

MODELS OF INNOVATION & BEST PRACTICES IN TEACHING & LEARNING AT UND

Elizabeth Bjerke and Leslie Martin
Department of Aviation

Students Helping Students

I TEACHING AND LEARNING STRATEGY

The main pedagogical strategy being implemented successfully in this course is experiential learning, coupled with service learning. In this year long capstone course senior students in our Flight Education (FE) major experience the elements related to managing and leading the Aerospace Learning Center. The Aerospace Learning Center is a drop in tutoring area for students in aviation classes. Students in the beginning flight courses can utilize the learning center by getting free one on one tutoring from upperclassman students enrolled in the flight instructor courses. The learning center is staffed by an average of 70 volunteer tutors, and open for nearly 60 hours a week. The learning center has served as a valuable asset to our students in our aviation community. Since all the tutors and managers are strictly volunteer, it serves as a good example of service learning.

II DEVELOPMENT OF THIS STRATEGY

The inspiration behind creating the experiential learning component of these FE capstone courses came through assessment data generated from all levels of our aviation program. The benefits of peer to peer tutoring are two fold. Through assessment it was found that students in our beginning flight courses struggle to understand all of the technical subject matter required to be learned. It was also found that students in our instructor courses were also weak on how to teach technical subject areas to others. We felt that by creating an Aerospace Learning Center where instructor students could gain the experience and confidence in teaching real students with real questions, and students in the beginning flight courses could benefit by getting free one on one tutoring on these technical subject areas all of the students would benefit.

Initially the lab was managed by ourselves. However, in the process of rewriting our curriculum for the B.S in Flight Education we felt that the experience of managing an aviation related learning center would greatly enhance our student's experiences.

In Aviation 490 and 491, the FE students are empowered to manage and lead the learning center. In the beginning of each semester the FE students are responsible for recruiting volunteer tutors by going to each of the flight instructor classes and giving a presentation about the benefits of tutoring. Once the volunteers are identified the FE students make the schedule, train the tutors on the flight training device and market the learning center to students in earlier flight courses.

To aid in the logistics behind managing the lab, each FE student chooses a specific job for the semester that they will be their responsibility. As instructors for the capstone courses we assure that there is equal number of job assignments as per student enrolled in the class. The following are the job titles and descriptions used:

Resource Material Manager: Helps develop and update stage check evaluation binders. Ensures that books and materials are current and present in the lab. Helps develop new resources to be used by the tutors with the students.

Website Manager: Creates and maintain both the Aerospace learning Center website, as well as the CFI and CFII tutor site. Keeps both websites up to date with hours of operations, schedules and contact information. Monitors and corrects postings to the 'Ask a CFI' forum to assure that accurate information is displayed.

Scheduler: Creates and maintains the schedule of tutors to assure that adequate lab coverage exists. Place the weekly sign up sheets in the tutor lab binder for tracking purposes. Fill open slots so that the tour lab can remain open throughout the whole day.

Information Tracker: Keep track of the most current list of CFI tutors and share that list with the appropriate persons. Track the hours worked, students tutored and flights conducted in the Mentor weekly. Keep an updated status sheet available for reference. Work with the scheduler to determine inactive tutors.

Frasca Mentor Manager: Develop the standardization protocol to be followed for all Mentor stand rides with tours. Schedule and assign mentor stand rides with all tutors. Help promote the use of the Mentor device to all ground schools. Oversee the scheduling and invoicing of the device.

Marketer: Market the learning center to all aviation students. Create brochures and signs to place throughout Odegard Hall that emphasizes the benefits of the learning center. Send out emails to faculty members emphasizing the importance of the center.

Along with having a specific job in which they are responsible for, the FE students also have to devote at least one hour a week in the learning center as their posted office hour.

We feel this is also a valuable service to our aviation community in that students can receive free one on one tutoring, as well as free time flying an excellent flight training device. The center is staffed and managed by 100% student volunteers. This is a great example of instilling citizenship among our students.

III INTENDED STUDENT LEARNING OUTCOMES

Through this experience of running a learning center, the students are exposed to many real-life situations that cannot be learned in a classroom setting. First and foremost they learn how to effectively manage others. This is done through both face to face scheduled meetings with the volunteer tutors, as well as electronically through email and online forums. There are two websites in which the FE students must maintain. One is for all aviation students and serves as a marketing mechanism for the learning center, and the other is just for the volunteer tutors. The website used for the tutors is how a lot of information is disseminated from the FE students to the tutors.

The FE students also are gain invaluable experience on how to train individuals. The Aerospace Learning Center recently acquired a flight training device (computer operated mock aircraft) that students can use with a tutor for no cost. It is the responsibility of the FE students to train and standardize all tutors on how to operate and effectively teach in this device.

As a result of this experiential and service learning our students are learning what it takes to manage and lead others. They should also be able to improve on their organizational and communication skills throughout this experience. All of the students in these two capstone courses, regardless of what job responsibility they have, should be able to share in these experiences.

