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“Making presentations accessible to blind and low vision participants”

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Meeting:
Simultaneous
Interpretation:

86. Libraries for the Blind
English, Arabic, Chinese, French, German, Russian and Spanish

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Never before in our history have we had such extensive access to information and options to convey that information to others. As a result, presentations now often take the form of multimedia shows, utilizing a plethora of technology to engage, inform and entertain our audiences. And given that, as individual human beings, we all retain information and learn in different ways, the use of technology has been a boon to presenters as they strive to convey their messages in a way that will be meaningful and memorable.

This is now the reality of our world and those of us who are left behind by this onslaught of technological wizardry understand that we cannot reverse the march of progress. After all, most audiences now expect to be informed and entertained using both audio and visual tools. Indeed, many now find a strictly audio presentation to be boring and less engaging.

So that is the way of our modern world. The problem we face though, is how to make that world accessible to persons who are blind or low vision or otherwise unable to access the full effect of the audiovisual presentation. Persons who are blind, low vision or having another type of print handicap are just as eager to receive the full benefit of the presentation as their non print-disabled counterparts. However, unless conscious efforts are made to ensure that they will be able to access the entire presentation, and then it will lose its effectiveness and impact for those audiences. Indeed, depending on the nature and context of the content, those who are visually impaired may miss the message altogether or receive a different message than that which was intended by the speaker.

There are a number of simple solutions and strategies to help address this situation however, and I would like to explore them with you today. These strategies in no way detract from the presenter's ability to deliver an effective presentation, and one that still harnesses the benefits of audio and visual presentation. They do, however, help the presenter ensure that visually impaired members of the audience will receive the information as intended so that they can also benefit from the presentation and message. Indeed, the strategies that will be discussed are simply elements of good design and presentation that will enhance any presentation and will ensure that all members of the audience derive the maximum benefit from it.

On behalf of the World Blind Union, and the 161 Million blind and low vision persons that we represent from some 177 member countries, and our President, Dr. William Rowland from South Africa, it is my pleasure to share with you some of our perspectives and knowledge to help you ensure full access to your presentations by the visually impaired and print handicapped population. Indeed, I am actually here as well representing the WBU Low Vision Working Group who, at the request of IFLA Section of Libraries for the Blind,

recently developed guidelines for Power Point presentations, which is the basis of the information that I will share with you today. Since our WBU international office is located in Canada, travel to Quebec City was very easy for me and moreover, as a person with severe low vision, I can and do speak from personal experience as well.

I will briefly share with you some information about vision loss around the world in order to give you a sense of the magnitude of the issue, share with you some characteristics and issues faced by persons with different degrees and vision loss, and will spend the majority of my presentation time discussing strategies and solutions to make PowerPoint presentations accessible to visually impaired persons. I should state at this point that, even though the WBU does not speak for persons with dyslexia and other types of learning disabilities, our Guidelines were developed in consultation with the British Dyslexia Association and the strategies and solutions discussed are equally of value to that group.

Vision Loss in the World

According to the World Health Organization, there are 314 million visually impaired people in the world today: 37 Million are blind, 124 Million have low vision even after correction, and 153 Million are visually impaired due to uncorrected refractive error causing problems with distance vision. Additionally it is generally accepted that up to 4% of the general population suffer from severe dyslexia. Moreover, as vision loss is directly related to the aging process, the number of persons with vision impairments will continue to grow as our populations age around the world.

As indicated by the statistics then, close to 90% of those having vision loss around the world have low vision, with about ten percent being totally blind. And while there are some similarities for accessing information by these two

groups, there are also some important differences. For example, both blind and low vision persons benefit from and appreciate information in audio format and often electronic formats as well. However, most totally blind persons also use Braille to access information while a large proportion of low vision persons are able to access at least some print. And just as most of you find that you understand and retain more information if you can access it both by auditory and visual means, persons with vision loss also prefer another format in addition to the audio to maximize their comprehension and retention.

To add to the complexity of the situation, there are huge differences in the level and functionality of vision among persons with low vision. Vision can range from good reading vision (using magnification) to little more than shadows; from the ability to see colour to seeing no colour; to having a full visual field to having tunnel vision or peripheral vision only. For this reason, it is impossible to specify exact colour schemes, font sizes, and so forth. Rather there are principles and guidelines which when interpreted correctly and followed, will meet the needs of most persons with low vision. While in some ways it might be easier to simply give you very specific colours, styles and so forth, we believe that principles and guidelines will be much more useful to you in enabling you to reflect your own design and creativity in designing presentations while at the same time incorporating principles that will make them accessible to persons with vision loss.

