

# INFORMATION SYSTEMS EDUCATION JOURNAL

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# INFORMATION SYSTEMS EDUCATION JOURNAL

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# Beyond the Bake Sale: Fundraising and Professional Experience for Students Involved in an Information Systems Student Chapter

Johnny Snyder  
josnyder@coloradomesa.edu

Don Carpenter  
dcarpent@coloradomesa.edu

Gayla Jo Slauson  
gslauson@coloradomesa.edu

Joe Skinner  
jskinner@coloradomesa.edu

Department of Business  
Colorado Mesa University  
Grand Junction, CO 81501

Cole Nash  
cnash@provelocity.com  
ProVelocity  
Grand Junction, CO 81506

## Abstract

Fundraising traditionally involves selling. This paper explores the merits of selling technology services provided by a technology oriented student club to members of a campus community. This club activity puts into practice learning theories presented in the literature. Beyond fundraising, this activity yields many additional benefits to the students and the institution. Student benefits include an active learning experience, intellectual synthesis joining theory and applications, and practical work experience. Institution benefits include student retention, technology repair services for the campus community and increased learning by the students involved. This fundraising activity gives participating students real-world experience that merits inclusion on their resumes and practice applying recently learned classroom knowledge in a realistic business setting.

**Keywords:** student clubs, active learning, service learning, fundraising, professional experience

## 1. INTRODUCTION

Faculty advisors for student clubs with an academic focus have the responsibility to keep membership levels up, keep students motivated and on-track, and assist with activities (meetings, learning experiences, fundraising). As a cocurricular activity, student clubs augment the classroom environment through club activities (Kuh, Kinzie, Schuh, & Whitt, 2005) such as fundraising for the club. With professional conferences and competitions to attend, student clubs need funds for travel, lodging and conference registration. This paper describes how one information systems student club has started a business (The Computer Heroes) which applies classroom knowledge to real-world technology problems brought in by members of the campus community. The benefits are many: a quality learning experience for the student, practical business experience for the student, free or low cost technology solutions for the campus community, and fundraising for the student club.

## 2. LITERATURE REVIEW

The educational and cocurricular benefit of student clubs has long been known (Astin, 1985; Kuh, Pace, & Vesper, 1997). Astin (1985) believes that increased faculty-student contact increases learning and participation in the college environment. Boyer (1988) phrases these benefits as effectiveness of the undergraduate experience and the quality of campus life. He notes that these are directly linked to the students' quality of involvement in student activities (clubs for example) and time spent on campus. Boyer also states: "the college of quality remains a place where the curricular and cocurricular are viewed as having a relationship to each other" (p. 195). Kuh, Schuh, Whitt, Andreas, Lyons, Strange, Krehbiel and MacKay (1991) further clarify the cocurricular as: "A high-quality out-of-class experience is active participation in activities and events that are not part of the curriculum but nevertheless complement the institution's educational purposes" (p. 7).

More recently, Kezar and Kinzie (2006) state that "quality undergraduate curriculum requires coherence in learning, synthesizing experiences, on-going practice of learned skills, and integrating education with experience." (p. 149) This is one of the three principles in what Kuh (2001) terms "student engagement." Rob

(2009) terms this involvement "active engagement" and applies the concept to a programming course, but active engagement can apply equally well outside the classroom. Kuh, Pace, and Vesper (1997) measure the effects of faculty/student contact and active learning, and report that the latter is one of the best predictors of educational gains in three types of institutions: baccalaureate, master's and doctoral granting.

