



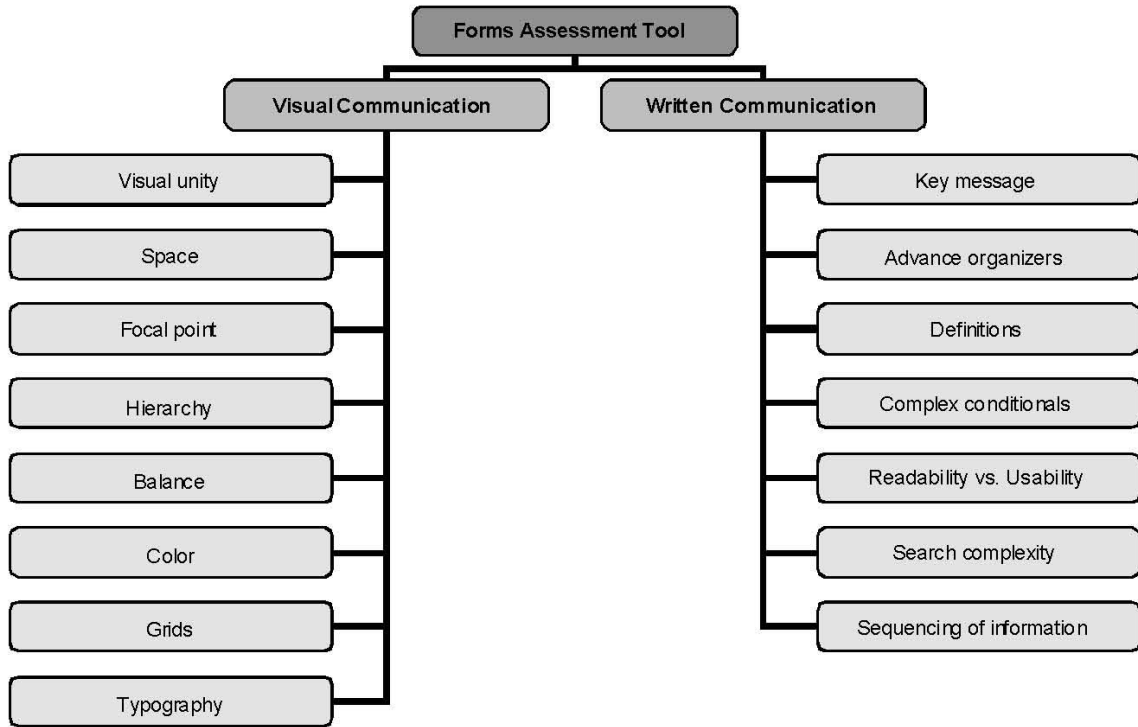
# Tips for Creating Clear, Usable Information: The Visual and Written Dialectic

Kleimann Communication Group, Inc.

## Introduction

*Two forms of communication—visual and written—work as a dialectic to inform each other—they create a balance together, and they work in concert. You cannot simply change writing without considering the design; and you cannot change the design without considering the writing. In our research, one thing is clear: creating clear, usable information is predicated on achieving a balance between the visual and the written. A successful printed product design will use visual elements to make the printed product look accessible, easy-to-complete, and unintimidating, and will also use written elements to ensure that the content is well-organized and has a clear logic structure.*

*Kleimann Communication Group, Inc. developed a series of evaluative tools to assess the presence and effectiveness of visual and written elements in a printed product. Collectively, these tools address the effective and seamless integration of both visual and written communication to produce a reader-friendly document that facilitates comprehension and action.*



The elements above—and their application to printed product design—are described in greater detail in the preceding pages.

## Visual Communication

### Visual unity: Does the printed product have a cohesive, consistent look?

Unity is the single most important concept in the visual design. All elements on a printed product should look like they belong together—nothing should seem accidental or random. As White emphasizes, “unity requires that the whole design be more important than any subgroup or individual part.”<sup>1</sup> Unity can be achieved in a number of different ways, the most critical being visual consistency. In order to have visual consistency, all visual graphics or elements—such as headers, footers, instructions, and page numbers—should be located in the same spot with the same visual prominence on different pages in a printed product. Lack of visual consistency creates a sense of chaos or disunity and may confuse the reader.

