



Scientific INQuiry Learning using Social Media

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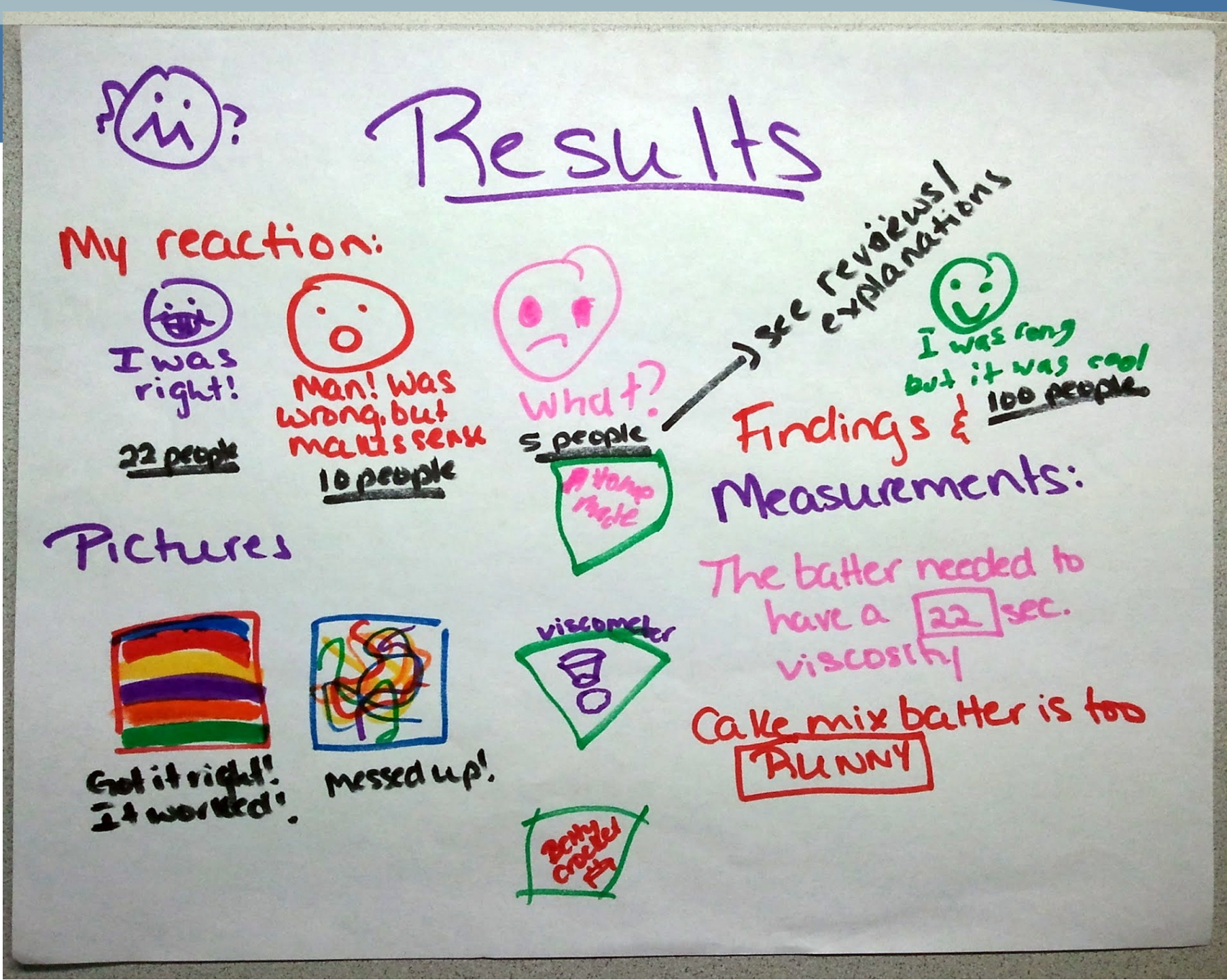
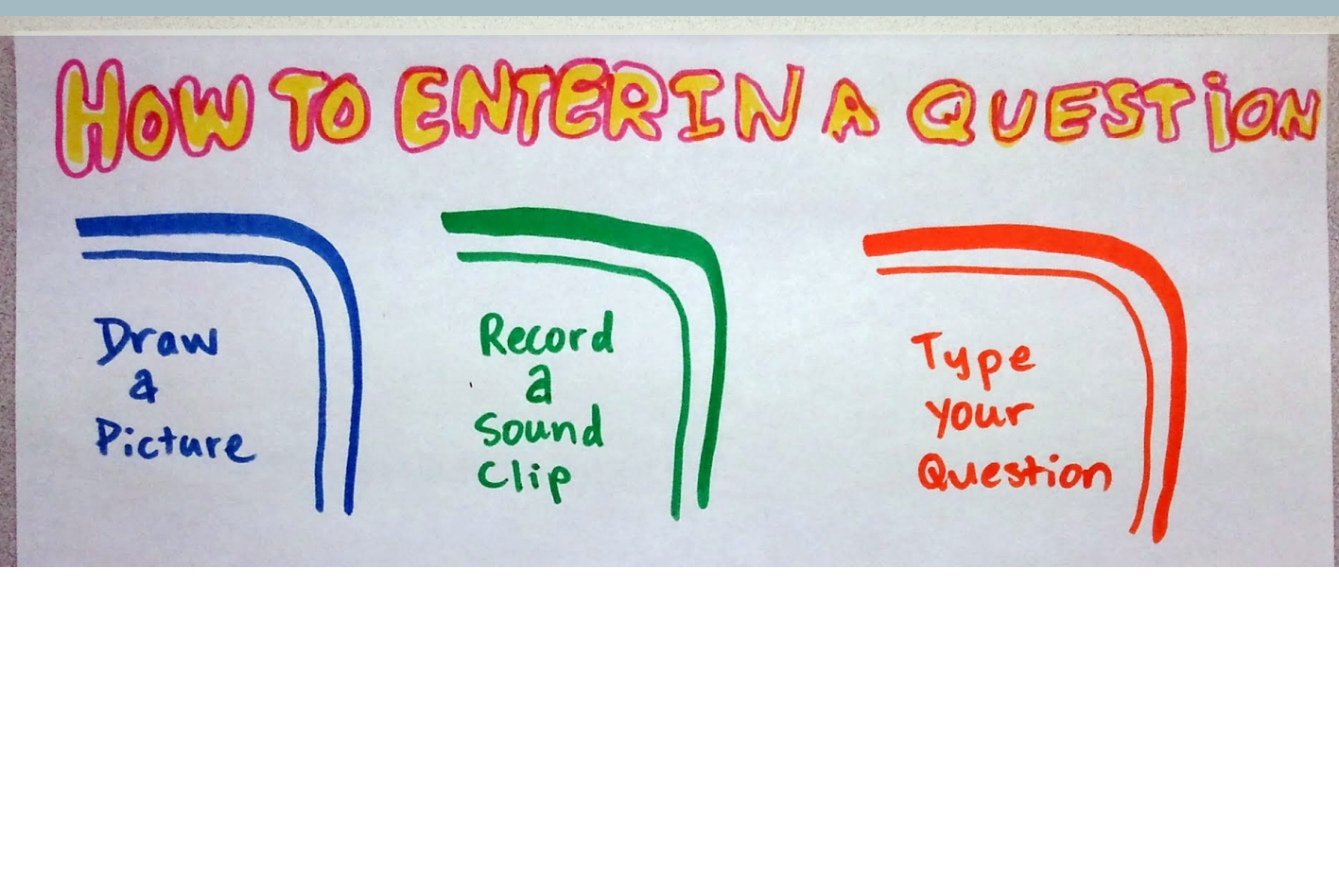
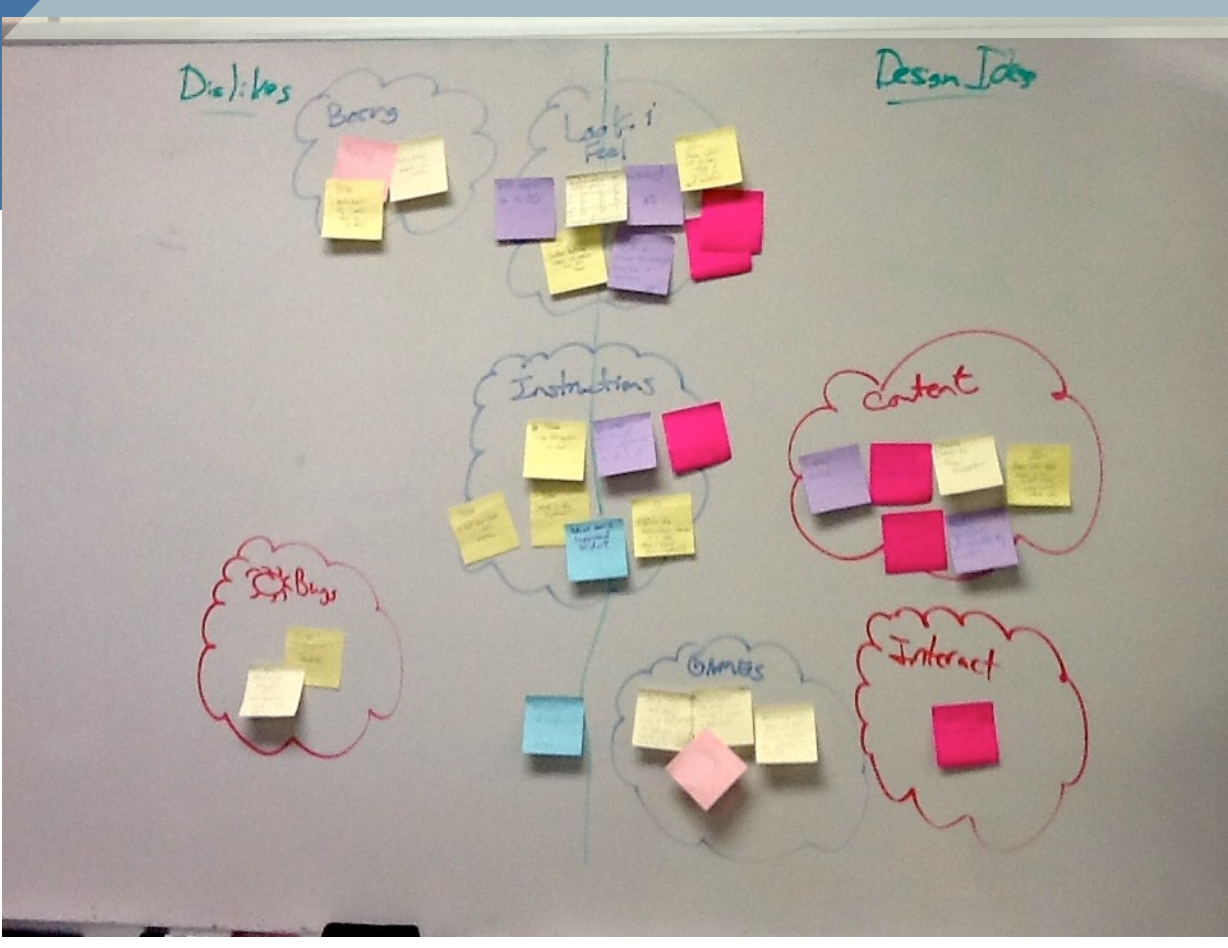
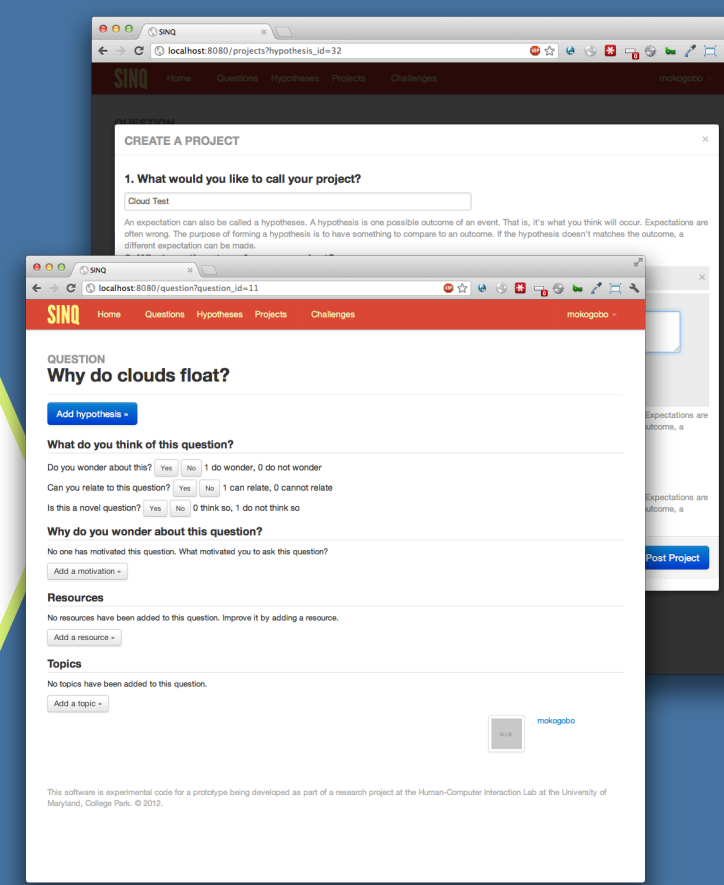
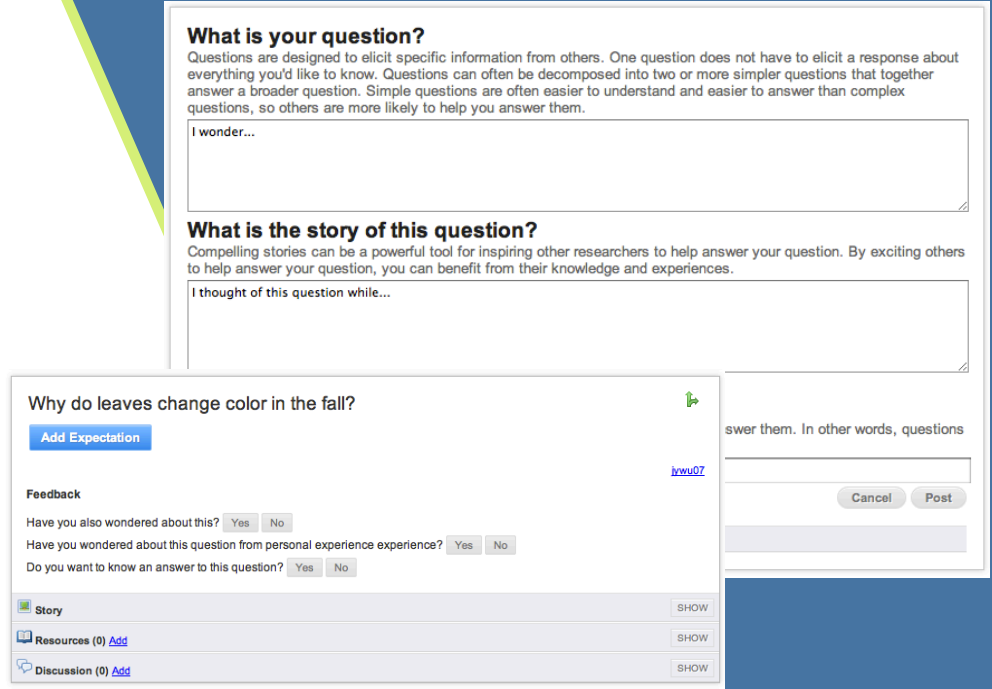
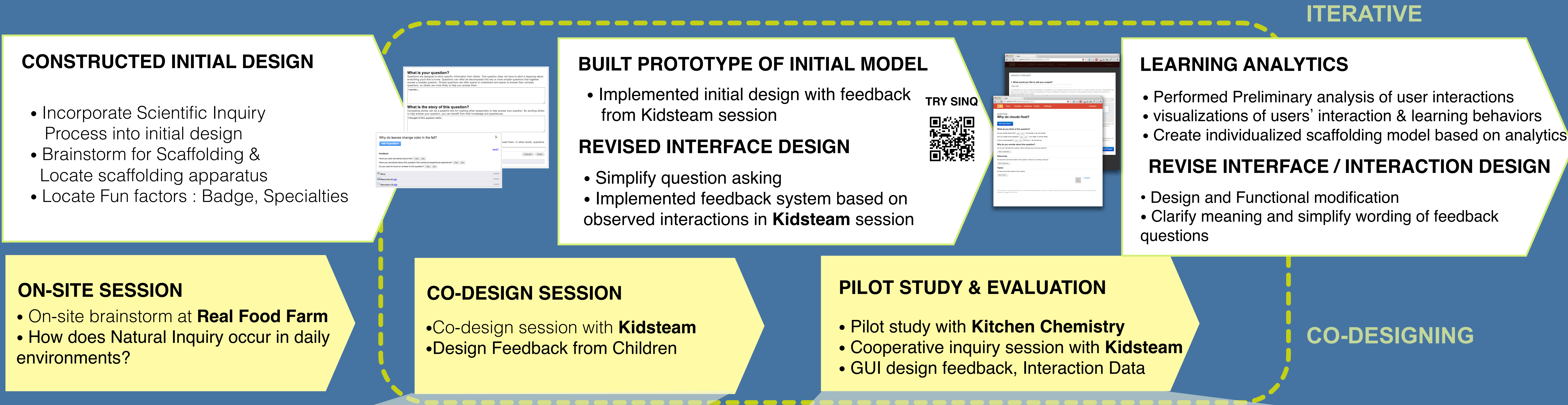
Purpose of Research

We are exploring the design of scaffolding techniques for learning scientific inquiry skills in online communities. Our emphasis is on social scaffolding and learning analytics. Toward this end, we have prototyped *SINQ*, a web application that implements a model of scientific inquiry and provides scaffolding to users as they engage in the inquiry process. We have employed iterative and cooperative design techniques to explore interaction and interface designs that support social scaffolding. Our model of inquiry exercises skills for generating questions, constructing explanations, assessing available sources of information to inform one’s observations, testing hypotheses, and interpreting data or results.

Design Considerations

- To capture young people’s *natural questions as they occur in the world*
- To *aggregate the distributed, social participation of participants* in ways that scaffolds learning about scientific inquiry practices
- *To support incremental contributions* that scaffold steps of scientific inquiry
- *To cultivate various social vetting mechanism* based on feedback received from reflections prompts

Design process of SINQ



On-site brainstorming at Real Food Farm with regular volunteers (Left)
We conducted a co-design session with children using low-tech prototyping strategies. We asked the children to pose questions and hypotheses about anything they wondered about in the world (Middle), vote for questions to pursue further, and provide their reasons for voting for particular questions (Right). The session lead to design insights about characteristics of questions that were popular with the group.