**Table 1. The Seven Keys to a Successful Student Club**

<b>Keys</b>	<b>Ideas to achieve the keys</b>
Motivated students	Faculty and student members identify motivated students
Institutional support	Rooms for activities, financial support for activities Departmental support
Proactive advisor	Faculty interest
Dedicated alumni support group	Previous members assisting with presentations Graduates presenting at monthly meetings
Good ties to local professionals	Invite IT professionals to give talks at monthly meetings IT tours from local IT professionals
Good ties to local professional organizations	Attend and network at chapter meetings
Receptive community	Provide a service to the college community Participate in community activities as volunteers

Service learning can "strengthen the relationship that the college or university has within the community" (Ayers, Gartin, Lahoda, Veyon, Rushford, & Neidermeyer, 2010, p. 55). Ayers et al. also note that service learning differs from community service due to the educational component being incorporated. Building these learning communities (which have various definitions – see Zaho & Kuh, 2004) involves a partnership between faculty, students, and the institution (Barros & Verdejo, 2000). This partnership incorporates the first three of the seven "keys to a successful student chapter" listed in Table 1 (Evans, Evans, & Sherman, 2001).

The learning community surrounding a student club can also address the growth of the student members through the three theories of pedagogy as described in Astin (1999):

- The Subject-Matter Theory (SMT) – students learn best when exposed to the right subject matter, presented by an expert (the faculty member or a working professional).
- The Resource Theory (RT) – when enough resources are brought together in one place student learning and development will occur.
- The Individualized (Eclectic) Theory (IET) – emphasizes elective learning (rather than required coursework) by the student.

Lastly, Cross (1998) believes that learning communities use a constructivist approach to learning where students socially construct their knowledge rather than “discovering” it. As a result, learning is “deeper, more personally relevant, and becomes a part of who the student is, not just something the student has” (Zhao & Kuh, 2004, p. 117).

While these theories can be expensive to implement monetarily, they cost mostly time – admittedly the ultimate resource.

Most of the literature surrounding student clubs and organizations focuses on learning outcomes and intellectual development of the student group. (Astin, 1984; Kuh, Pace, & Vesper, 1997; Zhao & Kuh, 2004) These positive learning outcomes have been documented to be valid across cultures (Baker, 2008; Huang & Chang, 2004; Kuh, et al., 2005) and across genders (Busseri & Rose-Krasnor, 2008). Further, student clubs can be utilized as a recruiting and retention tool for the discipline, (Abrahamowicz, 1988; Kempken, 2010; Snyder, Slauson, Jackson, & Chaffin 2007) and a positive way to promote student/faculty interaction (Kezar & Kinzie, 2006). These reasons lend credence to creating, supporting, funding and being actively engaged with student groups.

Traditionally, IS students have raised money by hosting LAN parties and game nights (personal observation, Chundur and Zieleniewski, 2009) or having bake sales. While the former is germane to the profession, the latter is not. Some authors incorporate student projects or internships into their coursework as benefits for industry connections, (Watson & Huber, 2000)

as funding sources for the program, (Weible, Shao, & Shao, 2009) or funding a laboratory space for an IS program (Henson, 2010). The literature on student clubs examines club benefits and components necessary for a successful student club, but does not examine ways in which one can fund the club as well as provide practical work experience for the students involved.

The remainder of this paper describes a program for a student club that accomplishes the goals of student/faculty interaction, student educational attainment via active and group learning, student business experience, business department goals, student professional development and fundraising for the student club.

### **3. FUNDRAISING AND PROFESSIONAL EXPERIENCE: THE COMPUTER HEROES PROGRAM**

Fundraising for an information technology student club is a year-round activity. The fundraising activity presented in this section incorporates out of the classroom learning experiences, cocurricular learning activities, student engagement, team building activities, and student retention. This program also answers the question “Where can a student gain work experience while attending college?”

#### **History**

Fundraising for a student club has traditionally centered on activities such as bake sales, garage sales, art sales (art students), rock sales (geology students), internships (individual students), and student projects for business clients (personal observations; Henson, 2010; Watson & Huber, 2000; Weible, Shao, & Shao, 2009).

A trip to the campus library by the IS student club advisor yielded a usability study and a student club competition for best problem solution and design (Snyder, et al., 2007). After observing the voting in the meeting, a colleague suggested that this “idea” could be expanded to develop the students’ professional skill set by applying knowledge gained in the classroom to solving issues ranging from hardware problems to software concerns. The program, Computer Heroes (CH), was thus born with a motivated student, some interested faculty, and a little bit of space in a computer laboratory that is

dedicated to the CIS program. A brief history of the staffing of the Computer Heroes program is illustrated in Table 2.

