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February 16th, 2000

Medium Analysis: Overhead Transparencies

Introduction

Each day over 30 million business presentations are given in the United States (Meilach). Thankfully, these orators have a wide variety of visual media available to help them make their point. Chalkboards, white-boards, flip charts, slides, TV screens, monitors, and video/data projectors are all viable options. However, transparencies displayed on an overhead projector remain the preferred method (Griffin).

Although overhead transparencies offer many advantages, their use can subtly alter the intended message, often to the detriment of the unsuspecting presenter. However, the prepared orator can use the characteristics of the media to complement, rather than complicate, the message.

Characteristics of Overhead Transparencies

1) **Encourages Group Interaction**
   - *Lighted room*: Projected images, such as 35mm slides, typically require a darkened room. This discourages audience participation and prevents the speaker from gauging audience reaction. However, overhead projectors work fine in a well lit room and therefore encourage questions and comments.
   - *Transparencies can be altered during a talk*: Audience comments can be written right on the transparencies. This encourages collaboration and brainstorming.
   - *Face the audience*: The speaker can view the transparencies as they lay on the projector thereby maintaining eye contact and observing audience reaction. Chalkboards & flip charts require the speaker to frequently turn away from the audience.
   - *Flexible*: The speaker can change the presentation order or remove overheads. However, the transparencies themselves are relatively fixed. Chalkboards & flip charts allow greater flexibility. Slides are less flexible because of the cumbersome projector carousel.
   - *Appropriate for both small & large audiences*: The projected image can be enlarged simply by moving the projector farther away from the screen. Legibility can be further increased by using a larger font size. It is therefore not uncommon for transparencies to be used with audiences of 50-100 people. However, eventually the contrast of the projected image becomes too low, no matter how big the text is. Therefore, when addressing an audience of several hundred people 35 mm slides may be more appropriate.

2) **Encourages "Visual Thinking" in the Audience**
- *Repeats & reiterates the message*: Speakers often feel uncomfortable in repeating the same idea over and over again during their presentation. Yet, repetition is essential for an audience to remember the main point(s) of a speech. Bullet points give speakers an easy way to repeat & reiterate the message.
- *Adds permanence, makes the speech a "thing" instead of an "event"*: This characteristic makes itself apparent in several ways (see Kaufer for discussion of terms):
  A) **Fixity**: Overheads can display the overall organization of a speech. They help to remind the speaker of the major points. They ensure that the topics are presented in the same order. In effect, they help guarantee that the speaker can give the same speech to different audiences. The ability of a medium to successfully retransmit a message without change is called "fixity". Transparencies enhance the fixity of oral communications.
  B) **Durability**: Handouts give a talk permanence. The audience can refer back to a "speech" years later, and still recall the major points. Furthermore, transparencies allow the speaker to deliver old presentations to new audiences. In effect, handouts and transparencies enhance the durability of oral communications.
  C) **Asynchronicity**: In the same way that a VCR can record a television show that you are forced to miss, or voice mail can help you reach people who don't always sit by the telephone; overheads and handouts can greatly expand the reach of your verbal message. Paper handouts can be distributed to people who miss the presentation, and programs like Microsoft's PowerPoint enable the speaker to distribute overheads electronically (perhaps even across the Internet). The ability of a medium to communicate a message even when the speaker and audience are not present at the same time is called asynchronicity. Handouts and transparencies enhance the asynchronicity of oral communications.
- *See the data*: Overheads can display charts, graphics, plots, tables, diagrams, x-rays, and all manner of material that would be nearly impossible to describe orally (but be careful about distorting the data, see below). Although 35 mm slides are just as good at displaying visuals, they are much more expensive. Overhead transparencies can be created on a photo copier, laser printer, or inkjet printer for about $1.50 a piece. In contrast, 35 mm slides generally cost $4 to $15 each depending on how you make them. Furthermore, even if you own a $5,000 to $15,000 desktop film recorder you still need to send the exposed film out to be processed. Therefore, slides require a much longer lead time to produce. This can be a significant disadvantage in the business world, where we are frequently reminded that "time is money!" (Meilach)
- *Highlight & contrast*: Critical thoughts or data can be highlighted with shades and colors. Pointers or laser pens help focus the audience on the critical items.

- *Cumulative*: The orator can uncover ideas one at a time to construct a logical argument, or use layering to build-up complex visual information.

3) **Distorts Space & Time**

- *Overhead projectors reduce text readability*: Transparencies are easily created by photocopying printed material. This is very unfortunate, because a standard printed page will always make a horrible overhead. The reason for this is simple. While the projector does enlarge the transparency by several times, the audience is many times farther away. It is not uncommon for the legibility of the projected transparency to become only 1/4th that of the in-hand version. Imagine trying to read a page of text written in a 3 pt font! (see Question 1 for advice on how to pick the proper font size for your transparencies).