Some examples of visual unity include:

- Pagination
- Complementary colors
- Table of contents
- Headers and footers
- Consistent page layout (typeface, font size, and grid structure)
- Photographs/illustrations of similar quality (either only black and white or only colored)

### Space: Does the printed product use white space effectively?

White defines space as “emptiness” and cites it as the most overlooked element in visual design. The emptiness in two-dimensional design is called “white space.” It typically lies behind and within graphics such as type, tables, illustrations, and photographs. Although white space generally forms the background of the overall design of a printed product, it serves an important purpose: when constructed effectively, it creates a product that looks open, inviting, and accessible. Printed products can look dense and intimidating when there is not enough white space. Mismanaged white space, or lack of white space, also produces a visually noisy and confusing design.

Certain elements help manage white space. The three most important elements are margins, gutters, and the space between the textual areas. Margins are the spaces around the perimeter of a page that designers use to frame the text or live area. They do not need to be equal all around—head, foot and sides—but should be consistent from page to page. Gutter is the “space between columns

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<sup>1</sup> White, A. W. (2002). *The Elements of Graphic Design*. New York, NY: Allworth Press. 57.

of type and between facing pages of a book or magazine.”<sup>2</sup> Gutters should not be so narrow as to be mistaken for a word space, yet not so wide that they become an interruption. In general, text should have a one-pica column space. Margins and gutters make up the space that forms the background of the product. To prevent a printed product from looking crowded and intimidating, pay close attention to the use of space in a printed product. Make sure spaces are large enough to enter information and use space consistently throughout the printed product.

## Focal Point: Does the printed product have a single focal point?

Every printed product “should have a single primary visual element, known as a focal point, which dominates the designscape. Every printed product should have one obvious starting point and a clear navigational path so that readers are intuitively guided to subsequent levels of information.”<sup>3</sup> If there are competing focal points, readers then have to discover their own point of entry into the printed product, which can be tiresome and difficult. Every good design has a strong and clear focal point and having a clear contrast among elements—with one being clearly dominant—helps. Examples of visual focal points include:

- An eye-catching illustration
- Bold text
- Colored photographs that capture the reader’s attention
- A prominent logo

## Hierarchy: Does the printed product have a clear, organized, and logical hierarchy?

Effective printed product design leads the reader across the page in order of the relative significance of the content. Designers can express what is most important, less important, and least important in terms of content by having a clear organizational hierarchy in terms of design. This organizational hierarchy is based on a logic structure that orders information and questions into a sequence that makes sense for users. Designers can achieve a clear hierarchy of elements by separating the most important element on a page and grouping more closely together other less important elements.

Some techniques used to achieve organizational hierarchy include:

- Headings
- Sub-headings
- Numbered lists/lettered lists
- Bullets
- Chapter/section divisions

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<sup>2</sup> White, 137.

<sup>3</sup> White, 63.

## Balance: Is the printed product design appropriately and effectively balanced?

If a design is out of balance, the individual elements of the design will dominate the overall design. A well-balanced design has a clear, single, unified message. There are three types of balance: symmetrical, asymmetrical, and mosaic. A symmetrical balance is vertically centered and is the same on both sides. The designs are relatively static and evoke feelings of formality. Asymmetrical designs are more informal and dynamic. They have a variety of sizes and shapes on both sides of the page. Asymmetrical designs make good, calculated use of white space. They evoke feelings of action and modernity. Mosaic designs usually contain too much information. They frequently lack organizational hierarchy and may make the design look overcrowded. When designing your printed product, make sure to achieve a simple, harmonious visual balance that is appropriate for your intended audience.

## Color: Does the printed product use color effectively?

Color is useful for achieving a unified and organized design. It is, however, important to be consistent with the use of color on a page. Consistency is easier to achieve if the designer limits the use of color to a few choices. Using many colors in a single design is like using many different font types, which inevitably leads to a messy and confusing printed product. A designer should make his color choices at the beginning of the design process rather than at the end. Color, like good design in general, is not cosmetic or veneer. Color choice is fundamental. As White points out: “Color should be used in the same way that type size is used: to emphasize importance, not decorate a page.”

Color usage can help guide the viewer’s eyes through the design, as well as to emphasize and highlight elements. Color can also provide direction. For instance, to show progression, a designer might move from a lighter to darker shade of color. When it comes to color use, one thing is quite clear: the benefits of color usage quickly diminish when designers use color highlights too much or when they apply too many colors to a design.

## Grids: Is there a clear and organized grid structure in the printed product?

A grid is a pattern of regularly spaced horizontal and vertical lines that exists as the “skeleton” of a printed product. Jim Krause, author of *Design Basics Index*, defines grid structure in the following terms: “A design grid is a hidden system of guidelines, borders and columns into which elements are placed and to which they are aligned. It’s a simple and surprisingly flexible system for providing a framework for the material being presented within a brochure, booklet, etc.”<sup>4</sup> All printed products,

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<sup>4</sup> Krause, J. (2004). *Design Basics Index*. Cincinnati, OH: HOW Design Books. 93.

particularly forms, should have a clear and recognizable grid structure; without one, the printed product looks disorganized and confusing.