**Table 2. Staffing and Growth in the Computer Heroes Program**

Year	Number of Students Involved	Number of Hours Committed per Week
2006 - 2007	1	by appointment*
2007 - 2008	3	by appointment
2008 - 2009	1	by appointment
2009 - 2010	2	6
2010 - 2011	4	20.75
Fall 2011	7	15

\* Students involved would meet clients "by appointment" and accurate records were not being maintained

Servicing computers requires hardware and software tools. A listing of the hardware tools used by the CH program is given in Table 3, along with the initial justification for purchase and the cost.

**Table 3. Hardware Used by the Computer Heroes Program**

Year	Hardware	Cost	Usage
2006 - 2007	Monitor, Keyboard, Mouse, small PC repair tool kit	\$0*	Diagnose problems with system unit brought in by client.
2007 - 2008	Monitor, Keyboard, Mouse, small PC repair tool kit	\$0	Diagnose problems with system unit brought in by client.
2008 - 2009	Monitor, Keyboard, Mouse, small PC repair tool kit	\$0	Diagnose problems with system unit brought in by client.
2009 - 2010	Monitor, Keyboard, Mouse, small PC repair tool kit	\$0	Diagnose problems with system unit brought in by client.

	mini-fridge	\$0	Donated to program, provide beverages to student group and clients
	Monitor, Keyboard, Mouse, small PC repair tool kit	\$0	Diagnose problems with system unit brought in by client.
	4 port KVM switch	\$99.99	work on multiple desktops at a time
	8 port gigabit switch	\$69.99	to have multiple computers connected to the Internet
2010 - 2011	SATA/IDE to USB 2.0 adapter	\$19.99	used for any data backups which would require the hard drive to be pulled out of PC
	2 TB external hard drive	\$149.99	this external hard drive would be used for client backups and any Computer Hero storage needs
	USB 2.0 external DVD writer	\$49.99	would be used in case a PC has a bad optical drive and software needs to be loaded
	PC repair tool kit with anti-static wrist bands	\$49.99	necessary to perform any PC repair task
	Printer/scanner	\$79.95	scan customer records, print jobs

\* Provided by the college and/or department

Results of the program expansion over the years 2009 - 2011 include a larger work force for the program, more committed (and scheduled) hours for the program, more hardware and

software (primarily open source tools), more client interactions, and more fundraising (the program works on a "by donation" basis with a suggested donation rate of \$20 per hour). Some of the fundraising totals and number of clients helped are given in Table 4.

**Table 4. Number of Clients Assisted and Fundraising Totals**

Year	Number of Clients	Fundraising Totals
2006 - 2007	Unknown*	unknown*
2007 - 2008	unknown*	unknown*
2008 - 2009	unknown*	unknown*
2009 - 2010	15	\$530
2010 - 2011	40	\$1,111.50

\*Accurate records were not being maintained

### Development of the Computer Heroes Program

#### Phase 1 (2006 - 2009)

The first phase of the program involved the recruitment of students to staff the initial launch of the program, to advertise the program and to meet with potential clients. As a screening process, students need to have completed and passed a sophomore level course in the curriculum, Information Technology Hardware and System Software. This course gives the student both theoretical and hands-on experience with the internal workings of a PC, including building a PC, trouble shooting skills, BIOS knowledge, and general system maintenance. The initial cohort consisted of one motivated student who would meet with clients on an arranged basis (the client would contact the Computer Hero and a meeting date, time, and place would be arranged). In the first phase, a lack of equipment kept the program constrained to performing repairs such as hardware swaps, software and driver updates, application software installs and operating system installs.

The college provided a small room with power, a network connection, as PC and a monitor in support of the program. Open source software tools were employed to trouble-shoot PC's. These tools were selected by the students based on their experience and familiarity with the tools.

The initial phase of the CH program incorporated three of the keys identified by Evans, et al.

