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***Experimentation in an Academic Library:  
A Study in Security and Individual Student Engagement***

Susan M. B. Steuer  
Western Michigan University  
Kalamazoo, Michigan

Matthew T. Brodhead  
Utah State University  
Logan, Utah

**Abstract**

The Special Collections and Rare Book Department at Western Michigan University collaborated with a student worker to develop a system to improve security and employee performance. The student was taking a course in psychology that required him to develop a workplace behavioral intervention with a client and modify an important behavior for employee performance. The article explains both the timer system developed to remind student workers to monitor users and discusses the benefits to the student and the department in working with the curriculum. The project employed techniques of behavioral psychology. It increased attentiveness to patrons and improved monitoring of item handling. The project illustrated the role libraries can play in student instruction through non-traditional approaches to internships and practical experience.

The reader sat in the large, silent room before a folio-sized facsimile of a medieval manuscript, obviously unsure of what to do. The stiff pages, designed to mimic parchment, made noises which clearly made her uncomfortable when she turned them. The book did not stay open easily so she could study the images. The student attendant was clicking through her email, oblivious to the patron's confusion. Like many visitors to the Special Collections and Rare Book Department, the user seemed intimidated by both the surroundings and the materials. The student worker, whose job was to provide security and assistance, had become immersed in something else. This seemed to happen frequently – Facebook, homework, coworkers – all provided distractions which kept the student staff from keeping a close eye on users. In this case, the situation was poor patron service, but it could just have easily resulted in theft or damage to an expensive, and perhaps irreplaceable, book.

This article describes a semester-long class project conducted in the Special Collections and Rare Book Department at Western Michigan University (WMU), commonly called Special Collections or the Special Collections Department. The student conducting the experiment was taking one of the final courses in his major, behavioral psychology, which is designed to allow students to demonstrate in practice what they have been studying as theory.<sup>1</sup> This project allowed the student conducting the experiment (consultant) to combine his career goals with his three years of experience as a student employee in the Special Collections. Taking on the role of a consultant to the department, he developed a simple, easy-to-learn system to improve patron monitoring by student employees, which can be adopted by any facility. Because of his comparatively long tenure in the department, he knew that the student workers were excellent students, well-intentioned and generally with great regard for the work of the department, but lacked a system to reinforce positive professional behavior. After researching the problem, the student independently designed a system to help workers retain their focus on monitoring patrons. This project made a significant and long-term contribution to the quality of security in the department, as well as advancing the student's academic program.

Like many special collections departments and archives, WMU Libraries rely heavily on student employees to retrieve, monitor, conserve, describe and re-shelve their unique and rare collections. This dependence on students will probably continue and even grow, due to shrinking budgets for full-time employees and the shift of human resources to technological areas of librarianship. Simultaneously, the growing focus on the role of unique and rare collections in undergraduate research instruction increases traffic and creates a greater workload for staff. Library employment may fill a significant part of students' days and may be their first formal work experience. Supervision of student employees is an understudied area in library research. Little literature for librarians focuses upon helping student employees tie their work experience into their curricular and career goals, unless those students are considering library science or technology careers (Murphy, 2009; Baldwin, Wilkinson, & Barkley, 2000). Many student workers from a variety of majors come to the library with fresh eyes and enthusiasm. Finding creative ways to allow students to apply their academic programs to the library environment allows this work to function as practical career experience for students, much like an internship, rather than just as hourly labor to pay educational expenses. Projects which tie a student's studies to their work in the library can help academic departments and faculty members see librarians as collaborative partners in teaching students in a very practical way.

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<sup>1</sup> Western Michigan University's psychology department is one of the world's leading programs in Behavioral Analysis and trains its students in the use of intervention techniques to modify behavior in educational and business environments.

