When most people think of graphic design they think of web design, advertising, logos, or package design. However, when looking at the origin of graphic design, its essence is visual communication that can be utilized in different ways. There is a place in the workforce in which designers are not currently employed and that is in the field of education. The word educate is defined as providing one with information, and the word teach is defined as to cause to know something, to show how; to impart the knowledge of (Merrian Webster 2004). The definitions of educate and teach both deal with communication, which can often be in a visual fashion in schools. The field of education needs teachers and designers to work collaboratively to come up with better ways of visual communication tools and artifacts to use in the classroom. I will first do this by assessing and critiquing the current state of visual communication in educational tools and artifacts that are used in the classroom. I will then discuss how I believe visual communication can be improved upon by the collaboration between a designer and an educator. I will conclude with showing artifacts that I have constructed in my research to improve visual communication in the classroom.

First I’m going to start with critiquing Webquests. In my integrating technology in curriculum course here at Dominican, the idea of a WebQuest was heavily emphasized as a great way to integrate technology in the classroom and is summarized in the following quotation.

“A WebQuest is an inquiry-oriented lesson format in which most or all the information that learners work with comes from the web” (webquest.org).

(Inquiry based learning is student centered learning and a teacher guided instructional approach. )

WebQuests originated at the San Diego State University Department of Educational Technology in 1995 by Bernie Doge, and not much has changed since then in terms of website design and its overall functionality. The website webquest.org has a couple sample WebQuests that were created with their
software called “**QuestGarden**”. These examples were given in my class as a reference as to what was expected of our WebQuests. The basic structure for all WebQuests is introduction, task, process, resources, and evaluation; although my interpretation of a WebQuest is that it is just worksheet made available on the internet with a couple of links thrown in here and there. The functionality and structure of a WebQuest is not incorporating the full potential that the web has to offer in the 21st century, which has now become an interactive tool.

The poor structure of a WebQuest includes the lack of hierarchy, poor choices in typefaces, and overall poor user navigation and design. Hierarchy is an arrangement of items (objects, names, values, categories, etc.) in which the items are represented as being "above," "below," or "at the same level as" one another. The most important information being the first information that is seen by the viewer. Differences in scale, color, or texture can create hierarchy on the page, which is important if you want to viewer to notice something first before another element on the page and can be extremely important in the classroom when communicating directions to students. Most of the examples WebQuests try to establish some type of hierarchy by slightly making the title larger, and using red and bold type, and slight indentations on the page. The text is all in one block on the page, which gets to be quite lengthy.

In December of 1996, one year after the invention of WebQuests, cascading style sheets (also known as CSS) were released to style webpages and websites more than basic html could. The text on the page is also a serif font, meaning there are slight projections finishing off a stroke of a letter similar to the way a pen or a brush makes a letter. While a serif font helps with legibility in books and other printed materials, it makes it more difficult to read on a computer. The difference between the thick and the thins in the stroke does not render well on a computer screen, especially in a smaller point size. I would not want to sit at my computer and read all this text, and young students should not have to either.
A website that does incorporate the full potential that the web has to offer in the 21st century while being educational is BrainPOP. While there are many poorly designed educational websites, I found BrainPOP to be stunning in both design and content. Dr. Avraham Kadar, M.D., an immunologist and pediatrician, founded BrainPOP in 1999 as a creative way to explain difficult concepts to his young patients. It uses animation and curriculum-based content that engages students and supports educators. It also features free lesson plans, video tutorials, professional development tools, graphic organizers, best practices, groups and forums, and much more. It includes different content areas including science, social studies, English, math, engineering & tech, health, and arts & music. Each content area has different animations explaining concepts and ideas in a simple, light-hearted, yet informative way. For each animation, there are also games, worksheets, quizzes, and other activities for the students to further their learning. There are also different versions of BrainPOP including BrainPOP Jr. (K-3), Spanish, French, and UK. The table-like design and well-illustrated icons makes the website very intuitive and easy to navigate. The animations are also very well done; the timing is paced well, the illustrations are simple and elementary, and the overall tone is properly aligned with its audience. Seeing BrainPOP lead me to further investigate other ways that technology could be integrated into the classroom.

