7. Affordances

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Definition and Background

Technical communicators and designers are attuned to the qualities of media and technology that support communication. Adopted from the field of psychology, the notion of affordance is used frequently in design and human-technology interaction and commonly refers to "advantageous possibilities for use" when speaking about objects and technologies. James J. Gibson (1977), who coined the term, described affordances as qualities of an environment that "offer," "provide," or "furnish" outcomes for an individual. In other words, affordances are the real or perceived qualities of things that make them useful. For example, a standard No. 2 pencil affords writing because its graphite core leaves marks when rubbed on paper. It also affords being gripped in the left or right hand because of its appropriate size and long, skinny shape. It affords erasing mistakes because of the eraser attached to one end. These affordances are obvious to most No. 2 pencil users, but the pencil has less obvious affordances as well. For instance, it also affords writing with the foot, as it can be gripped between the toes.

Design thinkers and practitioners leverage the notion of affordance to create solutions that correspond with user needs and expectations, based on the users' present and past experiences and abilities. Effective use of affordance can promote optimal ***usability***—users will mentally map the possible actions in a designed object (what it *can do*) using their existing mental model informed by prior experiences (what the object *should do*). A clear match between the expected affordance and actual feature of an object would result in good user experience.

One of the major scholarly debates surrounding affordances has centered around whether or not affordances are real, material qualities of objects and environments, or instead perceptions an individual has about objects and environments. Don Norman (1999) describes "perceived affordance" as a quality of usefulness recognized by a user regardless of whether or not the affordance actually exists. Norman's example is a user believing they can use a touchscreen when the screen in question doesn't have touchscreen capabilities. Perceived affordances are an essential factor in any situation where an object, tool, or technology is being designed for use because if a user cannot correctly identify the affordances of the thing they are using, then the design is likely to fail, even if it technically works. For instance, if a user has never seen or used an eraser before, the erasing affordance of the No. 2 pencil won't matter very much.

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Design Application

While it might be tempting to say that the perception of affordances is the only thing that matters, Ian Hutchby (2001) argues it is important to recognize that perceived affordances are still based on real, material qualities. Through experience, these real affordances influence what users will recognize in the future about the things they use and their subsequent usability. Once someone has used a pencil eraser's physical properties to erase pencil markings, they may recognize a similar affordance in a standalone eraser, even if they have never used one before. In this way, affordances can be seen as real qualities of objects or environments and not only perceived by individuals.

For technical communicators and designers of user interfaces, this means paying attention to the implicit and explicit material qualities of their design in order to optimize the benefits of certain affordances as well as ***constraints***. Strategic use of affordances can prompt appropriate user behavior and lead to positive user experience. For example, lines, as a graphic element, can afford categorization of content on a page (by creating sections) as well as a visual cue that guides the eyes and facilitates reading. When applied aptly, this simple element can invoke good usability and positive user experience (see Figure 7.1).

Additionally, being cognizant of affordances can help designers and communicators identify constraints or limitations of their design and thus increase empathy for users.

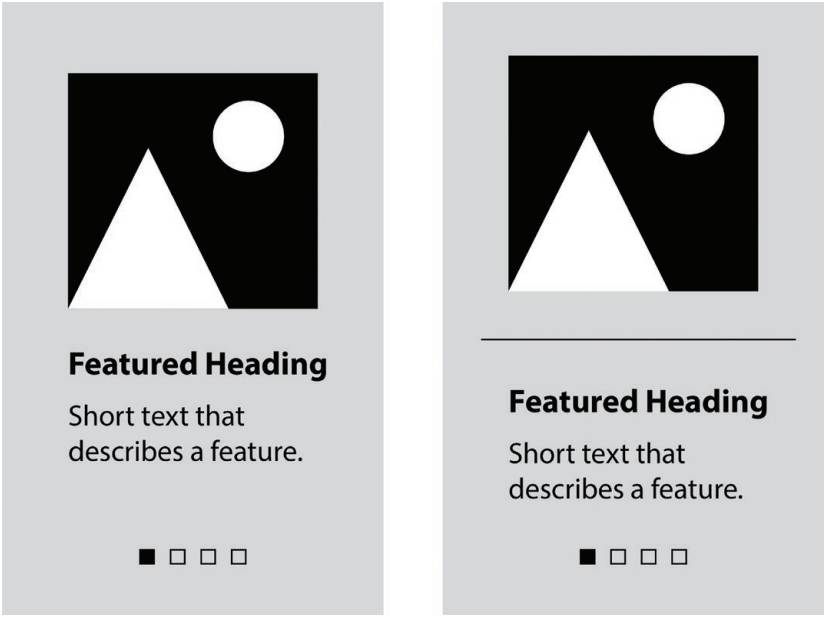

Figure 7.1. A sample use of lines in interface design to afford categorization. Image created by Tham, adapted from UX Movement, 2016, https://tinyurl.com/54yuzpwd.

Pedagogical Integration

Understanding of affordances can lead to more thoughtful and effective practices. Instructors who teach design rhetorically can adopt this understanding to promote students' attentiveness to qualities of media and technology that facilitate use and implication. A pedagogical exercise may be assessing the affordances of a conventional office chair. Students assigned to examine the design of the chair from the affordance perspective might find multiple uses beyond the traditional purpose (i.e., sitting), due to the shape, weight, and other material features that the chair offers (e.g., a sturdy chair may also be used as a step-up tool). Using a physical object in this pedagogical exercise, instead of a complex web interface, can help students focus on understanding the concept of affordances.

For a larger project, students may perform a design analysis of a website or mobile application with an eye toward specific interface design elements (e.g., lines, alignment, colors, typography, contrast, repetition, icons, etc.) to explicate the affordances of the selected elements. After the analysis, students may conduct secondary research on the historical and social forces that influence the use of the specific elements in digital design. Finally, students can make recommendations for design improvements based on their findings in the first and second part of the project.

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