL Peer Program in order to evaluate if graduation rates were impacted by this effort. We expect to have graduation rates for the project within the next three years.

<b>Table One:</b> UDL Peer Program Courses and Retention Data				
Course subject	Term	Number of students	Total Contacts	% Returned Fall 2016
HDFS 005	Fall 2015	182	456	85.6
HDFS 060	Spring 2016	92	294	93.4
EC 011	Spring 2016	138	1449	86.2
PHYS 031	Spring 2016	90	1070	94.4
TOTAL		484*	3,269	88.6**

\*Unduplicated number of students.

\*\*Total percentage of 484 students who returned in fall 2016.

<b>Table Two:</b> Data for UDL Peer Program Courses from 2011-2012 to 2015-2016		
Course subject	Number of students	% Returned the next fall
HDFS 005	1489	80.3
HDFS 060	502	86.3
EC 011	4386	78.6
PHYS 031	1279	88.0

### **Outcomes: The Tutors**

Over the four different courses, we had fourteen tutors involved; fourteen participated in training and thirteen of those went on to actually lead sessions with students. Of those total fourteen, five graduated after the spring 2016 semester, and the remaining nine are still actively enrolled at UVM. Obviously, this is no great surprise; these students were selected primarily for their strong academic performances.

However, while it is mere speculation at this point, we are confident that this kind of professional opportunity contributes to our students staying here at UVM. This is achieved not by supporting their academic success, but by contributing to their personal and professional development. There was over 150 hours of training invested into these students. Once involved in the project, these group leaders were paid competitive wages for their efforts, never having to leave campus, and got the opportunity to work directly with the content from their academic studies. If engaged in a meaningful project such as the UDL Peer Program, stronger students may be less likely to transfer to peer and aspirant institutions.

We believe this is an area for future potential research, as it is our interpretation that these kinds of experiences for undergraduate students are critical. The experience gained and skills developed – group facilitation, project management, public speaking, creative thinking, collaborating across hierarchies with faculty and staff, and, of course, mastery of course content – all prepare our students well for life after UVM. As our institution develops a better sense of the rates and kinds of success among our alumni, I am confident that our student employment opportunities, especially these that require significant responsibility and rigorous time commitments, will be one of the factors contributing positively to those outcomes.

**Impact Assessment:**

A total investment of \$13,816 was spent within the UDL Peer Program to retain 6.6% (32) more students than in prior years for the courses listed in Table One. As a result, UVM invested \$29 per UDL Peer Project participant to retain an additional 32 students.

This program created 3,269 person hours of structured, collaborative learning on UVM's campus. From the students who participated specifically in the EC 011 section, 75.9% indicated that they Strongly Agree or Moderately Agree that, 'The recitations contributed directly to [their] understanding of the course material'. Similar rates relate to the connection between the supplemental sessions and lectures, as well as confidence in session leaders. Whether or not the program objectively helped the students, the vast majority perceived it as beneficial.

The largest bulk of the funding through the grant was paid out directly in the form of student wages. Approximately \$888.00 was distributed for the paid training offered to the tutors, and \$8041.50 in the form of hourly wages for the actual implementation of the learning sessions. Tutors were paid for preparation time – reviewing course material, meeting with instructors, planning activities, selecting key concepts and problems – as well as for the time actually spent in the sessions with students.

The remaining funds went toward time invested by professional staff for the administration of various elements, including training, scheduling of student sessions, observations of tutors, supervisory duties, and program assessment.

The impact of the program can also be measured by the responses from the faculty members involved. Professor Stephanie Seguino, Economics (EC) 011 professor, reported that students in the UDL Peer Program performed better than in the past even with more difficult exams. Professor Lawrence Shelton, the Human Development and Family Studies (HDFS) professor, found he had fewer students coming to office hours and experiencing stress related to the acquisition of new material as a direct result of the peer intervention. In a student survey, 70% rated the tutoring

sessions Helpful or Very Helpful, and 12% rated them Unhelpful or Very Unhelpful, which were slightly below the survey results for the professor's own review sessions.

### **Current Status and Future Plans for the Program:**

The newly organized Center for Academic Success (CFAS), which absorbed the constituent units of ASP, continues to partner with the HDFS department, supporting the model from the UDL Peer Program in both HDFS 005 and 060. For HDFS 005, we saw a modest increase in unique students participating and a substantial increase in total contacts, from 456 in fall 2015 to approximately 824 in fall 2016. For essentially flat funding from one year to the next coming directly out of the Tutoring Center's budget, we've increased total participation among students by about 80 percent.

Further, our training opportunities have expanded. In addition to training the Graduate Teaching Assistants from the Chemistry Department for a second year in a row, Tutoring Center staff trained a group of graduate student instructors from the Math Department. Between the two collaborations, the Tutoring Center had an indirect influence on well over a thousand students.

