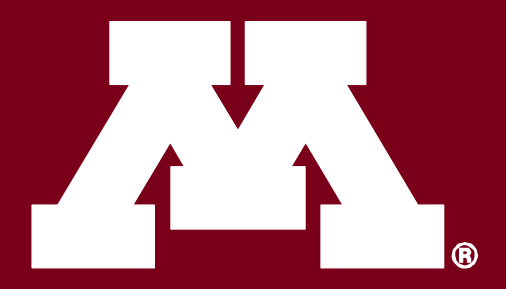


Front-end Study of User Preferences to Guide the Design of One Extension Website

Sarah H. Shimek, MEd¹ Nathan Meyer, MEd² Julie Ernst, PhD³



UNIVERSITY OF MINNESOTA
EXTENSION

Introduction

Extension programs are increasingly investing in interactive websites. Front-end assessment of user preferences is one approach that Extension staff can employ to ensure usability of these websites.

The University of Minnesota Extension *Driven to Discover: Authentic Inquiry through Citizen Science* (D2D) project conducted structured interviews to assess preferences for a website, which aims to strengthen authentic inquiry for youth.

Background

- D2D involves middle school students in conducting scientific investigations through participation with Adult Leaders in citizen science.
- Project website will connect adult leaders and youth with scientists to support investigations, and educate about facilitating and doing inquiry (Fig 4).

Study Method

- Interviews with purposeful sample of potential Adult Leaders to explore internet use, preferred resources about inquiry, and reactions to website plans.
- Online video orientation for subjects to the project and plans.
- Inductive analysis (Fig 1).
- Photographs of subjects' preferred websites.

Key Results

Interview subjects included 3 school and 6 informal science teachers from the Duluth, MN area. Most use online and hard-copy resources to support inquiry. Their discussion generally focused on observation, questioning, and reflection stages of inquiry.

- **Purpose** Subjects reacted positively to the purpose of the site, especially connecting with scientists. *"But I think what would make it unique is that interactive component. Someone is there to answer your questions."*

- **Mechanics** They envisioned practical site elements like SmartBoard compatible lessons, mapping applications, networking, search features and places for youth to insert and share data (Fig 2, Fig 5).

- **Design** Subjects suggested a site design that is easy to navigate, updated often & visually appealing (Fig 3).

- **Networking** They encouraged use of existing networks like Facebook, rather than networking within the site.

- **Barriers** Subjects identified barriers to use like accessing the site while outdoors with youth. *"...I'm an outdoor educator and the agency that I work for, we don't have computers, we don't have iPads, we don't have things to use in the field with the students or even when we come back in to use with the students."*

Website Recommendations

Summary recommendations include:

1. Define the inquiry process and how steps fit together.
2. Include background for citizen science projects.
3. Facilitate connections with scientists - social networking should *not* be the focus.
4. Support youth in sharing research.
5. Support mentorship between new and experienced Adult Leaders.
6. Keep design simple and organized.
7. Incorporate specific entry points for different users.
8. Update and maintain site frequently.

Implications for Extension Programs

Structured interview with target audiences is an effective method for front-end assessment of interactive websites. It helps to focus limited development resources.

To make the most of short interviews, provide a site plan to which subjects can react. Offer a short online video to introduce subjects to the context and plan for the website. Conduct interviews at a computer in order to capture websites and elements that subjects like/dislike.

