SUMMARY: An examination of basic visual document design theory and its application to common desktop publishing documents in the classroom.

LEARNING OBJECTIVES: After completing this module, students will be able to do the following:

1) Demonstrate understanding of the CRAP model of Visual Design.
2) Demonstrate understanding of the essential drawing tools in Publisher.
3) Distinguish how to reposition text frames and word art frames.
4) Demonstrate advanced shape coloring using gradients and transparencies.
5) Demonstrate how to modify the ordering multiple objects.

OVERVIEW
Teachers create a wide variety of digital resources for administrative and instructional applications in the classroom. One commonality that most of these files share is that their visual design directly influences their ability to communicate. Whether it’s a PowerPoint slideshow, a Publisher flyer, an Excel Chart, a Word handout, or a class web site, a poorly designed document will not convey an intended message effectively.

Robin Williams is a famous graphic designer for publishing a simple set of principles that help novice designers create better looking documents. The first part of this module will focus on these principles, which happen to form a rather memorable acronym, CRAP — Contrast, Repetition, Alignment, and Proximity, each of which is explained in the following sections.

The second part of this module will provide you an opportunity to apply the CRAP visual design principles to the development of a common desktop publishing document (DTP) for classroom applications—a sign. A step-by-step tutorial will walk you through the process of creating an engaging and effective sign using Microsoft Publisher. This sign must then be uploaded to Blackboard as an attachment to your blog post.

To begin, please review this brief presentation on the CRAP Principles, which includes examples from the text.
PRINCIPLE OF CONTRAST

If you have ever tried to view a projected PowerPoint slideshow where the instructor used light text on a light colored background, you have experienced a very common violation of the principle of CONTRAST. Digital projectors often wash out document colors, especially if the screen or display surface (such as a wall) does not have a highly reflective coating. Poor color selection, a weak projector, and ambient lighting can transform what was easily readable on a computer monitor into completely illegible content when projected.

One solution to this very common problem is to make ample use of contrast where appropriate. Dark colored text is obviously much more readable on a light colored background, and vice-versa, but contrast can also be created in many other ways. For example, consider contrasting:

1) large type with small type  
2) bold text with plain text  
3) caps with non-caps  
4) thin lines with thick lines,  
5) large graphics with small graphics  
6) changes in element positioning

An important point to remember regarding the principle of Contrast is to BE OBVIOUS. Don’t try to create contrast with element styles that are too similar to distinguish easily. That’s why light green text isn’t readable on yellow backgrounds, why 12 point text doesn’t look much different than 14 point text, and why a circle shape doesn’t create emphasis near an oval shape. If you plan to use contrast, don’t be wishy-washy!

EXAMPLE

Can you identify the elements or element styles in the example below that have changed? You should notice that in addition to obvious changes to font sizing, there is also a sharp contrast in shape (oval versus rectangle). What effect do these changes have on the legibility of the Title and Subtitle? Hopefully you would agree that the version on the right is much easier to read.

You should also notice the color and positioning change in Mr. Stix’s typeface. In the initial version on the left, the white color and similar size of the font actually draw attention away from the subtitle, which is not the intended reading sequence. In graphic design-speak, this is called interference, where two elements are so similar, the eye doesn’t know which way to move. In the edited version on the right, the change in font color, font size, and positioning all contribute to a reduction in contrast, which is desirable in this example because the two dominant elements on screen are supposed to be the title and subtitle.
**PRINCIPLE OF REPETITION**

In order to generate visual consistency (what graphic designers call document *unity*) some page elements or element formatting should be **repeated** throughout the entire document. The intent of this principle is to **facilitate viewer eye movement** across a document to ensure appropriate message sequencing, and establish a *motif* to reinforce the messages. Some of the most common repetitions include the following:

1. fonts or font styles
2. headers or titles
3. color schemes
4. spatial relationships
5. graphic types or shapes

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**EXAMPLE**

Consider the document below, for example. Given the Fall Festival theme, what if the pumpkin shape, colors and eye triangles were repeated elsewhere in the document? Although the first draft (on the left) is certainly adequate, there is no question that the version on the right establishes the pumpkin motif more effectively, thereby reinforcing effectively the message that this is a Fall Festival (Halloween) event.
PRINCIPLE OF ALIGNMENT
The principle of **ALIGNMENT** suggests that every element in a document is positioned deliberately, and is connected in some way to at least one other element. By using **invisible axes** to align multiple elements, a designer can establish a **framing structure** that facilitates eye movement and improving message sequencing.

