BEYOND IMAGINING CHANGE: ONE INTERLIBRARY LOAN DEPARTMENT'S UTILIZATION OF CONTINUOUS ASSESSMENT/CONTINUOUS IMPROVEMENT

by Michelle Parry

In 2003, the State University of New York (SUNY) Oswego Penfield Library interlibrary loan department joined a new pilot project, the Information Delivery Service (IDS). The brainchild of Ed Rivenburg, Library Director at SUNY Geneseo, IDS set standards for the initial thirteen member libraries' timely delivery and receipt of materials for patrons. (IDS now has private libraries as well as SUNYs and as of fall 2007 we expect to have 20 members.) While the concept of rapid interlibrary delivery isn't new for libraries in Ohio (OhioLink has been in place for a number of years and one of its stated goals was rapid delivery), it was for academic libraries in New York. As the head of Interlibrary Loan it has been my job to guide our department through the process of meeting the standards and goals of the IDS project. Fortunately for me, within a year of the start of the IDS project, I also had the opportunity to participate in a series of Continuous Assessment Continuous Improvement workshops, sponsored by the NY3Rs (this association includes academic, special, hospital and public libraries as well as other library systems). The coming together of these two events made it possible to implement facets of Continuous Assessment Continuous Improvement (CACI) in my department and to see, firsthand, the positive impact of the concepts within CACI and process mastering in an environment where change is seemingly our first, not middle, name!

REDUCING REDUNDANCY IN INTERLIBRARY LOAN RECORDS

The first instance of applying concepts from CACI occurred when we examined why we were doing established processes and the time involved with steps within those processes. ILLiad, an interlibrary loan software, was implemented at our library in January 2001. This was done very capably by my predecessor. Understandably, there was concern at that time regarding this new unproven software – specifically, how well it would perform. Consequently an insurance policy of sorts was built into the interlibrary loan borrowing check-in/out process. We created a separate record of the transaction in our library's circulation software, i.e., we would duplicate the information contained within ILLiad to a fair extent in our Aleph (integrated library management) software. That way each of our patrons' filled interlibrary loan requests also showed up in their regular circulation record as well.

There were, unfortunately, a few problems. The title of the material didn't show up since it wasn't actually owned by us. It took enough time to enter the basic circulation information regarding this interlibrary loan material – we didn't want to also spend time creating temporary records, which would later need to be deleted, for titles we didn't own. Consequently, an overdue notice to the patron from our circulation software would simply say *interlibrary loan item* rather than indicating the title of the material.

Renewing an interlibrary loan request is fairly automated within ILLiad. Aleph, however, isn't a part of ILLiad, so we had to remember to also change due dates in Aleph if a renewal request was approved by the lending library. We remembered to do it... most of the time. However, on those busy days when interruptions are the rule rather than the exception, or when we had a new batch of ILL student workers who were just learning the ropes, or it was just late in the day, mistakes could and did occur.

Finally, when patrons called or stopped by with a question, circulation staff had the unenviable task of informing them, after initial looking, that they couldn't help – the patron would have to go talk to the interlibrary loan staff. Understandably, patrons were less than pleased by the time they got to us regarding their interlibrary loan questions. And even those of us in ILL couldn't always provide a quick, reliable response since we had to check the systems against each other. We had the Aleph electronic record, the ILLiad electronic record, in some cases also the OCLC electronic record, and paper printout on barcoded cards in a filing box.

To be fair, the genesis for the procedure had genuine concern and logic on its side when initially implemented. It was a safety precaution regarding a relatively unknown software's reliability. The problem, of course, was that a year later when I took over, we

continued the duplicate work because it was "how it is done." And two years later in 2003, my all-new staff (my two new clerks had extensive library knowledge, but not interlibrary loan knowledge) and I were continuing to perform a process without knowing what its component purpose was, and if that particular need still existed regarding the steps included within it. After attending several of the CACI workshops, it seemed reasonable to me to examine what we were doing in interlibrary loan, why we were doing it, and if we were doing it the best way possible. In a phrase, to look at process mastering.

Examining, questioning, studying, and mapping out our processes and procedures turned out to be a very good thing. It truly helps to understand the how's and why's of a process. Close examination and measurement can be very enlightening. Once we identified the steps in the existing process, we collected data to measure the impact of this particular process for us. With the collection of numerical data, we were then able to compare the time spent against the "benefit" of this particular procedure nested within the process master of borrowing check-in/out of interlibrary loan materials.

