

The Ohio State University College of Education (OSU), the National Middle School Association (NMSA), and Education Development Center (EDC) are developing the NSDL's Middle School Portal 2: Math and Science Pathways project. The goal of MSP2 is to provide a stewardship role for middle level educators of mathematics and science, by expanding the existing *NSDL Middle School Portal* to support middle school educators and youth by creating the Math and Science Middle School Pathways Portal, or MSP2. While continuing to create and offer contextualized, high-quality resources, MSP2 will also capitalize on Web 2.0 tools to promote interactivity, collaboration, and knowledge sharing among its users. The project began on September 1st 2008. As such, this annual report represents 8 calendar months of project activity (through April 30th 2009).

PROJECT PARTICIPANTS

What people have worked on your project?

The following individuals were responsible for the tasks outlined below:

Kimberly Lightle, Lead PI, OSU:

- Collaborated, with coPIs, in design and facilitation of project launch meeting
- Collaborated, with coPIs, in design of Advisory Board meeting
- Conference call each week with coPIs and monthly all staff conference call
- Supervised all OSU staff related to the content, NING, and Web 2.0 integration and development
- Writes Explore in Depth (EID) publications and blog posts
- Represents the MSP2 Pathway on all Pathways calls
- Presented web seminars for NSDL and MSP2
- Leads monthly TappedIn chats
- Participate on the MSP2 social network (look, feel, member welcome, comments, discussions, blog)
- Gather and analyze all web metrics regarding all online aspects of the MSP2 project
- Work with OSU Office of Responsible Research Practices to get all IRB approvals

Other OSU staff and their responsibilities:

Jessica Fries-Gaither

- Wrote posts for the Exemplary Resources for Middle School Math and Science and Connecting News blogs
- Presented a web seminar: Global Warming and the Polar Regions
- Created Google calendar and facilitated creation of email groups for internal project communication
- Participated in the Advisory Board Meeting and subsequent follow up activities

Mary LeFever

- Writes the Connecting News blog

Terese Herrera

- Writes for the Exemplary Middle School Math and Science blog
- Writes Explore In Depth publications
- Updates Explore in Depth wiki pages
- Presented a web seminar - Using Online Math Resources in an Offline Classroom

Carolyn Hamilton

- Participated in the Advisory Board Meeting and subsequent follow up activities
- Edits all blog posts and Explore in Depth publications
- Reviewed and updated Explore in Depth wiki pages

Dustin Perzanowski

- Built the NING social network (<http://msteacher2.org>) and continues to work with PI to add functionality
- Updating the Middle School Portal website with a new homepage, science and math pathways pages
- Converted all the static Explore in Depth pages into wiki pages

Fawn Winterwood

- Supervises all web development work
- Collaborated on the design of the social network and updating the Middle School Portal website

Margaux Baldrige

- Designed all the graphics, logos, and banners for the social network and Middle School Portal website

Sarita Pillai, Co-PI, EDC

- Collaborated, with PIs, in design and facilitation of project launch meeting
- Collaborated, with PIs, in design of Advisory Board meeting
- Supervised EDC team on all tasks related to Virtual Learning Experiences (VLE) development, including
- Preliminary lit review on user-centered design, contextual design or inquiry, participatory design, cooperative inquiry, informant design, and learner-centered design
- Protocol development (youth/educator surveys and focus groups) and IRB process
- Design team planning - identifying venue, recruiting participants, drafting Memorandum of Understanding with SETC (youth VLE design partner site), curriculum development
- With PIs, also responsible for budget management, annual report preparation, project outreach and dissemination, and sustainability planning

Other EDC Staff and their responsibilities:

Kim Lucas

- Designed and secured IRB approval of youth and educator surveys (surveymonkey.com)
- Designed IRB approval and implementation of youth focus group (EDC)
- Designed IRB approval and implementation of educator focus group (NSTA)
- Secured IRB approval of youth design team documents and curriculum
- Responsible for all data analysis of survey and focus group activity
- Assisted with development of web design team activities and implementation