In general, grid structures should be consistent from page to page. A seven-column grid is universally functional because it contains many options. Overly complex grids offer so many options that the value of the grid itself becomes useless since it does not limit choices. Conversely, readers have difficulty perceiving the organization when the grid is too small. Consistency in grid structure familiarizes the reader with the layout and helps him focus on the content. It makes it easier for the reader to navigate through the printed product.

## Typography: Does the printed product use appropriate typefaces and typographic techniques?

Typography is the art and craft of designing with type. A typeface is a set of characters of a certain design bearing its own name, such as Century or Verdana. As Krause emphasizes, “typefaces give voice to words.”<sup>5</sup> In general, typefaces are one of two styles:

- **Serif:** type whose limbs end in cross strokes; usually have variation in main character stroke weight.
- **Sans serif:** type without cross strokes at the end of their limbs; usually have consistent stroke weight.

Examples of serif typefaces include the following:

- Times new roman
- Palatino linotype
- Courier new

Examples of sans serif typefaces include the following:

- Microsoft sans serif
- Arial
- Century Gothic

Like typefaces, any given printed product can have a number of different font sizes—depending on the content and the levels of organizational hierarchy in the printed product. The smallest font size in the printed product should be large enough for the intended reader. Generally, fonts with larger x-heights (the height of the lowercase letter without ascenders or descenders) are considered easier to read.

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<sup>5</sup> Krause, 231.

Other than font size, certain other typographic techniques can also be used to achieve specific effects, commonly visual prominence or emphasis. Some examples of typographic techniques include:

- Bold
- Reverse type
- Italics
- Underlining
- All caps
- Bold & italics
- Bold & underlining
- Italics & underlining
- Bold, italics & underlining

In a printed product, designers should not overuse the typographic elements listed above. Too many can lead to visual clutter and competing points of emphasis. Instead, be selective in choosing typographic techniques and use them in the same manner throughout the printed product.

Leading or line spacing also affects the way a reader interacts with the printed product. Leading is the space between lines of type that appear between the descenders of one line and the ascenders of the next. Ideally, the leading should be more than single spaced and less than double spaced. If the leading in a printed product is not adequate, the text in the printed product will look crowded. This may intimidate, confuse, and/or discourage the reader from reading or filling out the printed product.

Designers can format text in a number of ways—depending on the purpose of the printed product. Examples of ways to format text include:

- Left justified, right ragged
- Right justified, left ragged
- Right and left justified
- Centered
- Hanging indent

## Written Communication

### Key Message: Does the printed product have a prominent key message?

The key message is the single most important message in a printed product. It is the most critical point that the writer wishes to convey to the reader. In design, the key message is usually the purpose of the printed product, for example, “Fill out this form to receive health care benefits.” In general, the reader should be able to discern the key message without any difficulty and without reading all of the text in the document. A designer can increase comprehension of the key message by using graphic design elements to support it. Designers can achieve this in one of several ways: the key message could be in a different font, font size, color, or typeface. The key message may have a significantly larger font size while the rest of the text has a smaller font size. Designers might also present the key message in a separate enclosed space. It may appear in a box at the top or in a sidebar to attract the reader’s attention.

Any visual elements (illustrations, etc.) in a printed product should complement the tone of the text, especially that of the key message. For example, if a printed product is an application for a mortgage, it can contain a visual of houses, or similar imagery, which readers can conceptually link to mortgages.

### Advance organizers: Does the printed product contain advance organizers to help with users’ expectations?

An advance organizer is any information, such as an introduction, that tells readers what they are about to read. Use advance organizers to provide an overview of the document or a section and give readers a preview of the elements they are about to encounter. Advance organizers allow readers to predict what is coming, thus easing the discomfort most people feel with the unknown.<sup>6</sup>

### Definitions: Does the printed product define words that users may not understand?

One of the major problems affecting the usability of printed products is complicated or legalese vocabulary. In general, use simple words whenever possible (for example, ask instead of inquire). Sometimes—especially in instructions—technical and legal words are unavoidable. Inform readers of key terms early in the document.

