

UNIVERSAL DESIGN FOR PLAY PRINCIPLES

The Let's Play! & Let's Participate! Projects promote the concept of Universal Design (UD) for play where toys are designed from the beginning to offer the same level of appeal, access, support and engagement to all users. Toys and other play materials with UD features can be used by all children playing together, including those with sensory (vision, hearing), cognitive (thinking, planning) and/or physical (fine or gross motor) disabilities. The social aspect of play is demonstrated through the toy's appeal, its usability and potential to engage the child, whether used alone or with other toys and children. With attention to all of these features, It follows that toys designed for all children represent the best in toy design.

To begin to understand how UD can be applied to the design of toys the seven principles of UD developed at North Carolina University were examined to identify parallel universal toy features. Because play results from the child's engagement with a toy in multiple ways, the CAST (2002) multi-modal framework for learning was embedded to arrive at the following six principles. Together they reflect the flexible, adaptable nature of accessible toy design and highlight features that amplify a child's abilities to promote play engagement and learning.

| UDP Principle | Principle Definition | Design Applied to Toys | Toy example |
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| 1. THE TOY IS APPEALING <i>Perceptible Information</i> | <i>The design appeals to children's sensory (sound, vision, touch) abilities & preferences. The design communicates necessary information effectively, regardless of the user's sensory abilities.</i> | Use multiple modes (visual, sound and texture) to highlight access and differentiate responses. |  |



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| <p>2. HOW TO PLAY WITH THE TOY IS CLEAR</p> <p><i>Simple + Intuitive Use</i></p> | <p><i>A simple design makes a toy's use easy to understand regardless of the user's experience, knowledge, language skills, or current concentration level.</i></p> | <p>Non-complex, intuitive designs are best; e.g. well defined access areas with consistent responses. Controls should be obvious and accessible.</p> |  |
| <p>3. THE TOY IS EASY TO USE</p> <p><i>Equitable Use</i></p> <p><i>Low Physical Effort</i></p> | <p><i>All children can use equivalent ways for playing with the toy. Physical effort is minimized. The design is useful and marketable to children with diverse abilities. The design can be used efficiently and comfortably with a minimum of fatigue.</i></p> | <p>All children should use the same/equivalent means of access when playing with the toy. The access and output features of the toy should appeal to a variety of interests and needs of all children. Physical effort should be minimized with light to moderate force for operation. A variety of motions can be used to access toys (e.g. bat, press, drop, or bang).</p> |  |

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| <p>4. THE TOY IS ADJUSTABLE</p> <p><i>Flexible Use</i></p> <p><i>Size and Space for Approach and Use</i></p> | <p><i>A variety of actions can be used to play with the toy. It can be used in different positions; the toy can adjust to the child. The design accommodates a wide range of individual preferences and abilities. Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.</i></p> | <p>The toy includes adaptable features for a range of users. Output is varied; e.g. light + sound, vibration + sound, etc. or output can be controlled; e.g. volume + light control, height, etc.</p> <p>Toy can be used in a variety of positions (sitting, standing, playing on the floor or on a supporting surface). Toys with flat bottoms are most stable. Buttons, levers, etc. are positioned appropriately for reach.</p> |  |
| <p>5. THE TOY PROMOTES DEVELOPMENT</p> | <p><i>The toy is interesting to the child. It is easy to use yet encourages exploration and discovery. It is challenging and fun!</i></p> | <p>The toy encourages imagination and social play. It promotes discovering new ways to play (i.e. cause/effect, building, pretending) and stimulates physical or mental activity.</p> |  |

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| 6. THE TOY CAN BE PLAYED WITH IN DIFFERENT WAYS | <i>The toy appeals to children at varying play stages and abilities. It promotes use for more than one purpose.</i> | Toy appeals to individuals at varying age + developmental levels . It is appropriate for several ages. The toy promotes use in more than one way (e.g. bug jar can be a shape bucket, a “pool” for dolls, a “purse” or “tool box”. |  |

The practice of design involves the consideration of economic, engineering, cultural, gender, disability and environmental concerns. Designers must work to integrate features that meet the needs of as many users as possible.

References

The Center for Universal Design (1997). *The Principles of Universal Design, Version 2.0*. Raleigh, NC: North Carolina State University.

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