In checking in and out borrowed interlibrary loans, i.e., for each of the books we were able to borrow from other libraries for our patrons, we were creating additional data entry in Aleph. Of course, this also meant duplication (with some important data omitted) of the check-in and check-out procedures already occurring in ILLiad. Doing a simple time study of a sampling of loans over several days regarding the steps netted important data. We discovered it took an average of six additional minutes to complete the steps involved in the duplication portion of the process. Why so much? Because the check-in/out process involved much more than just data entry in Aleph. In addition to the time spent in Aleph, we were also generating paper cards. These contained the loan title information as well as patron name and due dates from ILLiad, printed out so we could use them as a reference point when someone called regarding the generic interlibrary loan entry in Aleph and also as an old-fashioned due-date box. These cards with barcodes had to have the detailed title and patron information printed from ILLiad stapled on them; then the cards had to be filed alphabetically by patron name in a card box. Since we also used the barcodes over again when the material came back, we needed to remove and discard the stapled, printed information so the barcode cards could then be reused. Another required, periodic process was to create additional barcode cards as the need arose. All of this grew more and more burdensome as our interlibrary loan activity increased, and we realized as we examined and measured what we were doing, it included all kinds of room for human error that was almost inevitable given the number of extra steps it entailed.

REPURPOSING TIME

From July 1, 2004, through May 20, 2005, we had 2,649 net filled loans. We estimated we saved six minutes per loan when we eliminated some steps. Here's how the potential time savings then broke down:

2,649 multiplied by (an average of) 6 minutes= 15,849 minutes

15,849 minutes divided by 60 minutes = 264.9 hours

264.9 hours divided by 8 hours (normal work day) = 33.1 days gained

We gained approximately 33 work days over a 10-month period. This is assuming, of course, that our interlibrary loan activity remained static. In actuality, ours has continued to increase.

We then examined in a less formal manner what those extra hours spent on the duplicate "insurance" entry in Aleph gained us:

- Negative PR. Patrons received overdue letters generated in Aleph with no title of the material, just the statement that "your interlibrary loan material" is overdue. Particularly for patrons with multiple interlibrary loans, this was of no help and a real source of annoyance.
- Mistakes made pulling wrong cards. For example, when staff was in a hurry or interrupted and pulled correct patron name card, but one with the wrong title info...or similar title, wrong patron name, etc., it led to confusion – an entry in Aleph indicating an item was returned (or not) that was contradicted by the paper cards manually filed in the card box meant time spent checking to see which was correct. This also meant going to ILLiad to see what that record indicated. And at certain points it was hard to know which system to trust since an initial error, if not noticed, would then be perpetuated in our ILLiad record.

My staff and I agreed that the initial data was so compelling it wasn't worth continuing the procedure to facilitate separate time studies of the spawned phone calls, patron visits, etc. It became a very simple decision, endorsed by my staff, to dump the duplicate entry procedure from the process master. Based on the quantitative data regarding the interlibrary loan borrowing check-in/out process, it was clear that the time gained could be spent on jobs that currently were not able to be done regularly. With the average of 33 work days picked up within a ten-month period, we could now send out the overdue notices from ILLiad on a

regular basis. By eliminating the annoying generic overdue notices generated from Aleph for books that weren't actually owned by us we picked up additional time we had previously spent on phone calls and patron visits regarding the generic overdue notices.

This is not an example of an unreasonable procedure; there was a reasonable concern which caused its implementation. However, it is a perfect example of a process maintained without questioning (hence the continuous in *Continuous Assessment, Continuous Improvement*) whether the need for certain steps within it still existed. And while this procedure could have been eliminated without data, using "gut feeling" or "just because I don't think it's necessary" as rationale, having data to back up the decision made it painless and obvious not only to those of us immediately involved, but also to the rest of the library players. My library director was able to see solid data supporting the rationale for ditching an outdated procedure within a larger process. She was also delighted that we were able to immediately improve our performance in other areas as a result. Those areas were:

- Getting our overdue notices out from ILLiad in a timely manner. The ILLiad software has an overdue notice feature, which *does* indicate the title of the material since that is imported directly from OCLC into ILLiad when the request is worked. Using the existing features in the interlibrary loan software, we then saved even more time since the prompt, informative overdue notices have resulted in less confusion and more of our interlibrary loan materials being returned in a timely manner by our patrons
- Less time spent on the phone by staff trying to track patrons down, or on the phone or e-mailing lending libraries to explain why material hasn't been returned yet
- More time to work on filling our borrowing and lending requests promptly. Additionally, the requests we fill for the public, school and prison libraries within our library system (through the separate interlibrary loan software they use) are now able to be worked in a regular and timely manner. The time we gained enabled us to provide much better service to our regional library neigh bors and the inherently broader community they include. I consider this to be a huge benefit for both practical and philosophical reasons
- More time to brainstorm, try and implement other ways to be more efficient without sacrificing quality and accuracy.