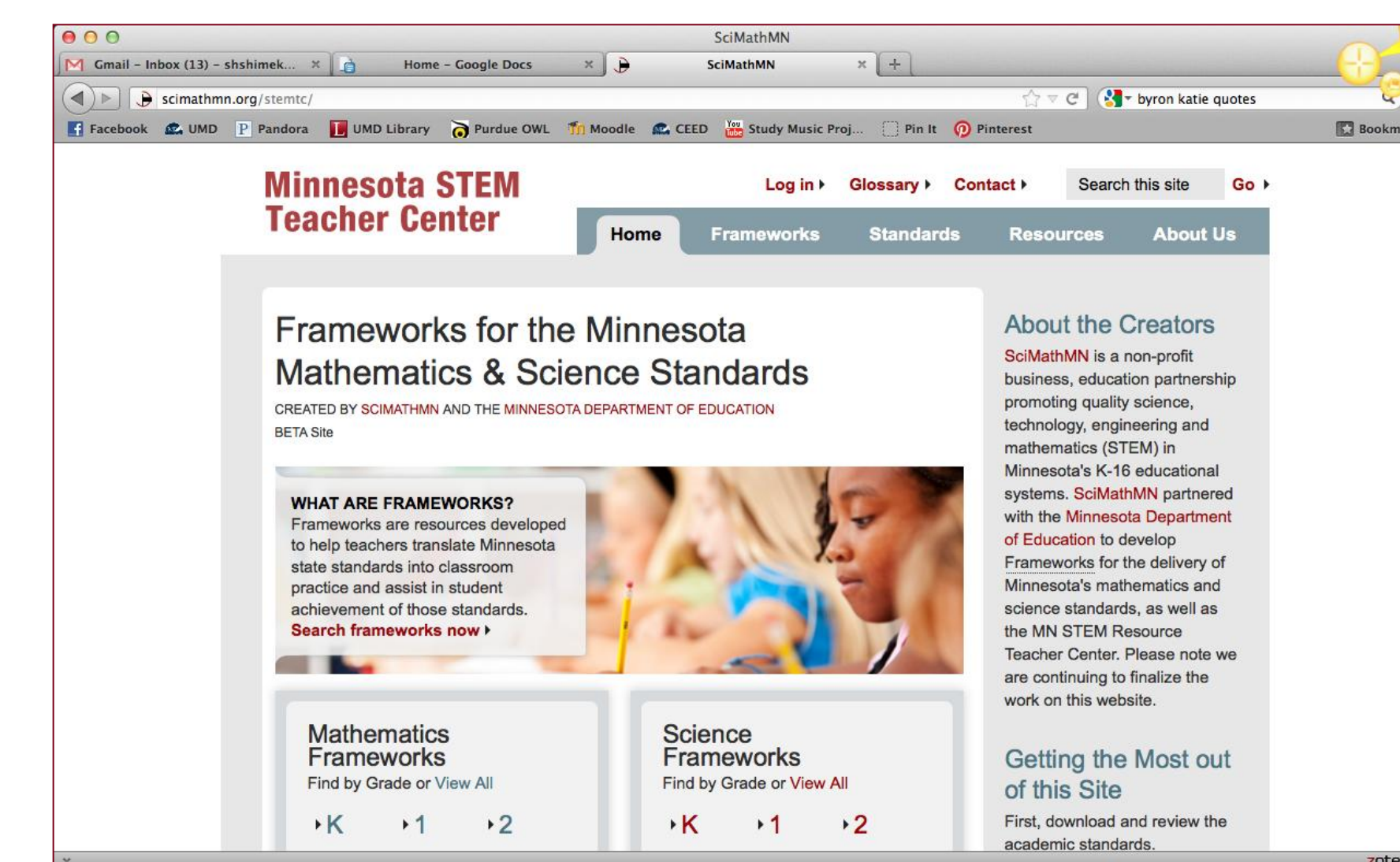


Figure 2. Screen capture of scimathmn.org/stemtc. Website suggested by a subject as an exemplary resource. "I'm using the Minnesota State Department of Education resource referred to as Frameworks and STEM. Oh my gosh, it is chock full of fabulous, fabulous things. And it's, the only thing that I've tapped into is the science and math and the technology part of it is the fact that they provide websites."



Figure 3. Screen capture of www.lakesuperiorstreams.org. Website suggested by a subject as an exemplary resource that could be more user-friendly. "I don't think it's as user-friendly as it could be, although they've done a ton of work on it and gotten awards and like...so they have data and live streaming data and resources for citizen science.... But I, I would organize the information differently to get to where I want to go."