(2001), these being a motivated student, institutional support, and a proactive advisor (see Table 1). These keys are the fundamental set needed to start a program such as Computer Heroes and demand time rather than capital as an initial investment.

### Fundraising: Donations accepted for services performed.

#### Phase 2 (2009 - 2011)

A significant increase in the amount of hardware and repair tools (see Table 3) along with an increase in staffing (see Table 2) increased the repair capacity of the program during this phase. Offering a one credit "special topics" course enabled consistent staffing of the program with a fixed schedule posted on the door to the CH room. This increased client traffic substantially and increased the number of students involved with the program.

The new hardware enabled the CH students to assist clients in data recovery and back-up, diagnosis of drive problems (resident and removable media drives), power supply errors, operating system errors, and other issues on client machines.

Maintaining accurate client records has been started; both paper and digital copies are being maintained. A file cabinet and free cloud storage technologies are being utilized for document management.

### Fundraising: Donations accepted for services performed. Suggested donation: \$20.00/hour.

#### Phase 3 (2011 - forward)

Plans for moving forward with the program include developing a database for work orders, standardizing business practices (client interaction, computer check-in for repair work, logging work performed), ensuring quality of work performed, labeling (keeping track of client hardware as well as condition of hardware upon entering the CH room), exploring liability issues, and generally establishing, maintaining, expanding, and improving the business practices of the CH program.

By bringing together the resources (hardware and software), personnel (students and a faculty advisor) and computer problems, two of the theories of Astin (1999) are put into play in the Computer Heroes program, the Resource Theory



and the Individualized (Eclectic) Theory which contribute to student involvement and learning. This type of involvement can be a predictor of future success for the involved students (Kuh et al., 1991).

### **Activities**

In the first years the program could be described as "students helping students with their computers." As the program has matured, the students have become more comfortable with wiping hard drives (after backing up data) and re-installing operating systems, extracting hard drives from non-functioning computers and retrieving important data (primarily school documents, pictures and music), troubleshooting software issues (e-mail, Internet access, wireless support), and client interaction (an important part of any business). Additionally, a procedure manual is under development to standardize the CH operating procedures and to assist in training/mentoring students wanting to get involved in the CH program.

### **Liability**

Liability (and repair documentation) has been a concern of the CH program. A business law professor assisted the CH students with the development of a liability release (see Appendix A) and the students augmented it to include information on the client computer (model, ID number, problem, initial condition of computer, diagnostics run, repairs completed) and a history of work completed while in the CH shop. Training in this arena for CH students includes issues concerning data privacy when backing up client's hard drive, to be complete with data back-ups for the client, logging the condition of the computer when it enters the CH program for repairs, and listing the operating condition of the computer as it leaves the program.

### **Problems**

As with any business, problems occur. There have been bounced checks, dissatisfied clients, staffing issues, clients not donating after services performed, paperwork problems and client interaction concerns. Each of these issues had to be addressed as they arose, and a solution attempted. The accumulation of solutions (both good and bad) has helped in the evolution of the business policies and business practices for the CH program. The issues

surrounding business problems and their impact on business policies have been a learning experience for the students involved.

In addition to client problems, computer problems are dealt with on an (almost) daily basis. A list of problems, proposed solutions and solution results are presented in Appendix B. This appendix illustrates the types of hardware and software issues that are brought to the Computer Heroes program.

Technician notes keep computer repair jobs on track and student volunteers informed of what diagnostics have been attempted and the results of these diagnostics.

### **Student Presentations**

Student clubs traditionally have monthly meetings. The CH program enables the students to assist with the meetings by giving presentations on creative solutions to a CH problem, their favorite software diagnostic tools or practice preparing for a special topics night (to be covered next). These presentations reinforce the skill sets applied by the students and enable them to practice their presentation skills in a friendly environment. Faculty and student comments can be used in improving these presentations which can be of a technical nature and involve a generalist audience. These presentations integrate education and experience, supporting the learning theories of Kuh, (2001) and Ayers, et al. (2010).

