A System of Reciprocity

Empowering Stakeholders to Do More with Less in Educational Technology

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Keywords: higher education, empowering, teacher education, teacher training, tutor

Abstract: A System of Reciprocity is a way of thinking and working within an existing system to generate resources or services that one does not have, in return for giving resources or services that one does have. A System of Reciprocity has been employed to create mutual benefit for students, faculty, the department, the college, and the university. A key element is that those involved in the system are aware of their involvement and how it directly benefits them. The synergy created by this faculty-student effort allows both to accomplish far more than either could accomplish alone.

1. INTRODUCTION

The pace of changing technology has created a climate of frenzy in many institutions. With changes in hardware, upgrades in software, and new inventions occurring daily, it is impossible to keep up. Budgets have shifted to accommodate purchases while technology training needs are frequently overlooked. Systems are short of the human resources required to accommodate growing needs in professional development. Pressure is put on educational technology programs to provide solutions to these growing needs. Often, these programs lack the resources to keep up themselves, much less accommodate everyone else's needs.

A shift in thinking may be required to help solve these complex problems. The systems approach is commonly taught in educational

technology programs, but how often is it used to redesign, recreate, and improve the program itself? Harris (1972) said that general systems theory is used as a tool by social scientists "for understanding human behaviour and for increasing the ability of individuals to work creatively and productively with one another" (p. 1). He noted that "an important advantage of a systems approach is flexibility. You can arrange and rearrange the environment any way you want which is consistent with the school's purpose" (p. 7).

In the Educational Technology (ETEC) Program at the University of Hawaii (UH), one faculty member introduced what she termed a System of Reciprocity as a way to empower the department to do more with less. The System of Reciprocity is a way of thinking and working within an existing system to generate resources or services that one does not have, in return for giving resources or services that one does have. This type of system is an example of a Win/Win situation described by Covey (1994). "Win/Win means that agreements or solutions are mutually beneficial, mutually satisfying. With a Win/Win solution, all parties feel good about the decision and feel committed to the action plan" (p.117). This concept should work equally well in a university, government agency, or business. The System of Reciprocity has been employed by ETEC to create a mutually beneficial situation for its students, faculty, the department, the college, and the university.

2. HISTORY

The system was originally developed in 1988 by an ETEC faculty member when she had worked as a training manager in a government setting. The agency had 6000 employees who needed services, yet there was no budget and the secretary was shared with five units. When brought in to develop the district training program, the training manager applied her experience in instructional systems and team-building. It was in this challenging environment that the System of Reciprocity was originated (see Figure 1). The concept was that when services were rendered, the recipient would provide resources to the system, which in turn would allow more services to be provided. Payment for services was not possible, so a subtle system of barter was created. The key to making the system work was to consistently act upon this concept and inform those requiring services of their role in the system.

Concepts were used from research on change theory to create a conducive environment. Havelock (1973) emphasised the importance of involving stakeholders, that is, people in system that have an interest in the outcome. In this case, the orientation for new employees and management

training were used as an opportunity to positively market the training department. The training manager used the idea of the primacy effect and the recency effect (Dawson and Medler 1997) to help employees remember her. These mean that the first thing and the last thing one does are remembered best. The training manager personally handled the orientation, and the beginning and ending management training sessions, and sought to make them memorable experiences. She made a point of acquainting herself with the new employees and management staff, alerting them to her services, and assuring them they could ask for assistance.

Figure 1. Original System of Reciprocity

Another group of stakeholders was the trainers hired to meet specific unit needs. These people operated independently and in isolation. The training manager created events to organise them. This empowered the trainers by giving them an identity and making them an integral part of the training system. They gained a support system and professional development. With this strategy the training manager expanded her sphere of influence and gained access to a pool of qualified trainers.

A key element of a functional System of Reciprocity is that those involved in the system are aware of their involvement and how it benefits them. When the training manager was asked for services, she would give clients a diagram of the system and explain it (see Figure 2). For example, consultation was provided to employees who needed it. In exchange for the *consulting*, recipients were asked to verbally *support* the training department by saying positive things about the training department's services to fellow employees. When people heard good things about the department, they came to her for *technical assistance*. The training manager would explain that if the employee's department purchased the materials and the excess *supplies* were kept in the training department, supplies would be available for continued media support for all departments.