I will now discuss specific principles and guidelines for making your presentations accessible to persons with low vision and will then talk about additional measures that need to be taken to ensure their accessibility for persons who are totally blind. Indeed, many of the accommodations I will discuss for blind persons will also apply to persons with low vision. As indicated earlier, due to the extensive range in functionality of persons with low vision, many must rely on

both the audio as well as visual information and the extent to which the visual information can be seen will vary considerably.

Help for those with Low Vision, Colour Blindness and Dyslexia

As mentioned earlier, 'Low vision' is a spectrum of see-ability, with some people having good peripheral vision enabling safe mobility, but difficulty in reading, whilst others with tunnel vision might be able to read with the help of magnification. So whether using PowerPoint or transparencies, please:

Use a high-contrast colour scheme easily visible from the back of a large room. We recommend either a white text on a dark background or dark text on an off white background. A pure white background often creates uncomfortable glare for people with low vision and dyslexia.

It is not possible to define a particular best colour combination that will optimise the legibility of your projected text for various reasons, including the fact that everyone's level of sight is different. Please ensure you don't have a background which is multi-coloured as this creates a good deal of visual confusion for a low vision person. If background images are desirable please use only a low brightness in order to maximize the contrast with the text. Otherwise it will be very difficult and uncomfortable to read.

Recommended font size and amount of text on each slide

It is good practice to have only a few lines of text, or bullet points, on a slide, ideally no more than five to seven and only about five or six words per line, justified left. There must be enough space between lines to prevent 'crowding' effects during reading.

Text must be large enough to be read by most low vision people who are seated at the front of the audience and by people with normal vision in the back of the hall.

Therefore, we recommend having no more than six lines of text with a line spacing of 1.5 on the slide, having allowed for a one inch margin on all four sides for headers, footers etc. This can be realized with character size of 48 point. We recommend this size unless more space is needed for long words, but never using less than 32 point.

It is helpful to use mixed upper and lower case letters which are easier for low vision participants rather than all capitals.

Recommended font type

Please use sans serif font types such as Helvetica, Arial and Verdana rather than font types like 'Times New Roman', because low vision people have difficulty with reading text in font types with serifs.

Avoid the use of italic font style or other "fancy" font styles because these styles are also difficult to read for low vision people and even hampers normal vision reading.

Try not to use more than one font type per slide. If you want some text to pop out, use a larger font size, or use bold style, for that text, to attract attention.

If information on the slide is only important for you as presenter, such as a header with the title of the presentation and the page number, keep this as small as possible to save space for the information that is important for the audience.

Color and Brightness Contrast

For many persons with low vision, adequate colour and brightness contrast are as important and perhaps more so even than font size. Even if all guidelines related to font type and size are used, if there is insufficient contrast, then the text will be unreadable for a person with low vision.

Colour contrast can improve see-ability, but different medical causes of low vision respond to different colours being contrasted.

There are two types of contrast - brightness and color. The highest brightness contrast is between black and white. Objects have the highest color contrast when they have complementary colors.

Examples of complementary colors are red & green and yellow & blue.

Be aware that contrasting full colors have no brightness contrast and thus cannot be discriminated by color blind people. So the main contrast in a slide must come from brightness and not from color.

Note that many people suffer from glare, so try to apply dark background colors (low brightness) and use bright colors (high brightness) for the text to please low vision and elderly people. A white font on a deep blue background is a very good combination.

As said, text with high color contrast without brightness contrast cannot be read by color blind people. In particular, they have difficulty with red-green perception. These people have difficulty in reading green text on a red background. So when it is important to have a red background, it would be helpful to use dark red and apply white fonts or when a

green background is required, use a light green background and a black font.

Be aware that many color blind people are less sensitive to red. So we suggest not using a black font on a red background or red text on a black background.

Figures and graphs

If you have figures and graphs, keep them as simple as possible. Also try to have just one graph or figure per slide in order to reduce visual confusion. Use brightness contrasting colors in the same way as with text, as above.

Use sans serif font types for the text in the figures and again never use more than one font type per slide and avoid the use of italic font style.

Photos, Clip Art, and other Visual interest Aids

Clearly many presentations are enhanced by the use of photos, clip art and other visual aids. These can sometimes aid in understanding, help to emphasize a point or add interest to a presentation. When using, please ensure that any accompanying text is clearly separated from the image and placed either above, to the left of or below the image(s). Never use text wrapping. Also, please provide some verbal description or reference to the photo or visual image, for example: "this photo of our talking book library in India is a good example of the programs we are able to offer in smaller cities"

Animation

Please keep animation to a minimum as this can be very confusing for people with low vision. However, if you wish to use animation in your presentation, then the following

techniques cause less confusion for low vision persons: fly in from left effect, Typewriter effect, Appear effect.

