**Figure 1. Phases of Development and Research**

This paper describes the iterative research and development process used by the Next Generation Preschool Math project, which integrates content analysis, logic model processes, and iterative design and research approaches. An innovative aspect of this process is the inclusion of an adapted version of evidence-centered design—an approach traditionally used to create assessments—to align the mathematical goals with the design of instructional materials as well as with the assessment.

We created a curriculum supplement that:

- promotes children's understanding of subitizing and equipartitioning;
- uses interactive media on touch-screen tablets;
- integrates new multi-touch activities with existing hands-on activities;
- enhances opportunities for learning with interactive media through shared use with adult guides and peers; and
- provides professional and technical support materials for preschool educators.

**Design Principles for Young Children's Games**

NGPM provides both a design process and design principles for developing educational games for young children. A number of design principles for media designers were documented throughout the development process, beginning with the initial literature review. Many of these principles resulted from formative research on the game prototypes, including direct observations of children's gameplay and interviews.

1. Multiple opportunities to learn across games.
2. Multiple opportunities to learn within a game.
3. Carefully select visual objects.
4. Limit audio cues.
5. Provide opportunities to learn the game mechanics.
6. Consider the impact of game mechanics on pace.
7. Allow touch responses with a wide range.
8. Carefully select feedback.
9. Selectively integrate physical movement into games.
10. Level games to match children's growing competence.
11. Provide compelling game context.

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