Reduce, Reuse, Recycle:
Cohabitation in the built environment

Kristen Bushnell
Amy Harpster
Sarah Simchuk
Jen Manckia
Cathy Stevens

Introduction
Reduce, reuse and recycle is a concept that people everywhere are starting to understand and apply to everyday life. Its principles are quite basic, but are a necessity for maintaining a sustainable life. To remain productive, reducing one’s intake of energy and materials is vital. The toxicity of trash is at an all time high and the only way to stop this is by preventing waste from the very beginning of its life. The concept of reuse is applied by reinventing items after their initial life and avoiding additional waste by all means necessary. Though the concept of reuse is very important to the lifecycle of a material, there are times when a second life simply cannot be created for a certain item. However, when one does have to throw an item away; an important proactive strategy is to buy products that can be recycled or, at the very least, determine in advance the product is an alternative to a similar, less recyclable material. Recycling is the process of turning items considered to be waste into a valuable resource. This process does include many steps, but begins with taking items such as cans, glass, newspapers or plastic to a recycle bin or collection facility. The more often individual users partake in this practice by consciously making themselves aware of an item’s recyclability, the easier the entire process will be for the rest of the world. This ease will simply create a higher demand for recycled products and will be more of an incentive for large companies and corporations to use and buy recycled products, making the entire process more successful and stress free. These simple ideas of reduce, reuse, recycle are just the beginning of challenging ourselves in preserving our environment, but extremely essential in ensuring the success of conservation.

The notion of reduce, reuse and recycle was obvious when developing a concept for Resource Management. By design, Resource management is the practice of effectively managing the services that already exist within our building and creating a more healthful and efficient environment. This is an important aspect of sustainability in locations that may have been built years ago without sustainability in mind, and can thus use an efficiency makeover; such as the College of Architecture and Planning. In order to specify the needs of a building, we must look at the general ideas of reduce, reuse and recycle as a simplified and straightforward approach.
for any individual to adopt and practice. The concept of reduce, reuse and recycle can be used by any person at any age in any environment. Applying this concept in architecture school should be extremely important because, as architects, we should be making a conscious effort in designing for sustainably. Lack of resources can often make the process of conservation more difficult, which has become a major factor in the lack of the three R’s currently being practiced at the college. We, as a college, now realize the importance for facilitating these ideas, with such initiatives as a collection bin for students to drop off unwanted materials that others could use, as well as additional recycling bins that facilitate materials other than just mixed paper and cans. We also realized that the entire student body could do more in reusing items that would have normally been discarded in the trash, thus ending their initial use.

Architects should be very familiar with the importance of this concept and the leader in applying its ideas in the field. As architects, we have the opportunity to design space specifically for people and with this opportunity we should be depicting how, even in buildings, these ideas are very important. By creating space for people where they live, work and play, we should be creating a model example of how they should be implementing sustainability into their daily lives. Most people are unaware that most of our greenhouse gas emissions come from buildings and construction. Architects need to be fully aware that they have the power to motivate their clients into creating buildings with either low or zero carbon emissions. Changing current practices will inevitably take time and may be slow to instill in the designs of others, but in doing so there will be significant reductions of the wasting of our natural resources and non-renewable energy. Architects should be advocates of sustainable living whether it is through design but also in our everyday life. Practicing the ideas of reduce, reuse and recycle is imperative in all aspects of life, but especially in the practice of architecture. Architects are already acknowledging the fact that we need to reduce our consumption of materials and reduce waste from construction. Reuse can be utilized by reusing materials from a preexisting building. Masonry and metal can be reused in future projects, and businesses can proactively auction off their used furniture or appliances when moving or closing locations. Recycling has been practiced for a very long time in both sophisticated methods and also the most primitive of ways. The concept of recycling isn’t new to the vernacular of sustainability; however, we as a nation should be consistently incorporating its merits into our daily routine. Recycling at larger scale job sites should be as seamless as a consideration of common practice. All metal, concrete and glass should be arranged to be discarded properly if not reused completely in a new project.

**Reuse**

The importance of this issue has become even more apparent in recent years, considering the fact that colleges and universities alone create nearly 3.6 million tons of waste each year, amounting to 2 percent of the country’s total waste. Within the school setting, nearly half of all waste created is generated from paper. This is especially apparent in the College of
Architecture and Planning. Nationwide, almost half of the school’s generated paper goes un-recycled, which is yet another clear reason why the college of Architecture and Planning needs to set an example with our run off paper products. If, as a school, we can manage to save even 1 ton of paper, this would conserve 17 mature trees, 7,000 gallons of water, and 3 cubic yards of landfill space. From a reuse standpoint, the conservation of paper can often go well beyond the simple placement of a paper recycling bin. The school as a whole can begin an initiative requiring both students and teachers to reuse every single sheet of paper that is created, making sure that none is discarded until both sides are completely saturated. Paper can also be an excellent source for garden mulch, and may be a collegiate incentive for students to save for in bulk and provide to either a school wide or community wide garden program. In addition to this, a change in material used in our every day products would set a proactive example for other departments. With the use of soy and vegetable based inks for our plotters and printers, as well as recyclable towels in the restrooms, we would be cutting out yet another product that normally would have only one life.