Oral support during slide viewing

It is helpful if all text presented on slides is read aloud by the presenter since for many low vision people sitting in the front of the audience, text and figures will still be too small and normal sighted people, in the rear of a large audience, may also have the same problem. Moreover, for many low vision persons, even if the text is readable, their reading will often be much slower than that of the general audience and the lighting conditions can make reading very tiring and uncomfortable.

Figures and graphs should be explained because low vision people reading with a monocular, people with tunnel vision and slow readers, in the back of the audience, may have difficulty in orientating themselves to find where to start reading or viewing.

The presenter should explicitly mention the region of interest in the slide. Although pointing with a small light arrow to the region of interest is helpful for fully sighted people, it is not sufficient for those with low vision or a restricted viewing field, since it cannot be identified quickly.

It is helpful to explain the slide in an expressive manner so that the audience understands where to look. For example: 'On the screen you see a diagram with four blocks. The block in the lower right corner ...'

Be aware that some parts of a figure, for example, the legend of a bar graph are always difficult to interpret, even for people with normal vision. So another expressive description of a slide is recommended, for example:

'On this slide the results are summarized in a bar graph. The bars on the left hand side display the data of the experimental condition; the bars on the right hand side ...'

You should be aware that not everyone in the audience is able to read a long text. So read the text, slowly and clearly. Don't skip any word and be sure that everyone who wants to read themselves has time before you move on to the next slide.

If a long text is very important, for example a definition of an essential concept, refer to the handout for later re-reading.

Handouts

Please always distribute copies of your slides together with important information that will not be presented on the slides. Before the presentation, especially to low vision and dyslexic participants, Handouts offered at the beginning of the session can be a useful point of reference and will tell the audience if further notes need to be taken. Moreover, some low vision persons who are unable to read the text on the screen are able to follow the progression of the presentation on the screen and supplement that with the actual text supplied in the handouts.

Be aware that color is lost in grey tone prints. This is another reason to use brightness contrast as the basic technique to contrast text and figures from the background. Also consider providing color handouts to low vision audience members as these will often be easier to read and will avoid the grayscale issue.

Be sure that you have enough full page copies of your slides for people with reading difficulties as the print on multiple slide per page handouts will normally be too small for most persons with low vision. Some low vision persons may

prefer to have the handouts in electronic format so that they may follow the presentation on a laptop.

Help for those who are blind

Have your material in accessible formats such as Braille, CD's, or available on a memory stick for blind audience members to download on to their laptops. This will mean that, at least if a blind person cannot see the PowerPoint presentation, or read the handouts, they will end up with access to the same information as their fellow attendees at the presentation.

If you display it, say it. Imagine that you were hearing your own presentation on the radio, would it make sense and would you fully understand all the information that was being put across? Verbalization of material is extremely helpful for anyone with vision loss and is essential for those who are blind.

When talking through your PowerPoint presentations to your audience, use nouns and other descriptive words. Please ban from your vocabulary words such as: **This, that, over there, etc.** Such descriptors are normally meaningless to persons with little or no vision.

CONCLUDING REMARKS

I hope that this presentation has provided you with a better understanding of the importance of ensuring audio visual presentations such as PowerPoint are accessible to persons with vision loss and dyslexia, as well as information that will assist you in making your presentations accessible to these audiences. I believe you will agree that the principles discussed here are simple principles and techniques of good design that, if implemented, would only serve to strengthen your presentations to any audience.

Clearly we do not believe that persons who are blind or low vision are ever deliberately excluded from fully participating in events or benefiting from presentations. More often the presenters simply don't recognize that they might have participants who, for whatever reason, are unable to access the visual information and thus have not thought about accommodating for them. The truth is that, like most accessibility issues, if access is not thought about in advance and not planned for, then the individual will de facto be excluded. If one does not plan for inclusion then the result is almost always exclusion.

The World Blind Union believes in inclusion and believes that blind and low vision persons have the skills, abilities and desire to participate fully in society and their communities. This is only possible however, if they are given the opportunities, tools and information to achieve those goals.

The IFLA Libraries for the Blind Section is a key player in helping to ensure that blind and low vision persons do have access to those opportunities, tools and information. We thank you for that, and for your interest and support in working with us to achieve a world accessible to all blind and low vision persons.

HELPFUL RESOURCES

World Blind Union PowerPoint guidelines
www.worldblindunion.org

Have you ever wondered if two colours, background and foreground, offer a good colour contrast for people with low vision?

Please find below a link to a very helpful online tool.

To open this link control and left click.

http://www.snook.ca/technical/colour_contrast/colour.html

When using this tool click on the slide bar icon of the Foreground and Background colour boxes. By sliding them to represent your intended foreground and background colouring, you must aim for a 'Yes' in the bottom section of the Results box.

The American Printing House for the Blind in the United States has also developed PowerPoint guidelines for audiences that may have participants with low vision. These can be found at:

<http://www.aph.org/test/ppguide.html>