Alice Mello

- Conducted literature review on youth/learned centered technology design, participatory web development
- Established contact South End Technology Center (youth design team partner site)
- Researched on-line tools to be used for web interface design, science and math web sites targeted to youth
- Created the web design team activities (on going)
- Participated in youth and educator survey development, as well as youth focus group
- Learned Drupal technology to design the web site (on going)

Mary Henton, Co-PI, NMSA

- Collaborated in design and facilitation of project launch meeting
- Collaborated in design of Advisory Board meeting
- Researched, solicited, and identified initial cohort of 21st Century Teacher Leaders
- Support and coach 21st Century Teacher Leaders through email and conference calls
- Participate on the MSP2 social network (comments, discussions, blog)
- Direct the development of controlled vocabulary for "Education Issues"
- Coordinate NMSA activities in support of the project (including marketing of events, communications to NMSA membership, systems and processes development)

Other NMSA Staff and their responsibilities:

Laura Cheng

- Hosted MSP2 Webinars
- Developed controlled vocabulary on Educational Issues for NMSA
- Developed NMSA Indexing Guidelines
- Added scope notes on Mathematics and Science Subject Lists on NSDL, NMSA publications on GoodReads, free Middle Ground articles on Diigo.com
- Cataloged NSDL [Exemplary Resources for Middle School Math and Science](#) blog posts and NMSA Middle Ground articles
- Digitized NMSA publications
- Maintain statistics of MSP2 Webinars

- Developed and maintained Webinar evaluation surveys
- Promoted MSP2 Webinars on MSP2 Portal and Facebook, and the MSP2 Portal site (<http://www.msteacher2.org/>) to Webinar audience

April Tibbles

- Organized team and wiki to develop messages (tagline, summary statement, paragraph) for the project
- Reviewed and advised on controlled vocabulary for NMSA
- Scheduled articles for inclusion in *Middle Ground* magazine for 2009-2010
- Reserved and advised on ads and articles placed in *Middle School Journal* and *Middle Ground*

Ryan Gauntz

- Managed email communications regarding MSP2 with NMSA stakeholders
- Publishes MSP2 content and messages on the NMSA Web site

Anthony Blevins

- Assisted in initial scheduling of Webinars
- Developed initial plan for marketing of Webinars

Sarah Woodruff, Evaluation & Assessment Center (EAC) Director, serves as Principal Investigator for the external evaluation

Dr. Woodruff works closely with the Project Investigators to create and update the external evaluation plan and matrix, communicates with project staff to address immediate needs and progress, advises project team and evaluation team as needed, and oversees the evaluation work of Kristen Morio, Yue Li and other Center staff and consultants assigned to the project. She finalizes and submits evaluation reports to project personnel.

Other EAC Staff and their responsibilities:

Kristen Morio serves as the Evaluation Project Director. She communicates on a regular basis with project staff and evaluation staff, organizes the collection, review, and analysis of all evaluation data, and conducts the analysis of qualitative data. She prepares instruments for the collection of project data and drafts evaluation reports.

Yue Li serves as the Senior Researcher and Statistician for the external evaluation. She is responsible for the management and analysis of all quantitative data, data security, and the preparation of technical evaluation reports.

What other organizations have been involved as partners?

The following organizations support the MSP2 project by enabling organization representatives to participate on the MSP2 Advisory Board:

