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Paper Waste In McKillop Library

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ABSTRACT

The goals of our project were to determine the amount of the library's paper waste. In order to do this we decided to focus on the total sheets of paper used, the recycling that occurs in the library, the use of recycled paper, and the discarding of books. The methods that were used were talking to library staff about the amount of paper used and the discarding of books, surveying the students who use the library about their recycling practices, and hanging educational flyers about the benefits of recycling. After researching the amount of paper waste in McKillop Library, the results we found were that overall more could be done to limit the environmental impact the library has due to the amount of paper waste. There are recommendations that can help reduce the amount of paper waste. In the short term, the library could rearrange the location of the trash barrels and the recycling bins. Having an overwhelming amount of trash barrels could inhibit the amount of paper recycling. Also the library could closely monitor the janitorial staff to make sure that the recycled products are being placed in the recycling bins and not in the dumpster with trash.

INTRODUCTION

The problem presented to the class was to determine the library's impact on the environment and develop goals for improving the library's carbon footprint. One of the most important aspects of the library that we decided to focus on is the overall paper consumption on the main three floors of the McKillop Library. As students at Salve Regina, it is becoming increasingly apparent to us that paper is often wasted and overused in the library. Recycled materials are an important part of preserving the environment for future generations. Using recycled paper could possibly change printing and photocopying at McKillop Library.

Recycled paper is not currently used at the library in the public or employee areas. The library staff has commented that recycled paper often gets jammed in the printers, making it difficult for operations to run smoothly in a place that hundreds of students, faculty, staff, and community members use to print. Recycling paper vastly reduces paper waste. According to Cunningham and Cunningham two million trees are cut down each day in the

United States to produce newsprint and paper products (317). They also cite that about fifty percent of all paper and cardboard products can be recycled, which bodes well for the industry.

Lester Brown speaks about the failure of paper recycling in the world living up to its full potential in his book *Plan B 3.0*. Brown cites that South Korea is the country that recycles the most paper products, 77 percent of its total output. However, “the United States, the world’s largest paper consumer, is far behind South Korea, but it has raised the share of paper recycled from roughly one fourth in the early 1980s to 50 percent in 2005. If every country recycled as much of its paper as South Korea does, the amount of wood pulp used to produce paper worldwide would drop by one third.” (Brown pg. 153) Recycling paper is therefore not only a problem in the small McKillop Library, but in the United States as a nation as well. Perhaps recycling on a small scale successfully could help make an impact on the nation as a whole, boosting up the percentage of recycled paper. Improving the recycling practices in the library and promoting more recycling could drastically improve the library’s impact on the environment.

The main goals and objectives of our study were to determine the amount of paper prints in the library and to determine the amount of paper waste in the library. We also wanted to find out if the amount of recycling done in the library could be more and how best to implement better recycling procedures.

METHODS

In our investigation of how much paper is consumed by floors one, two, and three, we primarily aimed to uncover some important statistics that would measure the level of wasteful paper use in our library. Our method in compiling these statistics was to meet with Dawn Emsellem, the recycling contact for our project. We assembled a list of questions that we would ask Ms. Emsellem to begin our search for information on paper waste in the library's main three floors. We asked her how many packages of paper are used per academic year, and, furthermore, how many sheets and reams are contained in each package. We also asked her how many sheets are printed total in a semester. Our overall intent in researching paper consumption on the main floors of the library was to find out information and specific numbers as to how much paper students use. The numbers, we hypothesized, would most likely reveal to us the wasteful habits of library patrons.

We investigated what kind of recycled paper is available for the library, and which brand works best in the library printers. We will be testing the individual brands and will record which brand works the best in our report to Kathy Boyd. We will also be looking at the pricing for the recycled paper versus the regular paper, which now costs about \$45 a case, which holds 5,000 sheets of paper.

The method of gathering information about paper recycling at the library was to create a survey directed to students (Appendix C). To help establish our hypothesis, our group designed a survey for both our *Humans and Their Environment* class and people using the library. Some of the questions we asked were how many copies and prints they made each week and semester, if they recycled at all, if they saw any recycling bins from their current location in the library, and if they would recycle more if the library provided more conveniently located bins (Appendix C).

Focusing on the recycling of paper through the setup of the libraries recycling bins was another crucial area of our research. Recycling bins are great but unless a student can actually throw their recyclables into the bins they become useless. Upon first walking into the library one would notice the abundance of garbage cans, seemingly every corner, and the relative absence of recycle bins. We also attempted to determine if efforts to educate library patrons would increase the amount of recycling.

With the entire class we completed a dumpster dive where we sorted through garbage, recycle bins and dumpster material to determine the level of recycling efficiency.