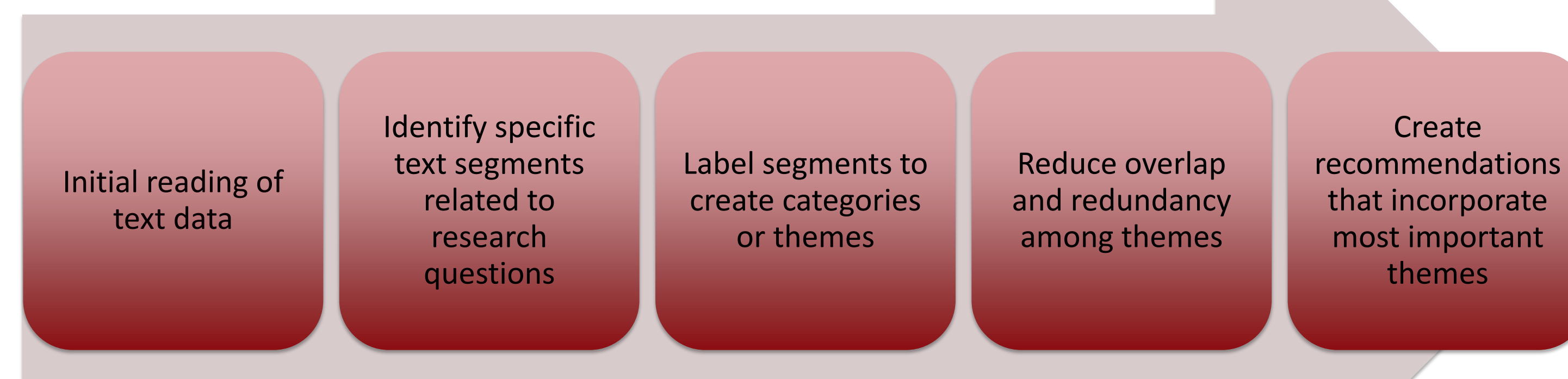


Figure 1 – The Inductive Analysis process, adapted from Thomas (2006, p. 242, Table 2).

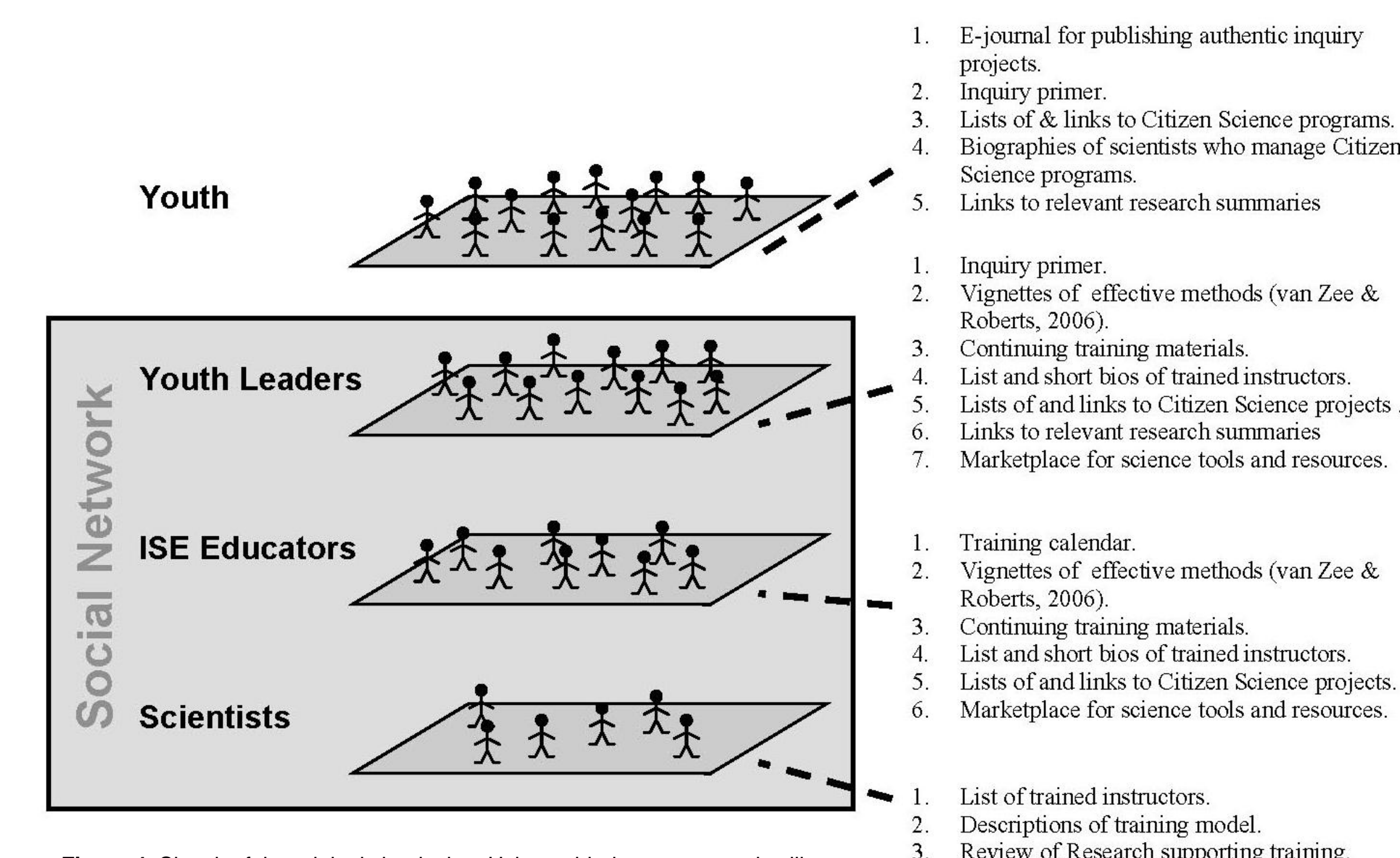


Figure 4. Sketch of the original site design. Using guided prompts, youth will be able to share their investigations through an online authentic inquiry journal. The site will provide continuing education support for instructors and adult leaders through video "snapshots of practice" (van Zee & Roberts 2006). Leaders can ask questions of others in the network.