### **Special Topics Nights**

In addition to the CH program, the students have begun to run "computer optimization nights" where campus members bring their computers to a pre-determined location at a pre-determined time and learn how to optimize system performance, install, set-up and run anti-virus software, or back-up their data. The students prepare an instruction sheet, provide software (open source), demonstrate installing and running the software, and assist the client group. These classes give students in the CH program experience with training user groups on how to operate a software tool. These training sessions give students in the CH program experience with training user groups on how to operate a software tools, employing the service learning theories of Ayers, et al. (2010), and Kuh, et al. (1997).

Fundraising: Suggested donation for attendance \$10.00.

### **Succession Training**

Keeping the CH program running year after year is an arduous task for the faculty sponsor as well as the continuing CH students. Each year, the most experienced CH students graduate and leave the campus environment. In the spring semester, a mentoring activity is attempted where the experienced CH students train new students in the procedures, policies and activities of the program. Interested students must be solicited to participate in the spring training program for the coming year. A notebook listing the major points of the program is available for new students to reference, and is under constant development and revision.

### **Computer Heroes Program Outcomes**

Most schools of business have core curriculum goals that their coursework and faculty address. A list of the most common outcomes is presented here.

- communication skills – written, verbal and presentation
- quantitative reasoning skills
- technology competency
- information literacy
- critical thinking/problem solving skills

The Computer Heroes program exposes the students to real-world applications of these skills (with the possible exception of quantitative reasoning) via problem solving on clients' computers and training user groups. The students work individually or as a team and utilize discussion forums and other online knowledge bases to troubleshoot and repair client computers. The special topics nights give the students experience in preparing a written software/activity guide for the client, developing a PowerPoint presentation for the client group, and delivering a software training session for the client group as a team activity. These activities put into play many of the points made by many of the authors in the literature review section.

Most businesses have core competencies that they desire in new hires. The most common skills are presented here:

- communication skills
- customer relationship skills
- teamwork skills
- business experience

Again, the Computer Heroes program exposes students to various facets of each of these skills. The CH students work together as a team to tackle and solve computer problems while interacting with the (sometimes anxious) client. The most recent National Survey of Student Engagement states as one of the promising findings: "Students who engaged in learning activities with their peers were more likely to participate in other effective educational practices and had more positive views of the campus learning environment" (NSSE, 2010).

In general, students participating in the CH program are enhancing their academic experience as well as acquiring valuable job skills for inclusion on the resume and a discussion topic for a job interview.

The CH program is a business that functions (primarily) to fundraise for the students to travel and compete at conferences. One spin-off of running a business is that it provides a learning activity that benefits the students, their future employers, and the campus community. Overall, the Computer Heroes program integrates education with experience, incorporating an active learning environment into the college setting.

As the Computer Heroes program evolves and matures, outreach to the community at large (rather than just the college community) will be attempted. Expanding the CH program in this direction will enable the students to further experience the nuances of running a business and interacting with the general public. Expanding into the community will enable the students to network with possible employers. As Michael Umphrey (2007) states in his text on community centered education, "Teachers use the community as the subject of serious study," (p.93) and "Teachers look for chances for students to do real work" (p. 98). By opening the program up to the general public, the students benefit from running a discipline specific business and from gaining experience worthy of resume inclusion; the institution benefits by gaining stronger ties with the community in which it resides along with graduating well prepared students for the workforce.

#### 4. CONCLUSION

Starting the Computer Heroes program was easy. Keeping it alive is hard. Each semester brings a new set of duties (scheduling, advertising, recruiting, training, bookkeeping) for the program as well as year-long oversight responsibilities for the faculty member(s) involved with the program. Motivated students and motivated faculty are required to keep the Computer Heroes program alive and healthy. This fundraising activity spans the entire school year and emulates a business more than a club fundraiser.

This activity also supports and encourages cocurricular, experiential learning experiences for the student, and provides a community service element to the students' educational pursuits. Branching out into the community will enhance student engagement with the off-campus community and begin to build the foundations of community centered education. Enabling this type of cocurricular activity benefits the students in many ways, and puts into practice many of the learning theories discussed in this paper.