- Battelle Memorial Institute, Columbus, OH – Stephen Krak
- Center for Applied Special Technology (CAST), Wakefield, MA – Melinda Johnson
- Center for Teaching Quality, Hillsborough, NC – Melissa Rasberry
- Charlotte-Mecklenburg School District, Charlotte, NC – Kathleen Koch
- Consortium for School Networking (COSN), Washington, DC – Steve Hargadon
- Curriki, Washington, DC – Anne Schreiber
- ePals, Herndon, VA – Rita Oates
- Florida State University, Tallahassee, FL – Marcia Mardis
- Framingham Public School District, Fuller Middle School, Framingham, MA – Juan Rodriguez
- Upper Arlington School District, Jones Middle School, Upper Arlington, OH – Doug Darfus
- Lewis Education Group, Columbus, OH – Stacy Lewis
- National Staff Development Council, Dallas, TX – Tracy Crow
- Ohio Resource Center, Columbus, OH – Judy Spicer
- Ohio Board of Regents, Columbus, OH – Ed Hill
- South Carolina Department of Education, SC – Cherlyn Anderson
- Temple University, Philadelphia, PA – Michele Masucci
- Education Development Center, Inc. – Boston, MA – June Mark
- Instructional Technology Services of Central Ohio, Inc. (ITSCO), Columbus, OH – David Hayward

The Advisory Board met for a face-to-face meeting on February 4 and 5, 2009. At this meeting, members of the Advisory Board provided feedback on numerous aspects of the project, including activities, Web site, proposed youth involvement activities, sustainability and dissemination initiatives, and portal features. The Advisory Board also engaged in significant discussion about the needs, challenges, and opportunities facing classroom teachers as they access digital and Web-based content.

The following organizations have provided/are providing additional support for the MSP2 project:

- COSI (Center of Science and Industry), Columbus, OH supported the Advisory Board meeting on February 4 and 5, 2009 by donating meeting space, use of the computer lab, and passes to special exhibits at the museum.
- Blackwell Center at The Ohio State University donated meeting space for the Advisory Board meeting.
- Instructional Technology Services of Central Ohio (ITSCO) provided instruction for the Advisory Board members at its February, 2009 meeting. David Hayward, Project Manager for Multimedia, led a session providing an overview of the development of Web 2.0 technologies.

- Curriki is supporting MSP2 by adding content from MSP2, NMSA, EDC, and other NSDL projects to the Curriki site.
- South End Technology Center (SETC), a community technology center in Boston's South End, is our partner site in the youth web design team activities. SETC is a collaborative venture between the Tent City Corporation (TCC) and the Massachusetts Institute of Technology (MIT). Its fundamental purpose is to enable people to become producers of knowledge and sharers of ideas and information. SETC provides free or low-cost access and training in most aspects of computer-related technology. The staff, mostly volunteers, has extensive backgrounds in computer technology and their applications.
- Learn Central/Elluminate is engaged in conversation with MSP2 to explore collaboration possibilities.

Have you had other collaborators or contacts?

MSP2 Advisory Board Meeting

The MSP2 Advisory Board met on February 4 – 5, 2009, at the Center for Science and Industry (COSI) and the Blackwell Conference Center at Ohio State University in Columbus, Ohio. A detailed report of the meeting including agenda, participant list, goals, and outcomes can be found in Appendix B - Evaluation Report.

21st Century Teacher Leaders

Currently, three Teacher Leaders (TLs) provide support and facilitation of the MSP2 site. The TLs are a cadre of 2nd stage, middle grades math and/or science teachers who make a 2-year commitment to seed and feed the virtual professional learning communities (VPLC) that are the living activity of MSP2. An overview of the TL initiative and criteria for the TLs can be found in Appendix B – Evaluation Report. The TLs facilitate virtual learning communities/settings employed by MSP2 (e.g., TappedIn, Curriki, Ning). They contribute to MSP2 content on the various project sites. They facilitate informal and formal professional development to assist other teachers to develop facility with MSP2 content and resources and/or knowledge and skills in the use of technology for teaching and learning. The TLs serve as hosts on the MSP2 Ning site, welcoming new members, initiating conversations, writing blog posts, and responding to participants' comments and questions.