In my research over the summer, I have found a new tool that provides inspiration for creating educational design pieces, Adobe Education Exchange. This past summer, Adobe decided to launch a website to promote their products for educational use called Adobe Education exchange, which is still in its beta version. Members must create an account in order to access a wealth of free resources, share course project, tutorials, and lesson place, network and collaborate with other educators, and get inspired to use Adobe software in the classroom (edexchange.adobe.com/pages/home). What I like about this website is that it shows the power of collaboration between a designer and a teacher, and how that collaboration can be implemented in the classroom. I was lucky enough to be invited to join
the beta version since I had already had an account with Adobe, which inspired me to create design artifacts that could be used in the classroom.

My first example of a design artifact is a redesign of a very clever idea of organizing the liquid measurements. This original diagram was given the students my Collaboration in Special education class at Dominican University over the summer from Dr. Hogan. It shows the different liquid measurements and uses the first letter to represent the measurement. Going from smallest to largest are cups, pints, quarts, and gallons. This diagram takes each measurement and shows how many cups are in a pint, quart, gallon, how man pints are in a quart and a gallon, etc. Rather than listing the information in a chart or a table, this diagram expresses the liquid measurements in a visual way to better assists visual learners and students with special needs. The original diagram was hand-draw and somewhat difficult to read. By using a sans-serif typeface, it gives the diagram more of a standardize look that is very clean and legible. The grey scale I have used separates the letters/measurements enough so that they do not compete for competition, yet the overall design is cohesive.

My second design artifact is an interactive study guide I have created using Adobe Illustrator and Flash which we’ll get to in a moment, but first I want to explain why I made this interactive. I have always found diagrams in books to be a bit ambiguous, especially is they are marking a specific area of region. I went through my anatomy book that I used in high school and came across a diagram of the cell membrane, something that most people have had to study at some point in their schooling career. There are a couple parts, such as the smooth endoplasmic reticulum, that seem to appear multiple times within the cell, but are only marked once. The same goes for free ribosomes, which are marked twice, but it seems that were are many free ribosomes within a cell.

This is where the power of an interactive study guide comes to mark all of the parts of a cell. In the interactive study guide I have created, the user can hover over the different parts of the cell and a
red outline will appear on all of those parts. For consistency purposes, the name of the cell part will appear in the right-hand column. Another thing that this diagram lacks is describing the function of each cell part, which is listed on another page. I have included each part’s function under the name in the right-hand column for the user to get more information out of this study guide. In order to see the function, the user must simply click and hold on the cell part.

Over the summer, I had the privilege of working with a professor to design an animation to illustrate a concept he was going to discuss at a presentation. This gave me good experience in working one-on-one with a professor to enhance his visual communication skills. He wanted to illustrate a poem that he created over his sabbatical to express what research he did during this time off. When I met with him the first time, he had a well-developed idea of what he wanted and had very detailed story boards to show me exactly what he wanted. We then met a couple more times after that and made changes and tweets to the animation here and there. He eventually used the final animation in his presentation that he gave to faculty and staff in the fall of 2011. I met with him a couple weeks ago to record an audio track to accompany the animation to show how the two really complement each other in his explanation. After viewing the animation, you can see how having just the audio does not fully illustrate the concept and having just the animation does not either. The two combined really complement each other in getting Professor Alonzi’s point across and illustrating it beautifully.

My project originally started as demonstrating how teachers can create their own design artifacts, but realized that that is a whole other task in itself. I realized that designers should be the ones creating everything and the teachers should relay the information to the designer, much how it already at design firms. As a teacher, you can get in touch with design teachers at your school. Visit BrainPOP and Adobe Education Exchange. BrainPOP offers free videos, and Adobe Education Exchange offers free
membership. If you’re a professor at Dominican, contact either Bill Kerr of Jean Bevier to refer you to a graphic design student who would be willing to work with you.

In Conclusion, the essence of graphic design is visual communication, yet it is often something that is overlooked in education and teaching. The definitions of educate and teach both address communication, which can often be in a visual method in schools. The field of education needs teachers and designers to work collaboratively to come up with better ways of visual communication tools and artifacts to use in the classroom. This project demonstrates how designers can enrich education and enhance learning by working with teachers to improve their means of visual communication in the classroom.