- *Different aspect ratios*:   We are all painfully aware of the problems involved with showing a full feature movie on a standard television. Either black strips must be used to block off the top & bottom portion of the TV screen, or the sides of the original movie are mercilessly chopped off. Either way, this manipulation can significantly distort the intended message. The problem occurs because of the different aspect ratios used in film and television. A similar problem occurs when using overhead projectors. A transparency is typically 8.5" by 11". Therefore the aspect ratio is 8.5 to 11 (0.77:1) or 11 to 8.5 (1.29:1) depending on which orientation is used. However, overhead projectors typically have a projection stage that is 10.5" by 10.5". The aspect ratio is therefore 1:1. This means that a significant part of the screen is devoted to nothing but empty space. Yet, even this can be used to your advantage. For example, try using a landscape orientation and displaying the transparency at the top of the screen. You still loose the

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Question 1: **What size font should I use on my transparency?**

To answer this question, you must first estimate three quantities:
1. Distance of the farthest audience member away from the screen (**a**).
2. Width of the overhead when projected onto the screen (**w**).
3. What font size legibility do you want to mimic for the audience (**f$_L$**).

Then use the following equation to determine the proper font size to use on the transparency (**f$_T$**):

Equation 1: $f_T = (a / w) * (f_L / 2)$

Note: This equation assumes an 8.5" wide transparency and that the standard viewing distance for a page of text is 17". Different assumptions concerning these quantities would change the constant, which is simply 2.0 for this case.

The table below calculates the proper font size (using Equation 1) when your legibility target is a 12 pt font.

Table 1: Transparency Font Size Necessary to Mimic "12 pt" Legibility

Audience Distance	Projected Screen Width			
	3'	4'	5'	6'
10'	20	15	12	10
20'	40	30	24	20
40'	80	60	48	40
80'	160	120	96	80

For example, if you wanted to ensure that an audience member 40' away from a 5' wide screen would perceive your projected overhead to be as legible as a 12 pt font displayed at arms reach, you should use a 48 point font when constructing the transparency. The moral of the story is that big is better!

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bottom display area, but the people in back will thank you because they can now see over other people's heads.

- ***Can distort top of transparency***: It is often tempting to project the image at a high angle to help everyone see. However, this warps the top of the image, making it much larger than expected. Therefore this should not be used with graphs & plots, as they can easily send a misleading message. (Beitz)
- ***Everyone sees a different image***: Because different audience members are at different distances from the screen, everyone sees a different image. For example, someone 40' away will see a relative font size of only one-half that of someone 20' away (see Question 2 for how this effect can be used for a different purpose). Therefore, always plan an overhead presentation by considering the most distant viewer.
- ***Premature removal of overheads causes a speech to feel rushed***: Overheads with large amounts of text or data demand an equally large amount of time on the screen. If removed too quickly a speech will seem rushed, even if the spoken words are calmly delivered. Best to use text sparingly.

Question 2: <u>How can I test the legibility of my transparency ahead of time?</u>

To answer this question, you must estimate two quantities:
1. Distance of the farthest audience member away from the screen (**a**).
2. Width of the overhead when projected onto the screen (**w**).

Then use the following equation to determine the distance that you should view your transparency to mimic how it will look when projected onto the screen (**d**):

Equation 2: $d = (a / w) * 0.71$
Note: This equation assumes an 8.5" wide transparency. The factor is simply equal to 8.5" divided by 12". This converts inches to feet.

The table below calculates the viewing distance that should be used to preview transparencies. It is very useful for determining legibility when an overhead projector is not available.

Table 2: Viewing Distance Necessary to Mimic Overhead Projection

Audience Distance	Projected Screen Width			
	3'	4'	5'	6'
10'	2.4'	1.8'	1.4'	1.2'
20'	4.7'	3.5'	2.8'	2.4'
40'	9.4'	7.1'	5.7'	4.7'
80'	18.9'	14.2'	11.3'	9.4'

For example, if you want to ensure that your projected transparency will be legible to someone 40' away from the 5' screen, simply lay down the transparency and view it from 5.7' away.

Conclusion

Due to their ease of production, inexpensive nature, and the wide availability of overhead projectors, transparencies will remain popular for many years to come. Millions and millions of orators will turn to overhead transparencies to help deliver "their" message. However, the medium has its own message to send. Overhead projectors encourage group interaction and visual thinking. They also distort the size of text and apparent speed of the speech. When anticipated, these characteristics can be used for good effect. When ignored, they can be disastrous…

Works Cited

Bedenbaugh, John H. & Bedenbaugh, Angela O. "Production of Scientific Visual Aids Using Only a Photocopier." *Journal of Chemical Education* v62 n12, Dec 1985, pp. 1092.

Beiswinger, G. L. "Good Presentations at Reasonable Cost." *The Office*, May 1992, pp. 63-64.

Beitz, Janice M. "Overhead Transparency Skills for Perioperative Nurse Educators." *AORN Journal* v64 n4, Oct 1996, pp. 580-586.

Dearden, E.W. "Legibility in Lecture Theaters." *Nature* v370, 11 August 1994, pp. 423.

Griffin, Robert E. "Electronic Presentations in the Corporation: How Are They Being Used." *Eyes of the Future: Converging Images, Ideas, and Instruction. Selected Readings from the Annual Conference of the International Visual Literacy Association.* Oct 1995, 10 p.

Heid, Jim. "Planning the Perfect Presentation." *Macworld* v11 n1, Jan 1994, pp. 135-139.

Kaufer, David & Carley, Kathleen. "Communication Transactions and Their Ecology." *Communication at a Distance: The Influence of Print on Sociocultural Organization and Change*, Hillsdale, NJ: Erlbaurm, 1993, pp. 87-142.

Meilach, D. Z. "Even the Odds with Visual Presentations." *Inc*. v16 n13, 1994, pp. A1-6.