

Preschoolers and Digital Media



Keeley Abbott, Malcolm Diller, Shashank Moghe, and Chengxi
Yang

Childhood Needs

[1] Antle, Alissa. (2008)

Theme 1:

- *Balance love and security with independence*

Theme 2:

- *Positive social relationships*

Theme 3:

- *Need for mastery in learning*

Theme 4:

- *Need for power and control*



Physical Development

[2] Santrock, J. W. (2015).

Gross Motor Skills



Chengxi Yang

Fine Motor Skills



Cognitive Development

[2] Santrock, J. W. (2015).

Preoperational reasoning

- *Egocentrism*
- *Animism*
- *Centration*
- *Irreversibility*



Cognitive Development

[2] Santrock, J. W. (2015).



Keeley Abbott

Information Processing Perspective

- *Attention*
- *Memory*
- *Theory of Mind*
- *Metacognition*

Physical Development: Design Impact

- *Touch screens*
- *Alternative keyboards*
- *Trackballs*
- *Switches*
- *Assistive Touch*

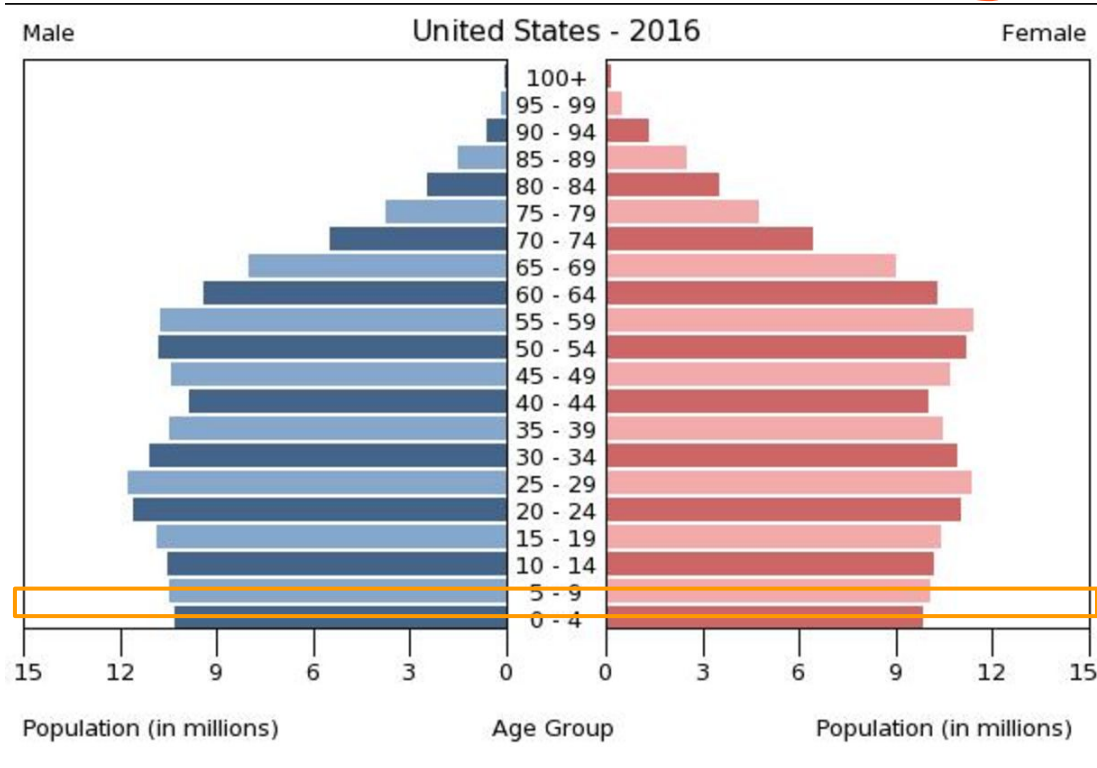


Cognitive Development: Design Impact

- *Limited Vocabulary*
- *During this age, Children are able to represent objects with shapes and words.*
- *Imagination and hand/eye co-ordination*
- *Learn through imitations and play during this stage*
- *J. Piaget -- “Little Scientist”*



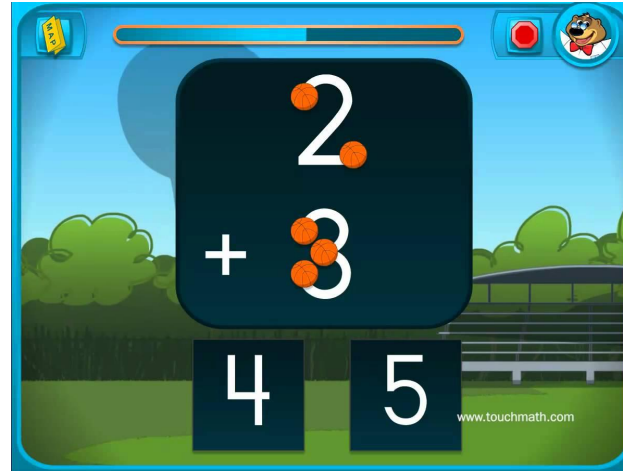
People affected by being a preschooler



About 21 million children in the US are between the ages of 2 and 6 (are preschoolers).

Design Decisions

- *Products must be designed in such a way that the users cannot hurt themselves with them by accident*
- *A product must not involve too much higher order thinking*
- *There should be a minimal amount of text involved in using the product*
- *It should be very easy to perform any setup operations that the product requires*



Design Decisions: Software

- *Buttons and other clickable object should be very easily identifiable as clickable*
- *There should not be too many options on the screen*
- *Directions should be shown graphically instead of words*
- *Audio and visual feedback after performing actions is extremely useful for the user to understand what is happening*
- *Menus should be very simple and the main action button should be the largest and most noticeable one.*



References

- [1] Antle, Alissa. (2008). *Child-based personas: Need, ability and experience*. Cognition, Technology & Work. 10. 155--166.
- [2] Santrock, J. W. (2015). Physical and Cognitive Development in Early Childhood (pp. 197--231). *In Life-span Development*.
- [3] Pacer Center. (2014). <http://www.pacer.org/parent/php/PHP-c70.pdf>
- [4] Takeuchi, L. M. (2017). Families matter: Designing media for a digital age. New York: The Joan Ganz Cooney Center at Sesame Workshop.
- [5] Wikipedia US Population. (2017). <https://commons.wikimedia.org/wiki/File:USpop2010.svg>
- [6] Becky White. (2016). [Designing For Kids Is Not Child's Play](#)

Questions

