

Tapping in to the Power of '*The Community Classroom*'

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All too often, the college educational experience exists exclusively within the confines of traditional classrooms. Consider the possibilities of expanding the college educational experience from the *college classroom* into the larger *community classroom*.

Faculty members at Kansas State University-Salina accepted the challenge to transform the traditional educational setting to enhance student learning. A new method of enrichment, service-learning, has been incorporated into the educational setting of the KSU's College of Technology and Aviation. The method allows college students to serve others, while broadening individual educational experiences. By removing classroom boundaries, service-learning provides college students with personal and professional insights, as well as a keen perspective regarding individual roles in larger communities. Service-learning also provides educators with opportunities to extol the benefits of a higher education to much larger audiences, causing it to be an innovative college recruitment tool.

This particular service-learning component originated from a partnership between Kansas State University faculty in the College of Technology and Aviation with Unified School District 393, Solomon, Kansas. It included a five-year agreement to provide after-school seminars for at-risk 5th-8th grade students. The overarching objectives of the after-school seminars were to introduce the middle school students to the technology programs offered by the College of Technology and Aviation, to provide opportunities for college students and middle school students to interact, and to create a desire for middle school-aged students to further their education after leaving the public school system.

Faculty from the Department of Engineering Technology; Department of Aviation; and the Department of Arts, Sciences, and Business (within the College of Technology and Aviation) voluntarily created nine-week modules built around their interests and specialties. The College facilitated a total of four seminars, each meeting weekly for nine weeks. The seminars were conducted consecutively, thus covering one complete school year. This partnership was formalized to continue for five years. In each of the seminars, Kansas State University-Salina students actively participate with the middle school students. It was determined that direct involvement of the KSU students would provide strong and positive role models for these at-risk youth. The program was designed to provide a setting in which all participants could be winners.

Seminar Activities

Community Service / Expository Writing

Seminars coordinated by participating faculty began with the English section of the Department of Arts, Sciences, and Business. A seminar on community service and expressive writing was held in conjunction with an Expository Writing Course. The workshop provided opportunities for elementary students who are not actively involved in their community to engage in proactive community service projects, while providing opportunities for KSU Salina writing students to actively participate in interactive community service projects followed by critical reflection and application in classroom activities. Each week, middle school and college students cooperatively performed community service, writing about their experiences in personal journals. College students wrote a culminating paper reflecting on the role of community service in public education.

The community service projects are noted below.

- The elementary school students and KSU Salina students worked together to paint playground equipment, weed school grounds, and pick up trash in the school parking lot.
- The elementary school students and KSU Salina students conducted a city wide trash clean-up.
- The elementary school students and KSU Salina students prepared flower beds and planted flowers in designated areas on the school grounds.
- Students assisted at the Solomon Senior Center by cleaning, performing yard work, and creating fall table decorations.
- Students raked leaves at a local retirement facility.

After sharing in the community service activities, students were treated to a social activity at the Student Activity Center on the KSU Salina Campus. Students viewed video footage from all five community service activities; prepared a final writing reflection, newsletter contributions, and thank-you notes; and enjoyed the use of video games and pool table located at the Student Activity Center.

The workshop concluded with the elementary students presenting a summary report of the workshop activities to USD 393 school officials, parents, and interested community members.

Robot Building

Next, a seminar by the Department of Engineering Technology on computer programming allowed the 5th-8th grade students to build robots from special LEGO block sets. Students then learned how to write a computer program to operate their robots.

Weekly activities are noted below.

- Created a journal to record their projects' planning, development, programming, and testing.
- Created a set of PowerPoint slides containing their groups' information and details about their project. This activity involved designing the presentation as well as editing text and adding digital pictures.
- Introduced to the LEGO Mindstorms set. This introduction was intended to give students exposure to simple machines and the RCX programming language.
- Planned and designed a moving vehicle using the Mindstorms construction set.
- Wrote a computer program to test the vehicle design and construction.

Students met at the high school's library to plan, design, construct, and write the computer program. Throughout the process, testing was conducted on the gym floor. Data was collected for later analysis and design modification.

Aeronautics

In the third seminar, the KSU Department of Aviation offered a seminar in aeronautics. The workshop objective was to expose students to the historical background of flight and aerodynamics and to provide information about careers in aviation. The workshop included work with flight simulators and culminated in each student experiencing an actual airplane ride.

A summary of weekly activities are noted below.