Including definitions in a printed product will help people familiarize themselves with the meaning of technical terms when they need the definition. Another way to increase comprehension is to avoid technical terms or jargon that may be unfamiliar to most readers as the topic of a sentence. Instead, begin sentences from a reader’s point of view, with information they already know.

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<sup>6</sup> Schriver, K. A. (1997). *Dynamics of Document Design*. New York: John Wiley & Sons, Inc.



## Complex conditionals: Does the printed product relate complex conditionals in an understandable manner?

A conditional statement is a statement that can be expressed as an “if..., then...” statement. A conditional statement is also a sentence that can be either true or false. Use conditional statements to clarify complex situations that require readers to decide if they fit certain qualifications. Readers must determine whether the category in the “if” clause is applicable to them before they can accept the “then” clause as true.<sup>7</sup> In general, you should avoid structuring a sentence in the “(then)..., if...” format, since these are cognitively more difficult for the reader. Decisions are presented before the condition upon which that decision is based.<sup>8</sup>

Visual approaches: Tables. The use of complex conditionals is sometimes unavoidable. However, when these conditionals are necessary, using alternative methods for presenting these conditionals, beyond just straight text, can simplify the instructions. One visual way to express conditional statements is in table format, with the antecedent (if) appearing in the left column and the consequence (then) in the right column, for example,

<b>If...</b>	<b>Then...</b>
You have two or more children...	You must complete in the following section.

This format helps the readers see the entire “if..., then...” sequence and separates the two distinct portions of the statement. The heading in the table acts as a kind of advance organizer for the readers as well. The use of tables can simplify the presentation of this information.

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<sup>7</sup> Holland, V.M. (1979). Understanding complex conditional instructions. Washington, DC: American Institute for Research.

<sup>8</sup> Dixon, P. (1987). The processing of organizational and component step information in written instructions. *Journal of Memory and Language*, 26, 24–35.

## Visual Approaches: Decision Trees.

Decision trees are another visual way of presenting a series of complex conditionals. The concept of translating lengthy paragraphs into a decision tree offers a more concise and specific alternative to a text-only presentation. Research has found that the appeal of decision trees is that they reduce complex processes to a series of simple “yes/no” decisions.<sup>9</sup>

For example:

<b>Do you have children?</b>	
If yes... You must complete the following section.	If no... Please turn to the next page.

## Readability vs. Usability: Will the printed product be usable for the intended audience?

Readability formulas, when applied to a printed product, yield a reading difficulty level or a “grade” level that is intended to correlate a text’s complexity with a reader’s scholastic ability. Most or all of these formulas contain

- a vocabulary difficulty factor, usually including the length of the words in syllables or letters or the number of words not found on a list of “familiar” vocabulary<sup>10</sup>
- a sentence factor, generally defined by the number of words per sentence<sup>11</sup>

Many private and government organizations require that their internally and externally produced documents attain certain readability grade levels. This common requirement is attractive because, especially with the advances in word-processor technology, formulas are quickly and easily applied and produce easily comparable quantitative results.

<sup>9</sup> Rude, C. D. (1988). Format in instruction manuals: Application of existing research. *Journal of Business and Technical Communication*, 2(1), 63–77.

<sup>10</sup> Anderson, R. C. & Davidson, A. (1988). Conceptual and empirical bases of readability formulas. In A. Davidson & G. M. Green (Eds.), *Linguistic complexity and text comprehension: Readability issues reconsidered* (pp. 26–49). Hillsdale, NJ: Lawrence Erlbaum Associates.

<sup>11</sup> Stephens, C. (2000). Everything you ever wanted to know about readability tests but were afraid to ask. Plain Language Center. Retrieved August 22, 2006, from [www.Gopdg.com/plainlanguage/readability.html](http://www.Gopdg.com/plainlanguage/readability.html).

However, the use of readability formulas are problematic for two reasons. The first problem with readability formulas is that their use often results in simply writing to the formula. Formula developers and critics alike agree that the formulas were never intended as guidelines for rewrites. In fact, edits made strictly along the main principles of the formulas may actually lower the comprehensibility of the text.

The second problem with readability formulas is that lengthy sentences and unfamiliar vocabulary—the heart of the formulas—are solely surface characteristics. They may have correlations to reading difficulty, but they are not necessarily causes.<sup>12</sup> They also ignore many other factors that affect the reading process, such as the layout and structure of the text as well as readers' knowledge of the text and their interest and motivation in reading. At most, readability formulas can serve as a warning flag that something is wrong. However, they do not tell you what is wrong or how to fix it. The most powerful and rigorous approach to this type of data collection is usability testing. Usability ensures that people who use the product can do so quickly and easily to accomplish their own tasks. Usability is gauged through testing, where real users are asked to complete real tasks.