Lest it seems facetious, I cannot stress enough the importance of the last bulleted entry. In *Process Mastering* Wilson and Harsin stress the importance of worker-manager teams:

> *We have never encountered a situation where workers weren't eager to study and help improve work processes.... Employees should be allowed to feel that they share ownership of the process masters. If they see that they have some input on their jobs, they will be much more likely to follow the standards. This is a result of intrinsic motivation. If the team members see no reason to standardize a step, it will be difficult to get them to follow the standard* (75-76).

I can only echo that sentiment. Involving the people who do the job in the trenches every day is the key to effecting rapid cycle change. It takes advantage of the skills and knowledge capable people bring to the job as well as the results they observe from performing the processes. Finally, it is overt and important recognition and utilization of those skills and abilities. Their participation (if it isn't real, don't bother – that is an insult to your staff) makes my job as a middle manger easier in every possible way. I do not have to try, or pretend, to know how to do everything, nor do I end up spending valuable time selling my staff on changes we make, when they are involved in the process of assessing what we do and determining how to do it better.

Since that has been the practice in our department, even our ever-changing student workers are involved in helping implement rapid cycle change. While student workers and staff do processes based on the best practice process master, i.e., we train people to do tasks in the same way, my clerks have passed on the concept of team input to our student workers by encouraging them to also watch for and suggest ways to "do it better." The people involved then review the process together and if the suggestion is better, i.e., more efficient without sacrificing quality of the end product, we implement and document the change. Everyone is notified of the "new" step(s) or way of doing a particular process. The process master is documented by being changed in our manual. This has led, among many rapid cycle changes, to improvements in our scanning process.

MAKING MORE IMPROVEMENTS

Indeed, this mentality of working effectively and involving staff in decision-making even affects purchases we make. Our copier/scanner was selected because it has an auto-feature that eliminates the dark gray borders that frequently occur when copying or scanning around the edges of a book or journal, and because the capability to name and transfer scanned files to our electronic delivery software (we use Odyssey and Ariel) is vastly superior. This means we do not have to spend additional time cropping pages before sending them out, and we eliminated the time we used to spend on a confusing process to name and

move files to Odyssey and Ariel. This allows us to take additional time to scan carefully, reducing the chances of cutting off print, etc., which, in turn, reduces the number of times we have to rescan and resend to a library borrowing from us.

USING DATA TO MAKE IMPROVEMENTS

My staff has come to understand that the world of interlibrary loan, indeed, much of the library and academic world, is increasingly being held accountable by data assessment. We have learned to view data as the tool it is meant to be – a yardstick that measures where we are, which then enables us to focus on problem areas that are preventing us from getting to where we want to be. And although it is an ongoing process, it is incredibly satisfying to see documented improvement. It gives us the encouragement we need to continually assess and improve the work that we do on a daily basis.

An example of this is contained within the data collection, and availability to this data, by the IDS group members. (Go to http://illiad.lib.geneseo.edu/ids/index.asp to see information regarding IDS project. Viewing data is restricted to participating members; however, the overview, goals, standards, handouts, and much more is available to anyone accessing the site.) Obviously all of us cared about doing a good job and our gut feeling was that we were doing it as well as it could possibly be done given our particular circumstances. However, Ed Rivenburg was convinced that unemotional data was needed to illuminate where we could improve when delivering interlibrary loan materials to each other. Consequently, his systems administrator wrote a program that enabled data collection from both sides of the transactions of the IDS libraries – the borrowing and lending sides – and put that data together in chart form so we could actually see where we were burning up lots of time. Those were the obvious processes to examine to see why they took so long. Areas of the overall process that were well performed were opportunities to pat ourselves on the back... and to know that we didn't, at least initially, need to spend time examining those.

Penfield Library's data regarding loans requested by SUNY Oswego from SUNY Geneseo between January and December 2004 illustrated that, as borrowers, we at Penfield Library were wasting large blocks of time. The average turnaround time that year was 5.5 hours. For example, our patrons' requests placed late in the evening or the wee hours of the morning, or in some instances when we were not immediately available to work some requests because of other work demands, languished for hours before they were processed.