- Presentation on History of Aviation
The presentation included history of aviation from the first balloon flight to space flights and to the future. The session ended with students sharing their personal flight experiences and with the instructor sharing information about his personal aviation career path.
- Presentation on Basic Aerodynamics
The presentation included a brief introduction to basics of flight, four forces of flight, and what it takes to create lift. The session ended with some simple hands-on demonstrations of aerodynamic characteristics.
- Balloon Racing
Students were divided into teams of two and were given a helium-filled balloon and materials to construct a weight for the balloon to lift. The object of the activity was to construct a weight that would lift the balloon slowly to the ceiling. Students enjoyed experimenting with weights to determine what amounts would allow the balloon to fly.
- Constructing and Flight of Balsa Wood Airplanes
With the assistance of KSU Salina students, the elementary students constructed an airplane from a pre-cut, ready-to-assemble airplane kit. The airplanes were balsa wood with a 17" wing span with a rubber band driven propeller. Student utilized the school gymnasium for the launch and flight area.

- Field Trips to the KSU Salina Campus

The Solomon students were bused to the KSU-Salina campus where they toured the Aviation Department. They observed classrooms, simulators, flight line, aircraft, and maintenance facilities. KSU students demonstrated the use of a map and flight planning materials, and they illustrated how a pilot determines a flight plan and route utilizing time, distance and heading. Elementary students planned a flight to three local airports. A map of the Solomon, Kansas, area was utilized which gave the assignment a very personal meaning for the students.

With the second field trip to KSU Salina, elementary students alternated between the simulators and the flight line. The students were given the opportunity to get some hands-on time in the Frasca 142 trainer and the AST 300 Visual Simulators. The students were given a demonstration of pre-flight examination of an aircraft to determine airworthiness and were given a safety briefing on flight line procedures and safety around an aircraft. They were also taught how to ingress and egress from an aircraft.

The culmination of the nine-week Aviation program was an actual flight in an aircraft. The students were bused again to KSU and the flights were provided by a local chapter of the Experimental Aircraft Association through the Young Eagles Program. This program is intended to instill interest in aviation among the young. Four aircraft were utilized, and all of the elementary students enjoyed a twenty minute flight in the Salina local area. To keep the students entertained while not in the air, a video was shown of flight aerobatics and formation flying at air shows.

KSU Salina students that assisted with the aeronautics session were asked about their experience. Selected comments follow.

“I really enjoyed the opportunity to see kids experience flight for the first time. It is a great experience for kids to see what it is like to fly an airplane. It also gives the kids a chance to experience something new and exciting to broaden their horizons.”

“I feel that everyone had a chance to experience something good at this program. I think the pilots had a chance to relive some of their childhood through watching the youngsters at the controls while at the same time invoking inspiration in the children to become a pilot.”

What I enjoyed most was being able to help the kids enjoy a flight and answer their questions. I know I would have enjoyed it if I had such a chance at a younger age.”

Entrepreneurship

The Business section of the Department of Arts, Sciences, and Business offered a seminar on entrepreneurship. The objective of this seminar was to introduce students to the business

environment by simulating the operation of a small cookie and candy making business. After developing a business plan, KSU Powercat (KSU logo) cookies were produced and sold by students. Profits were invested in a culminating celebration of the session's activities.

A summary of weekly topics and activities are noted below.

- Business Organization
Business planning issues were discussed. Characteristics of sole proprietorships, partnerships, and corporations were shared. The session culminated with students selecting a stock portfolio of publicly traded companies costing \$1,000. At the beginning of each subsequent seminar meeting, the facilitator shared with the group the various portfolio earnings and losses accumulated; and the student whose portfolio had generated the greatest income was awarded a small prize.
- Product Cost Components
The elementary students compiled a list of direct materials, direct labor, and manufacturing overhead for cookie and lollipop production. Students utilized a detailed store receipt for all the ingredients of a batch of cookies and a sugar cookie recipe to calculate the direct materials cost of producing one cookie at the fictitious business.
- Manufacturing Processes
The class visited the Mechanical Engineering Technology lab at KSU Salina. Students learned how cookie cutters and lollipop molds can be designed and produced. The class discussed the cookie manufacturing process and brainstormed various physical layouts that a cookie manufacturer could utilize.
- Product Pricing and Advertising
Utilizing the cost information calculated at the prior seminar meeting, the elementary students determined a selling price for their products. Additionally, the purpose of advertising was discussed. The session culminated with students designing a large poster to be used as advertising for their fictitious company.
- Cash Management
Students discussed how a checking account works, the *do's* and *don'ts* of check writing, and how to prepare a bank reconciliation. Students discussed the importance of paying bills in a timely fashion as well as the consequences of not keeping current. The session culminated with the elementary students preparing a bank reconciliation for a fictitious bank account.
- Financial Statements
Students discussed the need for record-keeping and how reports summarize and simplify the communicating of business issues. Students focused on decisions that businesses must make regarding profits. It was reinforced that profits from the fictitious

business would be utilized for funding an end-of-nine-week celebration to be held at a local activity center.