Figure 2. Government agency – System of Reciprocity

When providing employees with *media* support, they were asked to remember the training department at the end of the year when they had their budget surplus to spend. This money provided *media equipment* and training materials for the system. With more resources the department was better able to meet the needs of the agency in its primary function – training. In a district of 6000 employees, one person could not meet the demand for general training. When managers asked for *training* for their department, she would in turn ask if they or someone in their department might be a good trainer. In the training sessions, the training manager would be keenly aware of the people who caught on quickly and were self-assured. She would also recruit these people to conduct training sessions. In this way, she created a network of available *trainers*. Through this process, with no budget and one-fifth of a secretary, the training manager was able to get supplies and equipment and spread her services further than she could do alone. Everyone benefited.

3. EDUCATIONAL TECHNOLOGY DEPARTMENT

The System of Reciprocity has now been successfully transferred to the Educational Technology Department at the University of Hawaii. When the training manager became a professor, she found that the System of Reciprocity worked equally as well in an academic environment. The System of Reciprocity started in the department as a means to help individual faculty members. Since the department had no graduate assistantships to help

faculty with research and teaching, the department was convinced to allow the independent-study course and the required internship as a way to recruit help. Previously, the independent-study course generally benefited one student while increasing the workload of the faculty member. Internships were primarily sought outside of the department. The emphases of these courses were changed to allow faculty to recruit and handpick students as teaching and research assistants. The students in turn were allowed to count these credits toward their degree program. ETEC faculty have provided many collaborative and authentic projects for their students. One of the most valuable has been involving students in research, publication, and grant writing. The students receive special attention and mentoring through the process, and most importantly use their newly learned skills to work on real projects or practice teaching. In this Win/Win situation students provide their time and effort to faculty who need publications and good teaching evaluations for tenure and promotion (see Figure 3).

Figure 3. Department of Educational Technology System of Reciprocity

The key to making this work is having the student and faculty member ask themselves “what’s in it for me?” (WIIFM). Then, the student and faculty member negotiate a plan that is mutually beneficial. As seen in Figure 4, the department provides the *opportunity*; the students supply the *time*. The department gives the student credit and the students gain *expertise*. While the department receives *help*, the students gain *real-world experience*. The faculty members receive *recognition* and entries on their vitas for work accomplished, as does the student in improving their *resumes and portfolios*.

Knowing this help is available, faculty have sought numerous opportunities to obtain grants providing the additional benefit to students of

paid positions. The department now has the equivalent of graduate assistantships without having the budget for them. The professor who introduced the System of Reciprocity has benefited from 22 teaching assistantships, 25 research assistantships, and 45 paid employees for a total of 92 collaborators over a ten-year period.

Figure 4. ETEC Department – Expanded System of Reciprocity

In addition to helping individual faculty, the System of Reciprocity is also at work on the departmental level. As in the government setting, a yearly orientation and renewal session is provided to instill an environment of co-operation and promote opportunities for working on various projects. As a result, many students choose course and master's projects to develop course materials, create databases, and conduct needs assessments, and research that benefit the department. Students are not required to do these projects, but many find value in projects that have a direct, real-world use.

The System of Reciprocity also contributes much to departmental grant projects. Students' willingness to participate in the system has resulted in ETEC faculty being awarded 5 grants for over \$2.7 million to support technology integration in College of Education (COE) courses. Since the department has not been allotted any graduate assistantships, one of the most important outcomes of grant funding has been to provide relevant employment for ETEC master's students. The recognition and jobs available help a great deal in recruiting additional and quality graduate students into the program. The department through its grant efforts has been able to hire 38 students over the last five years for this project. With the assistance of the students, the faculty and staff are able to stretch their time and get more done. As the department is able to do more, it receives recognition, which enhances relationships with the college, university, funding agencies, and professional organisations.

4. EDUCATIONAL TECHNOLOGY COURSES

For a number of years the university has been experiencing the most severe budget crisis in its history. While the COE is committed to using technology in the teaching and learning process there were very few technology resources or training sessions made available to students and faculty through university funding. Because of the Educational Technology faculty's technical expertise, the department was often asked to fill this gap by providing informal training and technical assistance to other faculty in the college. While the department provided this help, it took time from the faculty members' already busy schedules and did not provide them with many rewards. At that point, the system was non-reciprocal. The ETEC faculty provided valuable services to the college beyond their job descriptions, and yet they themselves did not directly benefit from it.