EXAMPLE
How many discrete elements are there in the initial slide below? You should be able to identify at least a dozen. Compare that to the edited slide (bottom). Notice the significant reduction of major ideas? By aligning the text boxes and designing an obvious matrix for the graphics, the discrete dozen have been reduced to three major subunits—Question Text (header), Graphic Choices (body), and Extra Credit (footer).
PRINCIPLE OF PROXIMITY
The principle of PROXIMITY is derived from decades of research on short-term memory theory, which has established that most student readers can maintain no more than seven separate ideas in working memory. Good document designs therefore, should group related elements near each other in order to imply logical relationships and reduce the major ideas into fewer than seven subunits to facilitate comprehension by obviating the need to process each element individually.

EXAMPLE
The principle of proximity is perhaps most abused in web design, where the idea of navigation redundancy often results in too many links scattered across a page, with no apparent logical grouping structures. Consider the below examples of a class home page. In the first (top), numerous duplicate links exist, and although they are not scattered haphazardly across the page, there does not appear to be any conceptual logic that determines why some go in the header bar, others the sidebar, and the rest in the footer. Contrast that design with the bottom example, where academic links go in the header bar, teacher links in the sidebar, administrative links in the body, and a home button in the footer.
THEORY INTO PRACTICE—DESIGN A CLASSROOM SIGN!
If teachers are ringmasters in a circus of daily decision making, then there is no question that organization is a critical survival skill. One way that teachers commonly bring order to the chaos of instruction is to label everything from the classroom door to student cubbies, reading corners, homework trays, coat racks, equipment lockers and so on.

Microsoft Publisher is representative of a class of software applications designed to create these labels, signs, flyers, cards, nametags, posters, newsletters and other desktop publishing (DTP) documents that help teachers organize their classrooms and resources. The core features in Publisher go well beyond Word with the addition of enhanced drawing and layout tools that allow users to manipulate text, shape, line, art and photo objects with significant precision.

Here in the second part of this module, you will be introduced to fundamental desktop publishing skills using the most common tools in Publisher. In a later module, we will examine more advanced features and create a multipage newsletter. What follow is a tutorial that will demonstrate how to create a sign document from scratch in Publisher. It is important to note that you are expected to alter the design for your own classroom needs. You do not need to duplicate the design exactly, but be sure to include the following, minimally:

1) one title text or WordArt object
2) one subtitle text or WordArt object
3) at least one background photo or ClipArt object
4) at least one color gradient applied to an object
5) at least one transparency effect applied to an object.

When finished, please upload this document to your blog post for this module. The portable document file format (.PDF) is preferred, but you may also submit in the default Microsoft Publisher (.PUB) format as well.

WATCH THE DEMO MOVIE!
If you would rather watch a screen capture video to see how this document is created from start to finish, please click the link below:

PLAY THE MOVIE!

GETTING STARTED
Publisher is the desktop publishing application (DTP) bundled in the Microsoft Office suite, and it is one of the most commonly used programs for teachers developing classroom materials. The current version is 2007, but the XP version (2003) is still entirely functional for this assignment (although some of the screen shots that follow may differ slightly).

When Publisher first launches, the user must decide whether to create from a list of prefabricated designs, commonly called a templates, or from scratch, aka a blank document.

1) For this exercise, we will create a new document from scratch, so launch Publisher and select the A4 Landscape Blank Page Size.
TOOLS AND OBJECTS
When designing a blank document in Publisher, it is perhaps helpful to close the Format Publication panel. Doing so frees up some real estate and allows the user to work at a higher zoom level with more of the document viewable on screen. Should the panel be needed again at a later time, it can be easily retrieved at View / Task Pane.

2) Close the Format Publication Task Panel.

Take a look at Publisher’s primary drawing toolbar (above), usually set up as vertical palette on the left hand side of the window, organizes its tools around the five most common design objects in desktop publishing documents — text, art work, pictures, lines and shapes. Each tool can be selected with a click on the mouse, and dropped by pressing the [Esc] key.

3-5) The first object you will draw for your classroom sign is a background rectangular frame. To do this, select the rectangle tool and then click-drag in the design area until the table reaches the desired dimensions and position.

Like any newly-drawn object, the white circular handles that appear around the perimeter of the rectangle indicate that it is selected. To deselect, simply click anywhere outside the object. The primary function of any handle is to resize one or both dimensions of the object. Except for the green handle, of course, which is for rotating.

Please note that shapes can be moved by click-dragging anywhere in the interior of the object. This is a common technique for most desktop publishing elements, with one notable exception— text boxes, which can only be moved by click-dragging a border. We’ll demonstrate text boxes in an upcoming step.
FILLING OBJECTS WITH COLOR

Filling an object with a solid color can be as simple as selecting the object and then choosing a color from the fill palette, conveniently identified with a paint can. Gradients require a few more mouse-clicks to select the desired colors and blend direction, but are a convenient way to simulate depth or lighting.

It is important to note that the border of the rectangle, or any object for that matter, could also be colored using the paint brush tool, which has a similar palette to the paint bucket. Also, if the border is too thin or thick it can be easily modified with the line style tool.