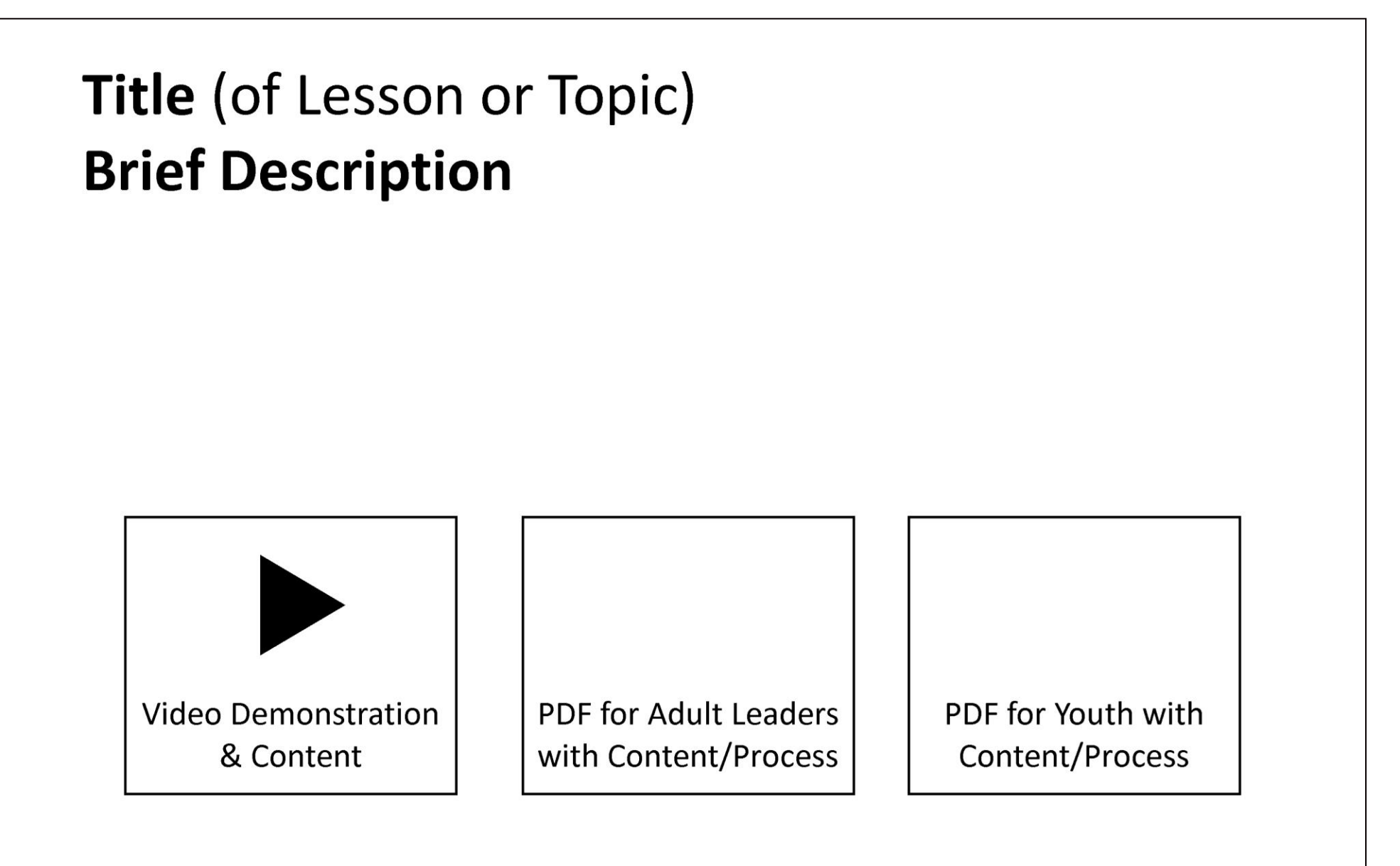


Figure 5. Diagram of potential website design for a lesson plan element adapted from sketch by one interview subject.

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AUTHORS: 1. Sarah H. Shimek, River Bend Nature Center, shimek@rbnc.org
2. Nathan J. Meyer, University of Minnesota Extension, meyer173@umn.edu
3. Julie A. Ernst, University of Minnesota Duluth, jernst@d.umn.edu