I had initially been somewhat hesitant to implement OCLC's Direct Request, an automated processing capability that has to be "switched on." I felt a human should work the request, not an automated system, since it (potentially) involved decision making. Bottom line, I had an emotional investment in doing the job the way it had traditionally been done. The data helped me to reexamine my initial decision as well as my motives. If I truly cared about getting the materials as quickly and accurately as possible for my patron, didn't I owe it to them to more carefully consider and weigh the pluses and minuses of utilizing this potentially time-saving feature? I did. The data helped me dump the gut feeling that the existing process master was fine.

Once I really started investigating Direct Request, I discovered that I could impose constraints that would push particular requests into a queue for a human to process. I could also restrict the system so that it could only look at particular custom holdings (specific library codes selected and grouped as desired by the library staff creating them) based on, among a variety of options, the publication age. Consequently materials recently published could be set up so that Direct Request only funneled those through my IDS and NewBks custom holdings. Specifying those limited custom holdings in Direct Request meant the system would do just what my staff and I would do – only select possible lenders from the IDS group and from libraries that had indicated in their policy directory, or via interlibrary loan listservs, that they were willing to loan new books. Other requests falling outside of the "newly published" situation get channeled through a different set of custom holdings. I discovered I would still have the criteria control that was exercised when humans processed all of the requests. The downside? Direct Request can't yet recognize when our patrons have selected an electronic book record from WorldCat. To be frank, in the past my staff and I have missed that fact as well in a few instances. We are human, after all. However, those quickly come back to us to be corrected. Penfield's instruction librarians also continue to work with patrons in our library instruction classes to educate them as to what is in the record at which they are looking. In the meantime, it is my understanding that OCLC is aware of and working to resolve that issue. Ultimately, the vast majority of Direct Requests are done just as we humans would do them. And the average time our patrons' borrowing request now sits before being processed?

Figure 1 shows the data on monthly average hours to process SUNY Oswego Penfield Library loan requests to SUNY Geneseo between February 2004 and June 2007.[1] Notice that the mean (average) number of hours is 3.7. We knew the process had changed when we saw that, beginning in June 2006, there were seven points below the mean (average) line. (In Figure 1, the seven consecutive points below the average line are indicated by the points with white centers.)