## Security Issues in Non-circulating Libraries

Recent high-profile cases have highlighted issues of security in archives and special collections departments.<sup>2</sup> Security is primarily an issue of prevention, not a response to theft, so all libraries must plan to deter theft, even if they have not been a target. Most studies still suggest that supervision of readers by trained staff is the most essential factor in preventing theft and ensuring appropriate handling of material for preservation purposes. Recommendations from the *ACRL/RBMS Guidelines Regarding Security and Theft in Special Collections* mandate “a secure reading room where researchers can be continuously monitored by staff trained in surveillance that should be identified as the only area in which material may be used” (American Library Association. Association of College and Research Libraries. Rare Books and Manuscripts Section, 2009, The Faculty section, para. 1) and “staff should observe researchers at all times and not allow them to work unobserved behind bookcases, book trucks, stacks of books, or any other obstacles that restrict staff view” (American Library Association. Association of College and Research Libraries, 2006, The Researchers section, para. 4). This is far more specific than the ALA 1999 handbook on security, which states “library staff will be encouraged to walk among library users, actively paying attention to what they are doing and unconcerned with whether they are perceived as being snoops” (Shuman, 1999, 63).

Differences in size, physical layout and type of institution means that more specific recommendations for monitoring than those cited above are difficult to develop. In facilities which were not specifically designed as reading rooms, patron supervision can be challenging because the layout may not provide a good view of all patrons, and staffing needs to cover user traffic cannot be precisely anticipated. In many special collections departments at colleges and universities, full-time staff have significant responsibilities outside of their departments and often must leave reader supervision to library student employees for periods of time while attending meetings. While students can do an excellent job in special collections, frequent turnover, class scheduling issues and other realities of student life mean that some of the department’s workers are always inexperienced.<sup>3</sup> Additionally, students may initially be uncomfortable being aggressive with their peers regarding supervision and monitoring.

## Security in WMU Special Collections

Western Michigan University’s Special Collections Department is typical in its staffing, with two full-time employees and six to eight student employees each semester. Students are often the main monitors of the reading room, but the departmental student handbook, at fifteen pages long, devotes only two pages to procedures for security. This seems to be typical of most special collections manuals, based upon representative documents from a number of special collections departments (Center & Lancaster, 2004). In general, security training is very hands-on, with supervisors instructing student workers by demonstrating sight lines and book handling procedures which fit the physical layout of the space, the formats and types of materials in the collection and the supports and equipment available. At the time the study was conducted, one of the staff positions was open. The supervisor of the department, observing inattentive moni-

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<sup>2</sup> Among the most famous and best-documented instances in the last decades include the individuals discussed in Harvey, 2000; Basbanes, 1995; and Laville, 2009. Recent thefts which are reported are listed at [http://www.rbms.info/committees/security/theft\\_reports/theft\\_reports\\_2009.shtml](http://www.rbms.info/committees/security/theft_reports/theft_reports_2009.shtml).

<sup>3</sup> See Gerlich (2002) for a discussion on this topic.

toring by the student employees in the reading room, was concerned that improvement was needed, particularly when she was away from the department in meetings or teaching. In WMU's special collections reading room, like many smaller special collections units, one person serves as entry-point security while simultaneously monitoring patrons using materials. When possible, three individuals are on duty for reading room service, one as the security point/monitor, a second to retrieve and reshelve materials and a third person who is performing maintenance, such as dusting or inventories, who can be called upon during a busy period. Ideally, this would include at least one student worker and two full-time staff members, but often, only student workers are available. Inevitably, scheduling conflicts make this difficult at some points each semester. A computer and internet connection at the front desk, which are necessary to access the catalog to help users and work on assigned projects, led to frequent inattention on the part of student monitors. Since the sign-in sheets document that many users are first-time visitors, they often need assistance with book handling procedures, reference materials and other general practices in the area, as well as security supervision.

This project coincided with a particularly busy semester for the collection, when two graduate courses had complex assignments using special collections materials. These courses (one on paleography and codicology, and one on medieval historical documents) required students to work with medieval manuscripts, facsimiles, reference works and rare monographs. This created a heavy workload for staff, made up entirely of student workers most of the time, who monitored up to seven patrons at a time for periods of several hours, finding books, providing proper supports and weights, and helping with reference, often while simultaneously monitoring or helping to monitor the reading room. This increased activity and usage made improved monitoring even more crucial to protect the materials in the collection because many of the graduate students were using medieval manuscripts for the first time and were still mastering handling procedures.