- **Inventory Production**
Pre-baked sugar cookies, frosting, and candies were provided to the elementary students. The group spent the seminar cooperatively decorating and packaging the products. Cleaning, and supervising duties were divided among the students.
- **Performance Evaluation**
The cookie sales occurred at a school-sponsored public event prior to this seminar meeting. At the entrepreneurship session, students summarized the sales and prepared an income statement for their fictitious company.

The workshop culminated with an end-of-nine week celebration. Students utilized the profits from their fictitious business to pay for bowling and refreshments at the local bowling alley.

KSU Student Outcomes

Selected KSU-Salina students involved with the public school partnership were surveyed prior to their service-learning experience and again after completing their scheduled seminar. The results of the surveys are as follows.

<i>Survey question:</i>	% yes respondents -- pre-survey	% yes respondents -- post-survey
Do you support a service-learning component in the college classroom?	60%	90%

The pre- and post-survey gave college student the option to comment. Selected post-survey comments follow.

“A good experience, I would do it again.”

“I believe service learning should be required for graduation, but not necessarily a part of every class.....possibly a separate 2 or 3 credit hours of service learning as a class.”

“Such a program would encourage students to become involved in their communities. It is important for well-rounded citizens to recognize that they are a part of a community.”

“I support service-learning because it helps those you are mentoring / helping, and it can build values in collegiate students.”

“I benefited from this because I forced myself out of my normal routine of classes,

homework, jobs, partying, etc. to realize that there is a world outside my own little college life. It made me feel like a good citizen.”

Based on the pre-and post-test results, directing the after-school seminars was a positive experience for the KSU Salina students.

Continued Collaboration

At the writing of this paper, the first year of this partnership is complete. The faculty facilitators met with the USD 393 after-school program coordinator to share successes and “lessons learned” while directing the workshops, and they brainstormed ways to improve future workshops. Based on this meeting, USD 393 personnel feel that the partnership was a worthwhile one. They feel one of the greatest outcomes from the partnership was the interaction between their students and the KSU Salina students. The college students provided strong role models for the younger students, many of whom come from disadvantaged homes. The elementary students looked up to the KSU Salina students and, in small ways, tried to emulate their actions. KSU Salina Faculty facilitators felt that the program was a success. Based on both formal and informal feedback, KSU Salina students learned many lessons from being involved in the partnership. They were reminded that they are a small part of a very big community--that their actions impact society. From a University perspective, the partnership was a success. It allowed the introduction of many facets of the college’s offerings to potential college students later in this decade.

While directing the four workshops during 2003-2004, KSU Salina faculty facilitators learned many lessons, and they plan to utilize these “lessons” to modify and improve future workshops. One observation was that the elementary students do not respond well to a lecture format, and that a personal conversation approach works much better. Another observation was that the students need hands-on activities during the workshop or they lose interest. Relevant plans pertaining to both of these techniques will be used in future years. Additionally, the math skills of the elementary students are not as strong as had been expected. In the future, KSU Salina college students will be utilized more to help with activities that require math. By providing more one-on-one attention, it is hoped that the students’ math skills can be improved. Another observation was a lack of communication between the KSU faculty and the USD 393 personnel during the school year. KSU faculty had difficulty getting a hold of USD 393 personnel when there were questions or scheduling changes. This was brought to the attention of the after-school program director, and both parties will strive to advance open communications in the future.

Based on both formal and informal student and colleague feedback, service-learning holds a promising place in the college learning experience. Participating faculty believe that the *community classroom* is a powerful educational tool, which can enrich the college student experience, while at the same time can create a productive, inspirational experience for participating youth—college students of the future. By tapping into the power of the community classroom, faculty demonstrate to the college student that they have the power to impact their community, and they demonstrate to tomorrow’s college student that many people have a very sincere interest in their future.