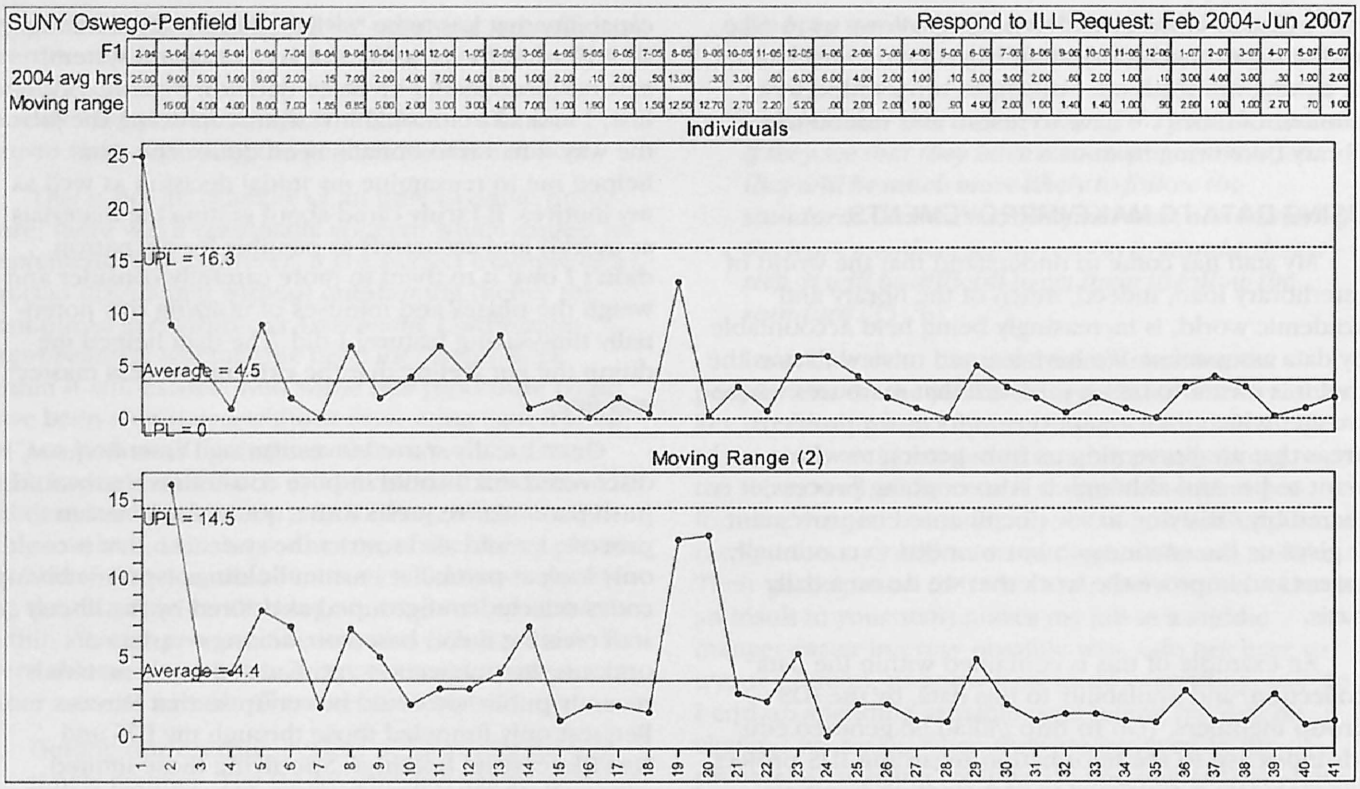

Figure 1: Process behavior chart showing signs of improvement. Note the seven points in a row below the average line near the right side of the top chart, a reliable indicator of a process change.