Manage people: Oversee schedules – their own and others, have to communicate clearly, need to assign tasks

Organizational skills: Schedule standardization rides, classroom visits throughout the semester, make good use of their office hour, schedule semester evaluations with each of the tutors

Communication skills – Written skills to include numerous emails: to students about the learning center, to instructor students about the work in the center, to professors about new things in the center and emails to the other FE students about the goings on in the learning center, articles written for the aviation newsletter the Takeoff. Oral skills – go into the classrooms and promote the learning center, going into the instructor courses and recruiting tutors, holding semester evaluations discussing the tutors work for the semester, discussing issues with us the FE professors.

IV ASSESSMENT OF STUDENT LEARNING

We are able to measure this learning through numerous methods. Some of the more tangible measurements are the marketing products, schedules and tracking sheets. The marketing products include posters promoting various aspects of the center spread throughout the aviation classrooms and Aerospace Learning Center as well as articles being submitted to the Takeoff. The schedule is a continuous project for a task such as this. Students schedules change throughout the semester and the center needs to be staffed so it takes a lot of coordination to make the schedule for so many people work. By having the center staffed and tutor shifts being covered, shows that both the scheduler and the other FE students are doing their jobs. Weekly updates about the use of the center shows that both the Information Tracker and Frasca Mentor Manager are also working effectively. Also by getting updates on the materials that the center needs and seeing changes to the website are sources of managerial growth.

The less tangible measurement tools are classroom discussions, mid-semester evaluation, reflection papers, and the implementation of new ideas. We hold class twice a week for 50 minutes since Aviation 490 and 491 are both 2 credit classes. It is not uncommon for us to discuss the issues of the Aerospace Learning Center for 20-30 minutes. Throughout these discussions they are not only bringing forth issues/concerns that they are seeing but they are often bringing possible solutions. If we all agree to the solution we discuss how to implement it giving various duties to whose ever job responsibility it falls under. They are normally very quick to rectify the situation that has been identified. We will use the next class session to discuss how the situation was handled and bring up any new issues facing the center.

Mid-semester evaluations are conducted with the Aerospace Learning Center tutors. During these evaluations the FE students are discovering how the tutors perceive the happenings in the learning center on a daily basis. This gives the FE students insights into how to make improvements in the learning center. The FE students then share the information with the class and we discuss the tutors comments and implement suggestions for improvements.

The last requirement for Aviation 490 and 491 is to write up a reflection paper on what they learned throughout the semester and to relate it to how it will better them in their future endeavors. Due to the class sizes we get to know our students very well, so the information shared through these papers is very truthful. Because of this honesty we feel comfortable using this information for future ideas in the courses.

Here are some comments from this semesters students on their experiences in managing the Aerospace Learning Center:

- *After managing the tutor lab for the last two semesters I have witnessed the benefit of a free educational service. It has been my responsibility to help track student attendance and simulator usage. Since the last semester I have noticed that attendance has increased and the tutor lab is being utilized more often. I believe that this free service is a valuable asset to the students as well as the aspiring instructors that volunteer their time.*
- *I will take with me a better understanding for the amount of work required to operate something that to the outside observer seems to be a small operation.*
- *I am glad to work in the Aerospace Learning Center it gives me a great satisfaction that I have helped another student to do better at what they enjoy.*
- *This did strengthen my leadership abilities as in making sure the tutors were there when scheduled as well as filling in to tutor students when no one was available.*
- *Working as the scheduling manager in the tutor lab has taught me a lot about people management. Email is definitely an efficient way to contact a lot of people all at once, but people don't always necessarily feel the need to respond. I found that if I emailed somebody specifically instead of the mailing list, I got much better responses. It was a good experience to learn various ways to contact people and the best way to get responses in a timely manner.*

As you can see from their comments they learned how to adapt to the needs of the learning center. These needs often fell outside of their specific job responsibility but they dealt with things as a manager should and got the issues resolved.

V STRATEGY'S APPLICABILITY

We feel that this strategy could be used in all disciplines. Since the Learning Center is staffed by volunteer tutors and managed by senior FE students there is no departmental fiscal responsibility to assure its success. Underclassmen benefit by having knowledgeable tutors to go

to with questions, and the upperclassmen students benefit by gaining practical experience in teaching. Most importantly, the FE students learn how to manage and lead a group through real life situations.

Although we feel that this learning experience is tremendous for our students, it must be stated that there are a few difficult issues to deal with. As the faculty advisor for the learning center, and the professor of the capstone course we have to often remember our role as just that 'the advisor'. Part of the learning for the student managers comes with the experience of dealing with conflicts, or no-shows in the learning center. We often have the urge to do perhaps more than we should in situations. Sometimes external pressures placed on the center forget that the learning center is staffed by volunteer students. There will be times when tutors fail to show up for their scheduled time slot, and the lab remains closed.

We encourage every discipline to think outside of the box, and outside of your classes to develop and implement strategies that help connect students and give them valuable experience in and out of the classroom. Our Aerospace Learning Center has been successfully running for over seven years, and has operated without using departmental funds.