Again, the ETEC faculty member who had developed the System of Reciprocity applied it to an ETEC course to reduce the pressure on the department for technology training. A Win/Win situation was created through a required practicum course in which graduate students are provided an authentic setting to apply their new skills by designing and conducting technology workshops for COE faculty. In their first year, students learn to analyse instructional systems, develop needs assessments, apply change theory, design instruction, develop various media, and make high-tech presentations. As a way to apply these skills, ETEC practicum courses are offered every fall to advanced students. They use current needs assessments as a guide to inform them of the topics faculty are interested in learning. They also consider their own WIIFMs in choosing topics. Based on this knowledge, the students develop a semester-long series of technology workshops for the COE faculty. Students handle all aspects of each workshop including design, delivery, advertising, registration, and evaluation. Past workshops have covered such topics as using layers in Photoshop, online collaboration with Web CT, electronic portfolios in Powerpoint, and editing digital video with imovie2.

The System of Reciprocity in this context works by the instructor first offering the *opportunity* to the ETEC students through teaching the course (see Figure 5). In exchange for the opportunity to take the course, the students give their *time* to create the workshops. They receive *credit* for the course in exchange for *expertise*. ETEC students come from a variety of backgrounds and bring in a multitude of skills. Due to the success of the course the department has received grant *funding* to support the course and its efforts. This funding helps the practicum students buy supplies they need to produce professional quality materials and provide refreshments to workshop participants. The instructor benefits by increasing the overall

technology proficiency of COE faculty. The students benefit from a *real-world experience* that provides them with design experience and presentation skills. They are empowered through the role reversal of becoming mentors to the faculty. Every year students have chosen to continue this project. Their reflections of the course in their final report show they value the experience (Fulford and Eichelberger, 2000).

Figure 5. Practicum Course – Expanded System of Reciprocity

Other course instructors have followed this model. For example, in one course students were involved in developing the Technology Learning Center. They wrote letters to vendors requesting software and hardware donations, organised a database, and set up a computer as a software viewing station. The outcome of this project was a corporate gift that funded graduate students as workers to run the system and the purchase of additional hardware and software. Another course created a photographic database on CD-ROM so that students and faculty could have access to copyright-free local images. The video design course has created several instructional videos used in other ETEC courses.

5. THE COLLEGE AND UNIVERSITY

Once students were willing participants, the System of Reciprocity was expanded to include both the College of Education and the University of Hawaii faculty through grant funding. Again, a Win/Win situation was created to be able to recruit faculty to participate in the grant projects (see Figure 6). The technology workshops developed by the ETEC practicum

courses provide *technology training* for the COE/UH faculty. The *attendance and time* spent by the faculty in the workshops allows the department a venue for grant funding. The COE/UH faculty recruited from the workshops agree to participate in the grant project. Their *participation* provides them with *incentives* such as equipment and software to *redesign their courses* to integrate technology. To help them in this process, the most valuable resource provided is one-on-one technology *mentoring* by ETEC graduate students. In turn, the COE/UH faculty's efforts provide the necessary *outcome* of technology integrated courses required by the grant and enhances possibilities for continued grant funding. In this way everyone wins.

Figure 6. College/University Expanded System of Reciprocity

The \$2.7 million in funding has enabled the department to hire a staff of 21 including two new faculty members and enhance the Technology Learning Centre that circulates high-tech equipment for faculty and student use. Through these efforts, ETEC graduate students have assisted faculty in revising more than 50 COE and UH courses to be Technology Intensive. From a philosophical or pedagogical perspective, this Win/Win relationship empowers the stakeholders – ETEC, COE/UH faculty and students – with more options for effective, innovative, and relevant teaching.

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BIOGRAPHY

Catherine P. Fulford is an Associate Professor in the Department of Educational Technology at the University of Hawaii at Manoa. She has been co-principal investigator and has received significant grant funding on the Technology Intensive Project for four years. Ariana Eichelberger is the Grants Manager. She oversees work on the United States Department of Education (USDOE) Preparing Tomorrow's Teacher's to Use Technology grant entitled LEI Aloha (Learning Enhancement through Innovations).