Another source of excess supply and waste comes in the form of general material scraps and cardboard. It’s imperative that all students and faculty are considering where materials are going once they are finished with their original purpose. Cardboard can be reused in many projects, but is often overlooked because it is not discarded in a designated location when it’s no longer being used. The reinvention of a supply drop off location would be an excellent asset to the school, as it would provide a place for students to leave materials so that they could stay clean until another student is able to give this material a second life. The supply collection station that was created outside of the shop at the beginning of the fall 2008 session was a proactive step in the right direction; however the location impeded traffic and was soon removed. If the school were to look at this type of collection again, it would be important to consider one or more indoor locations, conveniently located so that students can easily obtain materials without having to travel too far. One of the main reasons students do not take the time to give their materials a second life is a simple lack of convenience; however if the opportunity to donate supplies to another student was simple and close, it would occur much more often.

There are also some lesser known discarded items that, in many ways, can fulfill a vital second life in the school. In consideration of used CD’s that normally would not be recyclable by normal means, these can be a helpful tool if installed behind a computer. Using their reflective qualities, these CD’s can be used to allow a student to see where and how their computer is being plugged in, especially in tight spaces where this would normally be difficult. These CD’s can also be distributed to students of all disciplines as bike reflectors, and light amplifiers. When installed around a light or simple bulb, the reflective qualities of the CD again work as a magnifier for the light and can be helpful in focusing the light in a certain direction, helping to spotlight a certain portion of the students work and eliminate the necessity of overhead lighting. The implementation of this method would be helpful in reducing the amount of overhead lights needed in the studio and focusing the light on only certain projects, rather than a vast space.
Recycle

In terms of Recycling, some improvement is needed in the stagnant practices currently being used by the University. Though a proactive effort has been made by most aspects of the college to provide recycling cans and locations for student use, many materials still end up in the trash can and don’t get a chance to be reused in a second life. If the school were to create an initiative requiring all recycling bins to be placed near trashcans, students would be encouraged to choose a better option outside of simply throwing away their trash. One main reason for a student to not recycle is convenience: the easier we can make the process on the busy student lifestyle, the more frequently this conservation will occur. Another obstacle in recycling is, quite simply, student education. Many students do not recycle because they don’t have the time to devote to learning which bins are appropriate to use with certain items. Again, convenience is key in the life of the student. Bins need to be clearly and simply marked as to what can or cannot be recycled. If these bins were then color coded per a certain material, students would not need to devote any time to reading the list of items that are allowed, they could learn to recycle simply based on a color stimulus. Eventually, this color coding could be implemented in all aspects of society, making the act of recycling an unconscious action rather than a conscious thought.

Reduce

In terms of raw reduction of waste within the building, one of the simplest methods we can work towards is the continuation of electronic formats in classroom. Though many curriculums have made a conscious effort to reduce the amount of paperwork that is handed out, often times the problem still persists as the electronic format is simply printed to allow convenience for the students. If some requirement were made by the faculty that students were allowed to look at the reading online but that printing of the reading was strongly discouraged, this may allow less paper copies to be created. The reduction of power in the computer lab is an equally tricky issue, since there is no designation as to one individual who is responsible for shutting all the computers off at night when not in use or rendering. Though many of the computers are added to the rendering farm when not in use by students or faculty in the middle of the night, it would be helpful towards the school’s energy consumption if an evaluation were done of only the essential times that the computers needed to be available. Through this analysis, the school could determine if it were absolutely essential to have the lab power on and available at all times during the night. Along with this, as a modification to the services that already exist in the building, a replacement of the windows would allow for a reduction of the HVAC consumption used throughout the building.

Conclusion

In discussing the importance of reduce, reuse and recycle, it is very important to begin the conversation early, specifically at the educational level. The issue of sustainability has become a hot button issue in recent years among the architecture community, which is a step in the
right direction and an important conversation to keep current among practitioners. However, as younger generations complete school and emerge into practice, they carry with them the most current knowledge and trends of the industry. In preparing for becoming licensed architects in the field, we must be indoctrinated into this behavior early on and make it into a lifestyle. Our priorities and values cannot be the same as they were for graduating architecture students of 50 years ago. In this changing climate, we must make it a priority to move forward into our individual careers with a conscious mind towards the priorities of our environment and the needs of our community. In this same respect, the college of Architecture and Planning must serve as the initial and most important front presented to students entering this industry. New architecture students should be able to look at their very place of learning as the loudest reminder towards these sustainable ideas. In both conceptual theory and the building itself, the program must strive towards providing the best example of sustainable habits in every aspect of our environment. This imperative indoctrination will only occur if an easy synthesis of both ideas and lifestyle occurs at every level of the pre practice education. Currently, the resources available at the College of Architecture and Planning are minimal in promoting these ideas, and are in dire need of renovation. As time is certainly a factor, every effort should be made to create a NetZero environment that can both teach the students these sustainable ideas while also providing a place for inhabitation. Through this change, students will learn successful habits for both passive and active cohabitation with their environment that they can then carry on with them into practice and into the world.
Works Cited