RESULTS

From our meeting with Ms. Emsellem, we were able to uncover how much paper the library used in the last academic year. In order to determine the exact amount of paper, we received through Dawn the amount of boxes of paper that were ordered, the amount of reams inside each box, and the number of paper sheets within each ream of paper. From the information gathered from Dawn Emsellem, we discovered the library used eighty-seven cases of paper in the last academic year. Within each of these cases, there are ten reams and five hundred sheets in each ream. That comes to a grand total of 435,000 sheets of paper used by staff and library patrons in just one academic year. One ton of paper equals four hundred reams, which means that over two tons of paper was used in the library in one academic year (printgreener.com). One ream of paper uses 6% of a tree and so the library alone used 52.2 trees in one year. This number does not include the amount of copying done by the copy center in the garden level of the library. The copy center, used primarily by faculty, does mass copying and if those numbers were attainable the amount of paper that was used would be extremely larger than the 435,000 sheets of paper used by floors one, two, and three. Each time a student prints a sheet of paper or makes a copy, it adds to the total amount used by the library and causes more and more trees to be cut down. [a ballpark figure = 1 ream of paper is 5lbs of CO₂ (www.stopglobalwarming.org; www.paperspecs.com/paperprofile/200810147575.htm) 5lbs x 870 reams = 4350 lbs of CO₂ per year.

We also wanted to know specifically how much paper the printers on the main three floors use. Ms. Emsellem told us that she could give us an estimate by calculating how many printer cartridges were used in relation to how many pages each cartridge yields. Last fall, in the first floor reference area, the printers used a total of sixteen cartridges. According to the HP website, each of these cartridges yields about ten thousand pages. That means that just the first floor reference area alone used 160,000 pages through printing last fall. On the second floor, four cartridges were used. These particular cartridges yield about 12,000 pages each. Therefore, on the second floor, 48,000 sheets of paper were used through printing. The third floor is estimated to be similar in printer use to the second floor. Thus, from all three floors, the amount of paper used for printing totaled to an estimated 256,000 sheets of paper last fall. These numbers are alarming as we can now see that McKillop Library is making a profound contribution to the number of trees cut down per year because of paper waste and is also creating a dramatically high amount of CO₂ totaling 4350 lbs per year.

Out of the 59 people polled, 19% admitted to not recycling, and 8% recycle occasionally. With that said, all 59 students told us that if the library provided conveniently located recycling bins they would use them. Out of the

people in our class, 31.6% make 5-10 prints per week, and totals to about 100 prints per semester. Those data are from only six people and the library has over two hundred people including faculty, students, staff, and community members in and out of it each day. For a total semester, 64% of the sixty-one people polled said they make over twenty prints. The prints themselves have no limit on the number of pages, so those prints can be anywhere from one to thirty pages. On the surveys themselves, some students included comments and suggestions for our group. While answering the question “looking around right now how many recycling bins do you see,” a student told us that she thinks that the university “should be doing things online, not printing so much!” Another student suggested that “there should definitely be more bins, especially next to areas that paper is used the most.” This helps emphasize our point that the library needs to add to the number of bins and put them in better spots. When the library acts on the recycling issue, they will both please themselves and the students they serve.

There are a total of twenty-six trashcans throughout the three library floors, only four commingled recycling bins, and ten paper-recycling bins.

After completing a dumpster dive it was discovered that people are recycling but there are still further obstacles to overcome in the complete recycling effort. In the dumpster there were bags that were mixed with trash and paper or other recycling products which shows that more recycling is possible. More troubling was the fact that in the dumpster there were two bags of only paper that should have been placed in the paper recycling bin. This suggests that people are recycling and putting their recyclables in the proper bins but then the contents of the recycling bin are simply being thrown into the trash when easily it could be recycled.

It appears from talking to library staff that it is more of Salve’s management that holds the library from reaching recycling goals. The Salve management limits the library from putting our recycling bins and information regarding recycling to motivate or encourage being environmentally friendly. There is also the conception that the custodial staff is offsetting the recycling process in the library because of simple habits of discarding paper rather than recycling. Overall the library staff appears to be highly efficient and willing to recycle. The only choice to equal out the amount of paper used or books discarded based on mold appears to be carbon emissions trading to reduce a carbon footprint they can’t help creating (other than reduce mold, another team’s topic) and to sit down with Salve management to settle on creating a library that leaves little to no carbon footprint.

DISCUSSION

Americans use over fifty million tons of paper per year, which consequently consumes over 850 million trees (Topicsites, 1). Our thoughtless and wasteful paper usage practices at McKillop Library are contributing to this accelerating deforestation. Moreover, according to environmentalist Lester Brown, “the use of paper, perhaps more than any other single product, reflects the throwaway mentality that evolved during the last century” (Brown 153). Thus, the high use of paper at Salve Regina University displays how little thought we put into the fact that with each unnecessary print we make in the library, we are harming the environment. By using paper so indiscriminately and in such high amounts, we are truly contributing to the environmental destruction that is so prevalent in the present day.