- Tom Jenkins is a middle school teacher at Indian Valley Middle School, Enon, OH. He is a National Board Certified Teacher (Early Adolescent Science) who has also taught in the Springfield City School District (OH) and the Masters of Education program at Wittenberg University (OH) in their Masters of Education program.
- Karolee Smiley teaches at Foothill Farms Junior High (Sacramento, CA). She is currently finishing a Masters in Technology.
- Todd Williamson teaches at New Bern Middle School (Newport, NC). He is a National Board Certified Teacher (Early Adolescent Science) and has recently begun working with the North Carolina Teacher Academy

The following individuals provided feedback and recommendations regarding Teacher Leaders and assisted in disseminating information to solicit candidates:

- Kathy Balas, Director of Education, Avetec (Springfield, OH)
- Nondra Khali, Educational Technology Coordinator at Grant Joint Union High School District (CA) provided recommendations for Teacher Leader candidates.
- Stacy Lewis, Lewis Educational Group (Columbus, OH)
- Mike Muir, Associate Professor of Education, University of Maine; and Director of the Maine Center for Meaningful Engaged Learning (McMEL)
- Rita Oates, Vice President of Education, ePals (Herndon, VA)
- Melissa Rasberry, Policy Associate, Center for Teaching Quality (Hillsborough, NC)

ACTIVITIES

Describe the major research and education activities of the project.

Project activities are described under each of the MSP2 goals and broken down by Year 1 tasks as described in the proposal and discussion with the NSDL Program Officer. These activities cover the time span of September 1, 2008 through April 30, 2009 - the first 8 months of the project. Some of the follow tasks have not been completed as yet but will be the end of the actual end of the first year of the project. An interim report will be submitted in September 2009 describing the extent to which Year 1 Tasks have been completed.

Goal 1 – Select, organize, develop, and contextualize quality learning resources in science, math, 21st century skills, STEM careers, and middle level education.

Year 1 Tasks

1. Update 24 math/science Explore in Depth (EID) publications
 - a. All 45 existing EID publications have been converted to wiki pages and added to the NSDL Wiki and can be accessed at <http://wiki.nsdl.org/index.php/MiddleSchoolPortal>. Each of these pages have been updated with a new header and footer including updated contact information and the NSF disclaimer statement.
 - b. All embedded links were checked and all dead links removed.
 - c. Additional information and links to the Project 2061 Strand Maps and the NSDL Strand Map Service have been included in the science pages.
 - d. Links to National Middle School Association articles have also been included when appropriate.
3. Write 6 new EIDs (education issues)
 - a. One new EID was launched in March 2009 – *Math Assessment* – and has been viewed 630 times through the end of April. That EID can be found at

http://wiki.nsd.org/index.php/MiddleSchoolPortal/Math_Assessment. All new EIDs will be written in the NSDL wiki.

- b. Three additional EIDs are in the editing queue and will be launched in June 2009 – *Quantitative Literacy, Reading and Writing in Middle School Math Classrooms*, and *Strategies for Developing Science Vocabulary*. *Forensic Science* and two other EIDs (TBD) will be completed over the summer and launched before the school year begins.
4. Create on-demand resource lists
 - a. Resource lists were generated through the *Connecting News to National Science Education Standards* and *Exemplary Middle School Math and Science* blogs and Diigo – many times in response to an email request from a MSP2 user.
 - b. There were 57 blog posts written by project staff during this reporting period with 50 comments posted by users.
 - c. The Diigo groups and lists include:
 - Professional Resources - <http://groups.diigo.com/groups/professional-resources> - 106 bookmarks and 9 members
 - Teaching Middle School Mathematics - <http://groups.diigo.com/groups/teaching-middle-school-math> - 90 bookmarks and 8 members
 - Teaching Middle School Science - <http://groups.diigo.com/groups/teaching-middle-school-science> - 24 bookmarks and 6 members
 - Wired World - <http://groups.diigo.com/groups/wired-world> - 8 bookmarks and 5 members
 - Global Warming and the Polar Regions - <http://www.diigo.com/list/klightle/global-warming-and-the-polar-regions> - 22 bookmarks
 - Science in the News - <http://www.diigo.com/list/klightle/science-in-the-news> - 3 bookmarks
 - Science Podcasts - <http://www.diigo.com/list/klightle/science-podcasts> - 5 bookmarks
5. Expand MSP2 collection
 - a. Blog posts are automatically cataloged as they are launched and become part of the NSDL collection. Project staff have added additional metadata to 32 of the 57 posts.
 - b. The MSP2 beta version of the NSDL Collection System (NCS) cataloging tool is being tested. The fully functional version should be available in June 2009. All EID wiki pages and blog posts will be cataloged once the tool is available. Additional exemplary websites will be cataloged and added to the existing 2200+ NSDL Middle School Portal (MSP) catalog records. Project staff are keeping track of these new exemplary online resources via Diigo.
 - c. Identified 1458 articles/books from NMSA collection to be digitized.
 - d. Digitized 191 journal articles.
6. Create tutorials/promotional materials/informational tools