While the workload can be daunting for the faculty and the students, the benefits of real-world problem solving activities, working as a team, community service hours, technology repair experience and fundraising gained by the student group is worth the effort.

Future directions include construction of a survey instrument for clients as well as an exit interview with the student volunteers. Both data sets could be utilized to improve the Computer Heroes experience for clients as well as students involved in the program.

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**APPENDIX A**

**Computer Heroes Liability Release Form**

This is a legally binding liability release, waiver, discharge and covenant not to sue, made by the undersigned to the State College Student Chapter of the professional society Computer Heroes Program.

I, \_\_\_\_\_, recognize that there are risks associated  
 Releaser's Printed Name

computer repair and troubleshooting and I assume all risk arising from asking Computer Heroes to use their ability and knowledge to troubleshoot and repair hardware and software problems associated with my computer.

I therefore agree to assume and take upon myself the risks and responsibilities associated with any attempt to repair my computer. I, and any agent or assigns, release the professional society, its agents and members, from any liability arising from any attempts to troubleshoot or repair my computer and waive, release, discharge, and covenant not to sue for any such claims and indemnify them from any such claims brought by or through me.

\_\_\_\_\_  
 Releaser's Signature Date

\_\_\_\_\_  
 Releaser's Contact Information (phone, e-mail)

Nature of computer problem: \_\_\_\_\_

Operating system: \_\_\_\_\_

Password (If client has one on computer): \_\_\_\_\_

Other notes (accessories, condition of computer, broken parts etc.)  
 \_\_\_\_\_

Type of computer, identification number: \_\_\_\_\_

Solution proposed: \_\_\_\_\_  
 \_\_\_\_\_

Solution result: \_\_\_\_\_  
 \_\_\_\_\_

Computer operating condition at time of customer pick-up: \_\_\_\_\_

Customer pick-up (signature): \_\_\_\_\_ Date: \_\_\_\_\_

Technician Notes	Date	Name
_____	_____	_____

**APPENDIX B****Client Computer Problems for Computer Heroes**

<b>Nature of Problem</b>	<b>Solution Proposed</b>	<b>Solution Result</b>
Computer will not boot	Diagnostic	Data backed up off computer, computer shuts off immediately running stress test. Client wants to get new computer but will bring in external HDD for data.
Viruses!!! Can't access Internet	Remove viruses	OS damaged from viruses. Backed up data, restored OS, optimized, installed A/V, and installed MS Office
Clean install of Windows 7 and combine partition HDD into one	Win7 install, Open Office install, put data on from their external drive	Combined partitions on HDD, Installed/optimized Windows 7, installed Open Office and transferred data.
Pop-up virus	Diagnostic and removal of viruses	Removed infections, installed A/V, and optimized laptop
Virus infection	Virus removal	Virus/spyware removed and computer optimized
On boot PC will not start but prompts F1 for time settings. Virus warning pops up but Norton scan found nothing!	Diagnose software/hardware	Passed hardware tests, replaced faulty CMOS battery, removed 33 threats, and optimized PC.
Freezes, viruses, will not connect to Internet	Full diagnostic, laptop appears to have hardware issues	Fixed IE issue by running Norton removal tool. PC shuts off during tests and video display cuts in an out while on. Let client know it would be cheaper to replace than repair due to age of computer
WIFI does not work	Check wireless drivers and settings	The wireless was turned off on the computer. Showed client how to toggle on/off and connect to the school network
Need Microsoft Office for Macbook Pro	Installed Bootcamp Windows 7 and MS Office. Recommended due to user interface of Office in Windows opposed to Mac for taking classes	Installed Bootcamp partition with Windows 7 and Microsoft Office.
Computer getting BSOD	Diagnostic	Replaced bad module of ram

		with 2GB DDR2 provided by client and optimized PC
SLOW, mymathlab does not work all the time	Diagnostic, test all hardware and software, checking all IE/Firefox plugins (Flash, Java, Silverlight)	HDD tested bad. Replaced HDD, installed OS, transferred data from failing drive, installed appropriate applications, and optimized laptop.