The goal was to check patrons every 90 seconds at least 95% of the time. The project began with casual observation by the consultant which revealed that often student employees would not look at patrons for up to 20 minutes at a time, providing patrons the opportunity to steal or damage material. In addition, users were frustrated by the lack of attention, since they often appeared hesitant to ask questions in the unfamiliar environment of the reading room. Training and procedures were needed to remind employees to check patrons and document employee performance.

### **Behavioral Intervention Design**

One of the fundamental characteristics of Behavior Analysis is to modify the environment surrounding undesirable behavior in order to facilitate change in that behavior. If there is no change evident in staff response when the data compiled during and before the intervention are compared, then the methods that have been implemented are not effective. This change in the environment would make patron monitoring procedures a routine procedure to follow, and afford a much better chance at making an impact upon behavior than continuing reminders. Potential concerns about this project included the normal issues related to working with human subjects. These were addressed during Human Subjects Institutional Review Board (IRB) training and approval procedures.

Initially, student staff members were observed on three separate occasions by the consultant. The initial observations lasted 15, 19, and 22 minutes and were conducted over a three-week period. Patron monitoring occurred on an average of 18.5% of the time at 90-second intervals,

well below the desired range. This baseline provided data for measuring the original staff behavior for comparison with staff behavior during the intervention. A number of systems were designed by the consultant and implemented to increase staff patron monitoring. The first was a 90-second interval timer, which would be turned on when a patron was seated. The timer was installed on the desk computer where the student serving as security monitor sits. This subtle prompt would remind student employees to monitor patrons and could easily be turned on and heard. The function of this timer was to serve as a “cue” to increase the probability of a staff member engaging in monitoring behavior. Cues have been shown useful in business settings (Austin, Hatfield, Grindle, & Bailey, 1993) as well as behavioral safety research (Clayton, Helms, & Simpson, 2006).

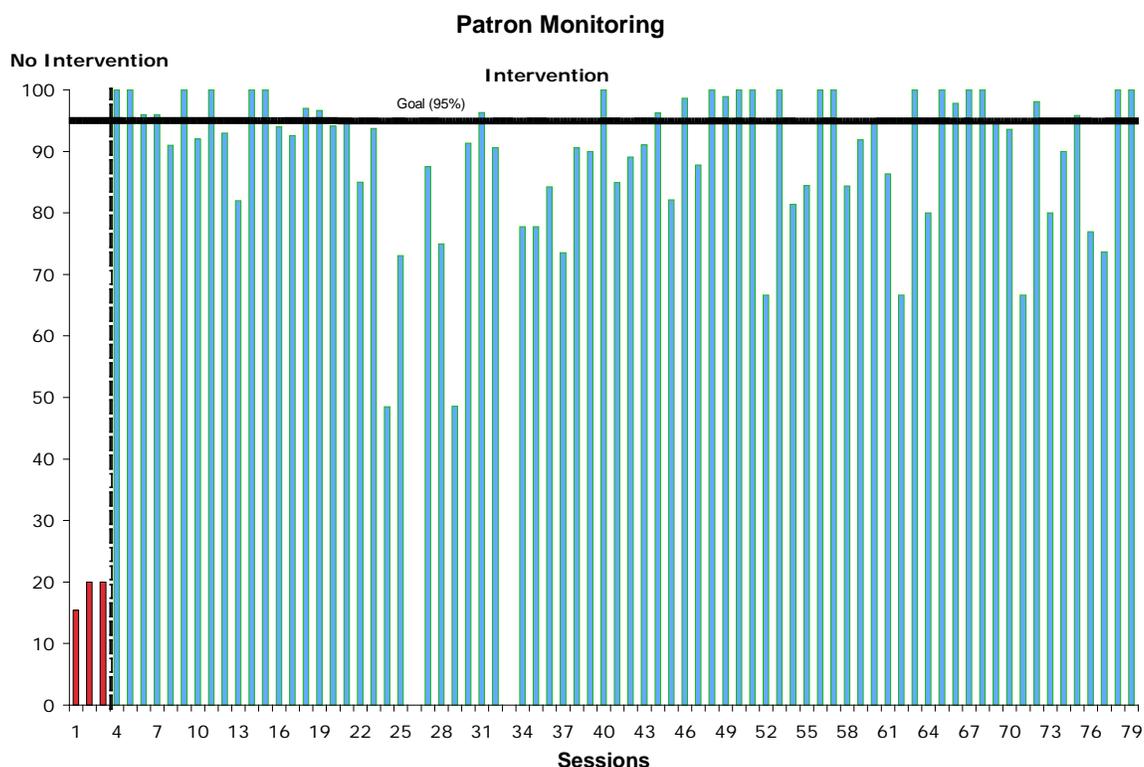
For the second part of the intervention, the consultant developed forms with a self-monitoring component for student employees to use (see Figure 1). Familiar examples of self-monitoring forms include calorie counting diaries and exercise calendars. These increase awareness and frequency of behavior and have been effective in academic (Petscher & Bailey, 2006) and organizational settings (Richman, Riordan, Reiss, Pyles, & Bailey, 1988).