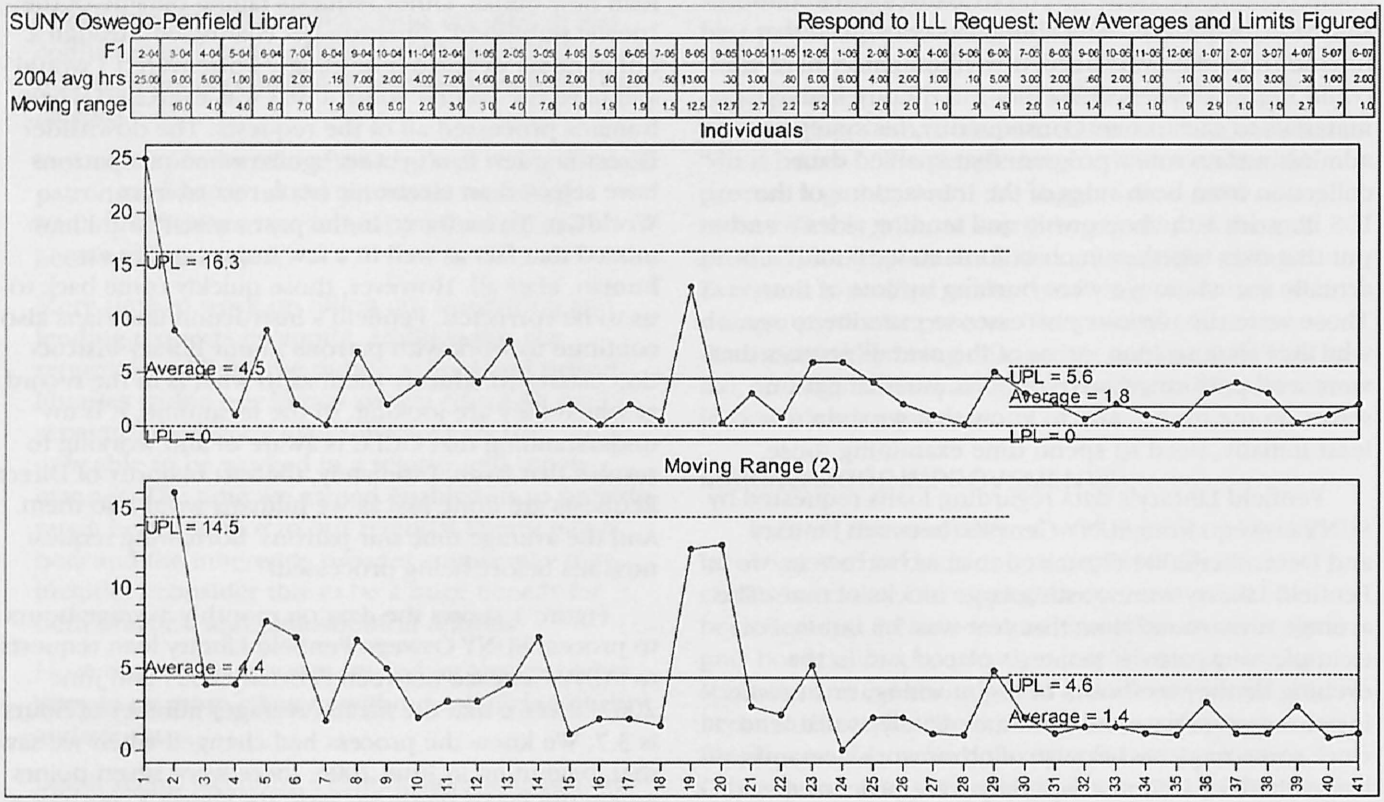

Figure 2: Process behavior chart showing new average and limits figured after rapid cycle improvement. The average number of hours to respond to an ILL request has dropped from 4.5 to 1.8; the average variation has also been reduced from 4.4 to 1.4.

When we recalculated the average in June 2007, we had gone from an average of just under 3.7 hours of lag time regarding our (SUNY Oswego's) initial processing of the loan requests (February 2004-June 2006) to an average of 1.8 hours between June 2006-June 2007. (Figure 2 shows the data, now with a new average computed.) The variation (shown in the Moving Range chart at the bottom of the charts, was also dramatically reduced, showing that our system is more predictable.

The changes in our processes mean that our patrons get faster delivery of materials, and I get to work on the really interesting requests rather than the more routine but equally important titles that my patrons have requested. And my staff and I have more time to spend on the problem and unique title requests that a system cannot or should not process...as well as on brainstorming on other ways to improve our service without sacrificing quality. All of this has also enabled us to keep up with our growing interlibrary loan activity.

We also have the ability to look at data regarding individual, rather than averaged transactions, so we know when we've got an anomaly and when we may have a process master issue. Since this data is collected only on and between the IDS libraries transactions, we also use the OCLC ILL data available on a monthly basis to examine what's going on with our dealings with libraries outside of this group. (See the "dashboard" for the system in Figure 3).

You may have noticed in the charts that the delivery period by the courier system eats up the largest chunk of time on loans. Our regional OCLC provider, Nylink, has been able to use the data collected through the IDS project in discussions with the courier service. The data has documented that the vendor has not delivered within the time frames promised in the contract they signed. Being able to go to the vendor with hard (quantitative) data rather than anecdotal incidents has given Nylink leverage points that cannot be ignored and would not otherwise exist. The data doesn't have an agenda, nor is it emotional, biased, or contrived. Independent, blind delivery tests have also been done to corroborate what the data in the collection system indicated. The vendor has responded and has, as a result of the data, worked to identify their problem locations and processes. They are now working on specific problem areas because the data collection enabled measurement of their performance as well that of the IDS participants. Consequently, even the area that is "outside of our control" has, in effect, fallen marginally under Nylink's control since the data cannot be ignored by the vendor. *(A good example of "working upstream," giving feedback to a supplier so it can improve its own processes.)*

CONCLUSION

Process mastering has enabled those of us in Penfield Library's interlibrary loan department to do just that – master the work we do on a daily basis. It has helped us maximize our skills and knowledge since it requires close examination of what is done, how it is done, and why it is done. It has helped us overcome the feeling that data was just a report card on whether or not we were "good" workers and, instead, enabled us to simply view it as an indicator of where we needed to focus our attention. Inclusion of staff in this process enables both my staff and me, as middle manager, to perform better. Staff know why they're doing what they're doing, and they know they will be involved in the innovative process of continually working to improve our performance and service to our patrons. There is pride of ownership on both our parts.

However, upper management plays a critical role in this as well. We would not have been successful if my library director had simply told us to get the job done without supporting us with the means to accomplish that task. Although she did not attend the CACI training, she supported the attendance of as many librarians as wished to attend (four of us went and we currently represent three different areas of the library). In my sphere, she has been supportive of material and staffing needs for interlibrary loan, but requires accountability. My staff and I now joke that change is the only constant in our world, but we have become more comfortable with that fact and that challenge. We have learned to view data as a tool rather than a threat, again in large part because our library director has also viewed it in this manner, supporting us in ways that have facilitated continuous assessment and continuous improvement.

REFERENCES

Wilson, R.W. & Harsin, P. 1998. *Process Mastering: How to Establish and Document the Best Known Way to do a Job.* New York: Quality Resources.

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FOOTNOTES

[1] Using the monthly average allowed us to combine all the individual requests for an entire month to get a better picture of average activity.

Figure 3: IDS dashboard offers a number of options for viewing data.