- a. A MSP2 bookmark was printed and given out at the National Middle School Association Meeting in November 2008 and the National Science Teachers Association meeting in March 2009.

Goal 2 – Design portal that provides access to content, interaction, virtual support for educators and students, facilitate VPLs.

Year 1 Tasks

1. Update <http://msteacher.org>
 - a. The Middle School Portal (MSP) site continues to be updated with the launch of the updated site scheduled for July 1, 2009. The updated include a new homepage, science and math pathways pages, and an updated banner that will encourage users to "Connect with Colleagues" in the social network. The EID pages will continue to be available but will have link that says "See the latest version" that will direct users to the corresponding wiki page. The MSP site continues to receive a high number of visitors and page views (visitors: 246,655; page views: 655,516 – 9/1/2008 through 4/30/2009). We will encourage MSP users to go to the social network where they will be able to access all the resources on the MSP site but much more.
 - b. The two Middle School Portal NSDL Expert Voices blogs - *Connecting News with the National Science Education Standards* and *Exemplary Resources for Middle School Math and Science* - continue to be written and are RSS-fed to the Middle School Portal website. During this reporting period these blogs had 61,471 visitors from 155 countries and 134,590 page views.
2. Populate MSP2 social networking site
 - a. The social networking site can be found at <http://msteacher2.org> - it was launched February 2009 so that the MSP2 advisory board had a chance to provide feedback on its future development. It has been built on a NING platform which is a free social network building tool. All advertisements have been removed because MSP2 is educational.
 - b. From February 1, 2009 to April 30, 2009 there were 936 visitors, 4,824 page views, and 64 registered users.
 - c. The MSP2 NSDL Wiki pages were also launched in February 2009 and linked to the MSP2 Ning - these wiki pages had 658 visitors and 3,641 page views.
 - d. The Diigo groups are also linked to the MSP2 site - see the left side of the main page.
 - e. The National Science Education Standards widget, a GoodReads book club, and 21 event descriptions (Opportunities) were added.
 - f. There are three MSP2 groups - science, math, and integrating technology.
 - g. Three blogs and two article feeds have been RSS-fed to the main page of the site - the two MSP2 blogs, the *NSDL Engineering Pathways* blog, and the Science and Technology and the Environment article feeds from the New York Times.
3. Initiate use of the MSP2 collaboration sites (e.g., Curriki, Tapped In)