From pilot programs and collaborations with various campus partners, including the Center for Teaching and Learning, the Tutoring Center has developed two fairly effective models. In the Chemistry Department, students are exposed to additional structured learning environments during their regularly scheduled laboratory sections, facilitated by the lab coordinators who are in turn trained by Tutoring Center staff on learning and teaching theory, as well as UDL. This improves capacity among the 'front line' instructors and increases time on topic for students in a way that does not impact their course schedule or total credit load. Further, by incorporating the task into an

already existing position, there is minimal additional cost for the university. This model could serve any department with lab courses, and with leadership willing to revise lab curricula.

Second, there is the Shelton model, being utilized by Professor Lawrence Shelton in the HDFS program for both HDFS 005 and 060. This structure requires hiring undergraduate students and redesigning curricula to include some level of requirement for students to attend sessions. However, unlike the recitations we've offered in a number of courses, the requirement is more flexible and variable, offering to students some level of choice on when to attend. It, undeniably, creates some additional administrative burden for those involved in running it; currently this is shared by Professor Shelton, his Graduate Teaching Assistant, and staff in the Tutoring Center. However, as mentioned above, this model allows the ability to deliver high-quality academic support to students in a cost-effective manner, all the while offering a high-impact experiential learning experience to advanced undergraduate students.

The Tutoring Center is prepared to propose either model for any key, high-volume course. We will focus our attention on those courses that are required for many students, but also where faculty are interested in collaborating with staff and student employees to improve student learning and retention. The UDL Peer Program has allowed the Tutoring Center to document that peer tutoring provided in small groups within large classes can impact students' grades and ultimately their academic success, which has a direct impact on retention rates. We remain committed to working closely with faculty to expand this project under the two models described above.

## **Addendum**

1/6/2017

Brian:

Thank you for your careful read of our final report and your question regarding the data presented. We were using Table Two as a trend comparison to the subset data for 2015-2016 since it is very difficult for us to create a true control group. For instance, students in PHYS 31 were not required to attend the peer-led sessions, but they chose whether or not they would attend. We also faced timing issues since we had to get all of this data from Institutional Research, which is a very busy department as you know. Once we received the data, we did not have the time to ask for it to be broken out by year. There is a tremendous amount of data available within this project. The Tutoring Center does not have the ability to synthesize the data due to other requirements they face in providing tutoring to our undergraduate students. However, if you thought working on this data further might gather us more faculty support to continue this effort, we would do everything possible to provide the information. Even though we had some exciting outcomes from this project, only Prof. Larry Shelton is continuing to work with us. The Tutoring Center needs some support from the colleges and schools to encourage faculty who teach large classes to engage with us in this initiative.

I have attached a piece of the back-up data that we received from Institutional Research for your review. We do have the complete data set of student names for the 2015-2016 school year if you so require it. However, we did not have the complete data set of names for the 7,656 students so we could not determine unduplicated numbers to calculate an accurate average retention rate for the trend comparison.

You are raising a point that we should have explained in our narrative. You are right that we did experiment with this model for one year prior to the EPI grant in HDFS 005 and EC 11 during the 2014-2015 school year, which impacted about 220 students. Since our trend comparison data included sections of courses where we offered peer-led, small group interventions, we were competing with ourselves in this trend analysis. If we took out the sections of these courses where we intervened, our retention rate comparisons would even be higher than they are in our report. If you think, we could get more interest in continuing this program by asking Institutional Research to work with us on the data, we are willing to keep analyzing the information. In all honesty, this project is a cost-effective way to deliver tutoring services to our students where we build capacity for students to work in study groups. The more we offer these types of interventions, the more we can move away from the more expensive one-on-one tutoring model that we are slowly changing to a group model.

It seems that our presentation of the data in two tables was confusing. We have created one table below instead of the two tables in our report to present the data more effectively.



UDL Peer Program Retention Data Analysis						
	2015-2016 UDL Peer Program Intervention				Trend Comparison: 2011-2012 to 2015-2016	
Course	Term	Students	Contacts	% Returned Fall 2016	Students	% Returned Next Fall
HDFS 005	Fall 2015	182	456	85.6	1489	80.3
HDFS 060	Spring 2016	92	294	93.4	502	86.3
EC 011	Spring 2016	138	1449	86.2	4386	78.6
PHYS 031	Spring 2016	90	1070	94.4	1279	88.0
Total		484*	3,269	88.6**	7,656	NA***

**Average grades and retention over 5 years for all students in specific classes**

	Num Stu	Total w/A-F grade	Average GPA of those w/A-F grade	Percent returned the next fall		Num Stu	Total w/A-F grade	Average GPA of those w/A-F grade	Percent returned in Fall 2016	Percent graduated
Course Subject/Number					Course Subject/Number					
EC 011	4386	4059	2.48	78.6%	EC 011	138	132	2.63	86.2%	2.9%
HDFS005	1489	1446	3.13	80.3%	HDFS005	180	179	3.08	85.6%	3.3%
HDFS060	502	487	3.21	86.3%	HDFS060	91	90	3.27	93.4%	4.4%
PHYS031	1279	1146	2.45	88.0%	PHYS031	90	85	2.89	94.4%	1.1%