<b>WMU Libraries: Special Collections</b> Date: _____																	
<b>Call #:</b>	Author: _____																
	Title: _____																
	_____																
	Date of Publication: _____																
<b>Patron Name:</b> _____																	
<b>Address:</b> _____																	
<b>City &amp; State:</b> _____ <b>Zip Code:</b> _____																	
<b>Staff Use Only</b>																	
<b>Sit-down time:</b> _____ <b>Departure time:</b> _____																	
<b>90-second intervals:</b> Staff initials: _____ – Notes:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	
	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	
	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	
	97	98	99	10	10	10	10	10	10	10	10	10	10	10	11	11	11
				0	1	2	3	4	5	6	7	8	9	0	1	2	
		11	11	11	11	11	11	11	12	12	12	12	12	12	12	12	12
		3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8
	12	13	13	13	13	13	13	13	13	13	13	14	14	14	14	14	
	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	

Figure 1. This modified patron request form includes a section for staff to record monitoring behavior.

The timer beep signaled each 90-second interval. If the student checked the patron during that interval, it would be noted on the monitoring form. The monitoring form also included sections for writing down when the patron sat down and left. This allowed calculation of the possible number of 90-second intervals the patron spent with materials. The total number of times that the employee monitored the patron was divided by the time the patron had the materials; this measured the frequency of patron monitoring.

Weekly graphs were posted by the consultant in the Rare Book Room which included each raw monitoring score, along with the 95% goal line; allowing staff to see whether or not they were meeting the monitoring goal (see Figure 2). This visual analysis provided both a representation of data (variability and trend, for example) and information about the success of the intervention.



*Figure 2.* This is an example of a graph that provided staff with visual feedback on their monitoring behavior. The Y-axis label represents the percentage of intervals a staff member monitored a patron, and the X-axis represents a specific monitoring session. Two conditions are represented, no intervention and intervention (respectively), with an overall increase in staff monitoring in the intervention condition.

During the five weeks of the intervention, the staff monitored patrons on an average of 89% at 90-second intervals. Though the goal of a group average of 95% was never met, the authors found the results successful because performance increased more than 70%. Staff

subjectively reported that lower scores were commonly a product of having to perform multiple tasks when they were the only individual working on their shift. With only one or two staff working at a time, providing service for three or more patrons can be quite demanding, and consistent monitoring is extremely difficult. Because of the continuously high work load in the Rare Book Room during the period of the intervention, students normally performed several functions while serving as the primary monitor of patrons, even if other employees were working.