6-8) Add a gradient Color Fill Effect to the background rectangle.
INSERTING WORD ART
When a desktop publishing document requires visually distinct title text objects, the WordArt library can be especially useful. WordArt objects are premade text shapes that can be easily customized for color, font, and other display attributes. One important characteristic of WordArt objects that you should remember is that they are repositioned just like other shape objects, by click-dragging the interior. This is very different from text boxes, which are repositioned by grabbing and dragging the border. Finally, should you change your mind about the display of any WordArt object, you can easily edit the text by double-clicking it, or change the formatting by right-clicking and selecting Format WordArt.

9-10) Add a Word Art title for your sign.

9 Click the Word Art tool and choose a style. Then type your name and click OK to insert.

10 Reposition and resize the word art object as necessary.
INSERTING CLIP ART

Most of you are familiar with the concept of ClipArt. Publisher contains a vast library of these preconstructed graphics, and organizes them in a keyword-searchable database linked to Microsoft servers over the Internet.

It is also possible to designate the type of media you prefer to search in the clipart library. For example, the classroom sign we are drawing in this module might look more professional with a photograph blending through the background frame, so make sure to set that media type option for the search results (see below).

Once you have inserted the desired photograph, perhaps the trickiest part of this step will be resizing it to match the dimensions of the background frame. It may be very helpful to increase your zoom level to 200 or even 400% so that you can see how the borders align.

11-13) Insert a Clip Art photo and resize to the same dimensions as your background rectangle.

11 Select Insert / Picture / Clipart and use the search function to locate an image for the background.

12 Set the Selected media file types to photographs.

13 Resize and reposition the photograph directly on top of the rectangle.
CHANGING OBJECT ORDERING

Objects in any desktop publishing document can be layered on top of each other for a variety of different visual effects. To change an object's layer order in Publisher, you can right-click the object and select the desired change from the pop-up Ordering menu.

In our classroom sign example below, the photograph that you inserted from the ClipArt library in the previous step needs to be layered underneath the original rectangular frame. Once you order the photograph to the back, however, you should notice that the frame completely covers up the photograph. This is precisely what you want, because in the next step, you will increase the frame’s transparency so that the photo shows through from underneath.

14) Send the photograph Clip Art object to the back.
APPLYING TRANSPARENCY EFFECTS
Any shape or text object can have its transparency level modified to allow objects ordered underneath to partially display. Publisher will not change the transparency levels of photographs, however; you would have to use an image editor such as Photoshop to achieve that affect.

For our example, the photograph needs to show through the rectangular frame only slightly. We don’t want the photo to dominate the image and distract viewers away from the most important content—your name and room number, so set the transparency level to around 50%, as illustrated below.

15-16) Apply a transparency effect to the rectangle you colored with a gradient fill effect.
TEXT BOXES
In a desktop publishing document, Text Boxes are most appropriate for typing regular body or list text, including simple headers, as separate floating objects that can be repositioned and resized like other objects. The tool works very similar to the rectangle tool; you click-drag to draw the shape to the desired dimensions. The major difference, of course, between the text box tool and the rectangle tool, is that once you finish drawing, a cursor appears inside the rectangle, ready for you to type.

Text inside a text box can be formatted and styled just like regular paragraph text, but you should note that all alignment options are relative to the dimensions of the containing box, and not the page. So when you set the horizontal and vertical alignment to the center, that center will be directly in the middle of the rectangle, not the page.

You should also note that Text Boxes are colored using the same techniques for filling shapes with color. You need only click to select the object and then choose the desired fill color options.

And please don’t forget that repositioning a text box is achieved by click-dragging the border of the rectangle, not the interior. Only shapes and art objects can be moved by click-dragging the interior. When you click in the middle of a text box, the cursor activates so that you can edit the text.

17-20) Draw a text frame for your room number, fill it with color, and apply a slight transparency effect.
<table>
<thead>
<tr>
<th>HOMEWORK FOR THIS MODULE!</th>
</tr>
</thead>
<tbody>
<tr>
<td>As mentioned at the beginning, your blog post for this module must include an attached file of a sign for your own classroom. You do not need to duplicate the design from the module exactly; feel free to get creative but be sure to include the following, minimally:</td>
</tr>
<tr>
<td>1) one title text or WordArt object</td>
</tr>
<tr>
<td>2) one subtitle text or WordArt object</td>
</tr>
<tr>
<td>3) at least one background photo or ClipArt object</td>
</tr>
<tr>
<td>4) at least one color gradient applied to an object</td>
</tr>
<tr>
<td>5) at least one transparency effect applied to an object.</td>
</tr>
</tbody>
</table>

When finished, please upload this document to your blog post for this module (Blog 9). Although the default Microsoft Publisher (.PUB) file type is acceptable, if you have Office 2007, I would recommend downloading the Microsoft Office PDF Add-In, which will allow you to save to the PDF file format, so that anyone can view your sign using the Adobe Reader application.