The paper industry ranks fourth in contribution to greenhouse gas emissions, and contributes 9% of the manufacturing sector's carbon emissions (Stevens 1). The production of paper is extremely harmful to the environment. The production of one ton of copy paper produces 5,690 pounds of greenhouse gases (Miller 2). If the United States could cut paper use by just ten percent, it would prevent the emission of 1.6 million tons of greenhouse gases. This is the equivalent of taking 280,000 cars off the roads. (Stevens 1).

The McKillop Library, on the main three floors, is using a profoundly high amount of paper. We are not stopping to think when we print, thus leading to the unnecessary overuse of paper. Our library is wasting paper each and every day, as our group uncovered in our investigation of paper consumption, and we need to begin to think twice about whether we really need to print or if we can print double sided. Overall, we need to become more conservative when using paper in the library because we are contributing to the destruction of the environment each time we waste just one sheet of paper.

One of our suggestions to the library is to seriously consider using recycled paper in the printers. With the amount of paper each student goes through, the library contributes to a lot of waste on campus. The students polled were only the ones that were located on the first floor and this dramatic data came from only 1/3 of the students at the library, not including staff.

The problem with there being so many garbage cans is that they are readily available all over the library thus making it easy and convenient to just throw any kind of recyclable into them instead of seeking out the closest recycling bin. According to Lester Brown “the United States, the world’s largest paper consumer, has raised its share of paper recycled from one fourth in the early 1980’s to 50 percent in 2005” (Brown 153). This is a low number compared to the top recycling countries such as South Korea, which is at 77 percent.

Just like our country, our library has a lot of work to do in regards to recycling. Upon quick inspection the libraries garbage cans are full of recyclable goods that should be placed into the bins. This is because of sheer laziness and the fact that the average campus community member might not be aware of the importance of recycling. Recycling is a serious issue in the library and there are several ways in which it can be increased. Eliminating the excessive amount of garbage cans and having set locations where garbage cans and recycling bins are side by side will increase the likelihood of recycling. When a person has the option of recycling when the garbage cans and recycling bins are side by side in one location, laziness will not set in. Having one or two set areas on each library floor for both garbage and recycling will increase the probability of recycling. Another way in which to increase recycling in the library would be to set informative billboards or flyers above the garbage/recycling areas that might showcase the benefits of recycling or have a fun fact about what impact recycling will mean for the local campus community. When people are directly affected by something they are more likely to take action.

The recycling amongst the library staff is very efficient, and there is very little room to improve. Currently there are three floors making up a total of 150,000 books, but only roughly 23,330 items are checked out. First thoughts would assume there is an excess amount of books not being used that creates a large carbon footprint. However, the Salve library also loaned another 5,088 items, and many books used in the library are unaccounted for in this calculation. Books that are useless or out of date (like medical texts that change constantly), as well as books lent to the school that do not meet requirements (have highlighted pages, torn books, and stamped) cannot be kept but are recycled appropriately. There is also a non-profit organization called Better World Books that the library donates books to that meet their standards. "We sell discarded and donated material from libraries across the United States on 20 online marketplaces- generating funding for both libraries and non-profit literacy initiatives" (www.betterworldbooks.com).

In conclusion, McKillop Library is impacting the environment to a great extent due to its wasteful use of paper. Many changes need to be made, involving education about recycling practices, more available recycling bins, the use of recycled paper, and an overall awareness as to how we are harming the environment through paper waste. With the careless actions of library patrons, such as throwing recyclable paper into garbage bins, McKillop Library is increasing its carbon footprint on our earth. By increasing the number of accessible recycling bins in proportion to garbage bins, using recycled paper in printers, donating used books to organizations instead of throwing them away, using more online resources that do not require printing, and encouraging maintenance staff to be more mindful of

recycling, the library would become more “green.” If McKillop library could improve recycling habits, Salve Regina University would become a much more environmentally sustainable place, and would lessen the harm that is done to our environment each day.

Recommendations

In summary, we recommend that the library take these steps to reduce paper waste:

1. Look at the amount of trash barrels in relation to the amount of recycling bins and determine if all the trash barrels are necessary and if the large amount of trash barrels inhibits the amount of recycling.
2. Look into whether the janitorial staff are emptying the contents of the recycling bins in the library into the recycling bins outside or into the dumpster with trash.
3. Look into recycled paper for the printers and copiers in the library and determine if it would benefit the library and help reduce the carbon footprint.

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