### **Social Validity**

Social validity surveys were developed by the consultant to evaluate the intervention, providing data which complemented the data on staff monitoring behavior. See the appendix for a copy of the social validity survey that was given to staff. Social validity surveys are designed to measure whether the goals, procedures, and results of an intervention are socially acceptable to the staff, the individuals who design the intervention, and others affected by the intervention in some way (Baer, Wolfe, & Risley, 1968). For example, an intervention may be very successful at changing staff behavior, but may have a negative impact upon staff morale. In this case, new procedures must be considered. Of course, the behavioral change may be necessary from an administrative standpoint despite any negative impact upon staff, so a balance must be found between various parties involved in the evaluation process.

Social validity surveys taken during the third week of the new monitoring procedure from five staff members suggested that a majority of staff agreed that patron monitoring was in need of improvement, and that the 90-second interval timer helped to remind them to monitor patrons. Although 3 out of 5 staff members did not especially like the constant beeping of the 90-second interval timer, they agreed that they would like the procedure to continue. Surveys were not given to patrons, but several visitors did volunteer that the monitor could become a source of distraction and annoyance during long periods of work in the reading room. Alternatives such as a flashing system which cannot be seen by patrons could be used to address this concern.

### **Results**

This monitoring process was designed to be simple so that new employees could master the system quickly and students juggling multiple duties could retain their focus. With a few slight adjustments, such as those described above, it can be used in almost any setting where the monitoring of visitors, customers or patrons is a concern, and certainly in library collections of any size.

This system is simple, teachable and inexpensive enough for almost any organization to implement regardless of size. The results can be significant in terms of employee engagement and patron service. The student staff became more aware of the rate at which they monitored patrons and developed greater attention to the issues of security and patron service. The protocols systematized training in this area and established a higher standard for security and service, despite the inherently transitory nature of student employment. This kind of system could easily be adapted to any environment where consistent attention to the behavior of others is necessary in the face of multiple distractions. While it does not directly address the quality of the monitoring, the practice of hiring students who value books and have an interest in the collections can alleviate that concern. Certainly more frequent monitoring is always better than less frequent monitoring.

### **Broader Significance**

Teaching departments are increasingly focusing their attention to learning outside of the classroom. This project has broader implications for academic libraries as employers of students and partners in teaching. Student employment in the library can simply be a means to support the individual's education financially, but it can be much more. Academic departments which do not think about the library as a potential location for internships and other practical experiences could come to see the potential of the environment and the expertise of librarians to enrich their curriculum. Though no direct contact between the library and teaching faculty was involved in this project, because it would have undermined the "client-consultant" relationship of the assignment, the department is among those from which future behavioral management students may choose to work in conjunction with the Behavioral Analysis Project course. The Special Collections Department is exploring similar projects with faculty in the program in Paper Engineering, Chemical Engineering, and Imaging in the College of Engineering and Applied Sciences. Any library could target areas where the institution's curriculum or specialized staff members are a good fit for its collections or its specific needs for improvement.

Providing an open environment where students can use their growing knowledge of their fields can add a professional element to the individual's education and perhaps prove to be a step in helping them build a successful future, whatever their career goals. The library faculty identified the problem to be addressed, but the methodology and execution were primarily designed and initiated by the student consultant. At a time when academic libraries are under significant financial stress and concerned with integrating themselves with the curriculum as well as providing information, innovative thinking about how to integrate the individual strengths and goals of the student worker into the departmental needs can enhance the instructional program of the library, create innovation in procedures and policies, and contribute to student success.<sup>4</sup>

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<sup>4</sup> The authors would like to thank James Dexheimer and Neil Chase for their comments on earlier versions of this manuscript and Dr. Richard Malott, whose course inspired the project.

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Matthew T. Brodhead completed his undergraduate and master's degrees at Western Michigan University (Psychology and Behavior Analysis, respectively), with specializations in organizational behavior management and early intensive behavioral interventions for children with autism. He is currently a doctoral candidate in the department of Special Education and Rehabilitation at Utah State University in Logan, Utah.

Susan Steuer is the head of the Special Collections and Rare Book Department at Western Michigan University. She earned an MLS with a focus on Special Collections at Indiana University and a Ph.D. in Medieval History at the University of Minnesota-Twin Cities.

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