This testing must allow individual taxpayers to use the instructions to complete a part of the printed product. Dumas and Redish explain that usability means “the people who use a product can do so quickly and easily to accomplish their own tasks.” This definition has many elements in common with that of functional literacy, suggesting that usability is, in fact, the element in a document that allows it to be functional across populations. Usability testing asks representative samples of a document's target audience to complete actual tasks. By observing and recording these interactions, the testers can pinpoint actual areas where real readers had problems with the document, and address these problems. The advantage of usability testing over readability formulas is that it goes one step further, identifying issues readers actually encounter with the various elements of a document, rather than using just the text of the document to anticipate where problems might occur.

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<sup>12</sup> Redish, J. C. (2000). Readability formulas have even more limitations than Klare discusses. *ACM Journal of Computer Documentation*, 24(3), 132–137.

## Search complexity: Does the printed product minimize the number of times users are required to switch between sections?

Search complexity refers to the level of split-attention effect (reading and acting) induced by the switching activity to match and perform instructions presented in various locations in a printed product.<sup>13</sup>

Reduce search complexity so that readers don't have to process too much information in one task. Instructions often direct readers to refer to places outside the immediate topic section they are working on, either to other sections of the printed product or to external sources. This switching process—from form to instructions and then to various places within and outside the instructions booklet—imposes a heavy cognitive burden on readers. Readers must split their attention and integrate multiple sources of information in order to complete a single task.<sup>14</sup> Research has shown that readers take less time to execute instructions and make fewer errors when instructions are presented step by step rather than in chunks (a step requiring the reader to switch back and forth and perform several actions within one step).<sup>15</sup>

## Sequencing of information: Is the information in the printed product sequenced in a logical order?

Sequencing of information is the logical order in which information is presented in a document that best allows readers to understand it. To be able to use a document effectively, readers must understand the connections between the different types of information in that document. In designing a printed product, you must meet expectations of a logical order. Readers will comprehend connections between different types of information much more easily and better comprehend the overall tasks if the information is structured in a logical sequence.<sup>16</sup> Although what a “logical” sequence is will vary somewhat by the type of document, it generally means grouping like information and, especially in terms of instructions, reinforcing the sequence readers should follow.

Readers may become confused if these words are presented in an order different from that in which the task is to be accomplished. Instead of saying “Mail this form to the following address when you have completed Sections 1, 2, and 3” say, “Complete Sections 1, 2, and 3 and mail the form to the following address.”

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<sup>13</sup> Ganier, F. (2004). Factors affecting the processing of procedural instructions: Implications for document design. *IEEE Transactions on Professional Communication*, 47(1), 15–26.

<sup>14</sup> Duggan, G.B. and Payne, S.J. (2001). Interleaving reading and acting while following procedural instructions. *Journal of Experimental Psychology: Applied*, 7(4), 297–307.

<sup>15</sup> Glover, J.A., Harvey, A.L., and Corkill, A.J. (1988). Remembering written instructions: Tab a goes into slot C, or does it? *British Journal of Educational Psychology*, 58(2), 191–200.

<sup>16</sup> Felker, D.B., Pickering, F., Charrow, V.R., Holland, V.M. & Redish, J.C. (1981) *Guidelines for Document Design*. Washington, DC: American Institute for Research.

## Conclusion

When assessing your design, ask yourself the following questions:

- Does the printed product have a cohesive, consistent look?
- Does the printed product use white space effectively?
- Does the printed product have a single focal point?
- Does the printed product have a clear, organized, and logical hierarchy?
- Is the printed product design appropriately and effectively balanced?
- Does the printed product use color effectively?
- Is there a clear and organized grid structure in the printed product?
- Does the printed product use appropriate typefaces and typographic techniques?
- Does the printed product have a prominent key message?
- Does the printed product contain advance organizers to help with users' expectations?
- Does the printed product define words that users may not understand?
- Does the printed product relate complex conditionals in an understandable manner?
- Will the printed product be usable for the intended audience?
- Does the printed product minimize the number of times users are required to switch between sections?
- Is the information in the printed product sequenced in a logical order?

Assessing a printed product based on visual and written elements can illuminate weaknesses in the design and potential barriers to communication. The user must be actively engaged by visual stimulation in the design and led through the task of completion in a clear and organized manner. Designers must use an arsenal of content and design elements to facilitate user comprehension and pave the way for the successful completion of a printed product.