- a. Project staff recognize the importance of placing content where teachers are - we are starting to place MSP2 content in Curriki, YouTube, SchoolTube, and TeacherTube, and will continue to place content where ever appropriate.
4. Recruit/train cohort 1 of Teacher Leaders. An overview of the TL initiative, including description of the characteristics, requirements, and expectations of the TLs was developed during the fall of 2008 and the search for Teacher Leaders (TLs) began in December 2008. Emails and phone calls to trusted individuals who have direct knowledge of effective middle school math and science teachers were made. In many cases, very qualified individuals were recommended who declined the offer because they were already committed to professional development, coaching, curriculum development or other professional activities. The very individuals the project seeks are people who are committed teachers, instructional leaders among their peers, and already active in various networks. Once three qualified individuals were chosen, the decision was made to keep this first cohort a small group. Training of the cohort has been informal. With the benefit of phone calls, emails, Skype, and Ning, Kim Lightle and Mary Henton have introduced the cohort to the project and the portal and coached the cohort members to assume leadership within the Ning.
5. Design youth VLEs - EDC's role in the MPS2 project is to develop a series of youth-based virtual 'learning experiences' (VLEs) to be integrated into a pre-selected set of the MSP2's Explore in Depth publications. The planned youth VLEs will be highly interactive explorations for youth, encouraging them to further explore and 'experience' the math/science concepts associated with the EID into which the VLE is embedded. In order to ensure that the VLEs meet the information needs of their youth audience, as well as youth aesthetic and website user preferences, EDC outlined the following tasks i) conduct original research with both youth and educators through the creation and implementation of an online questionnaire and the convening of two focus groups (with youth and with formal and informal educators, respectively); ii) assemble and work closely with a youth co-design team to ensure that the conceptualization, design and development of the LEs is fully informed by young people. All documents related to the VLE design can be found in Appendix A. To this end, the youth VLE development team (EDC) has completed the followed tasks to-date:
 - Preliminary lit review - A literature was conducted on relevant topics such as children as technology designers in order to inform the youth design team activities. The purpose was to build on EDC's existing expertise in this area with the current literature in the field and to inform the project of the most pertinent theories and techniques for working with children as design partners. Theories such as user-centered design, contextual design or inquiry, participatory design, cooperative inquiry, informant design, and learner-centered design were amongst the other topics researched. The main research in this field is led by researchers such as Druin, Bilal, Large, Kafai, Scaife and Rogers.
 - Protocol development and extensive IRB process at EDC - In the next phase of our qualitative research the EDC team began to prepare for the implementation of i) youth and educator focus groups, ii) youth and educator online surveys, and iii) youth design

team activities. The surveys and focus groups were intended to focus on needs assessment, planning, and design of the VLEs, by gathering preliminary information on youth and educator perceptions, attitudes, and needs of a resource like MSP2. In preparation for this work, EDC staff completed an extensive round of documentation preparation and review by EDC's IRB. This included 8 separate pieces of work as categorized here along with the documents created for each category: i) Youth Survey (cover letter to parents, cover letter to educators, survey instrument); ii) Youth Focus Group (cover letter to parents, parent consent, youth assent, protocol); iii) Educator Survey (survey instrument); iv) Educator Focus Group (consent, protocol); v) Youth Design Team (cover letter to parents, parent consent, youth assent, contract, pre and post- surveys); vi) Design team curriculum (20 session curriculum); vii) Memorandum of Understanding with SETC; viii) Participant recruitment flyer.

- Educator (NSTA) and youth (EDC) focus groups - Both planned focus groups have been completed. An educator focus group was conducted at NSTA in New Orleans, LA in March 2009 and was comprised of 6 educators (5 female, 1 male,) and of whom 5 were middle school teachers and 1 afterschool educator). A youth focus group was conducted at EDC's main office in Newton, MA in April 2009 and was comprised of 5 youth, all aged 13, of whom 3 were female and 2 were male students.
- Educator and youth surveys - The final youth and educator surveys have been programmed using survey monkey and are currently open for data collection. The surveys will be closed in early June for data analysis and coding to inform VLE design and development work (planned July-Sep 2009).
- Youth design team - In January 2009, EDC began work to identify a partner site for our planned youth design team activities. We ultimately chose to work the SETC, and have assembled a youth co-design team in cooperation with SETC. The team is comprised of 9 students, 6 girls and 3 boys, ranging in ages from 12-14, and of African-American and Latino ethnicity. The team began an 8-week (16 session) program of activities on May 6th. Youth design team members and EDC staff meet 2 times per week, 2 hours per meeting until the end of June. As part of this work, team members will engage in a series of team building tasks aimed at providing an overview the tasks to be completed by the team over the course of their meetings. Project staff will also share the results of our qualitative research (online survey and focus group data) which together with the team's input will form the research basis for the design activities. The design team will explore the current MSP site and its EIDs, the NSDL, the FunWorks and other high quality STEM collections; begin to brainstorm concepts for VLE design; and identify NSDL and non-NSDL sources for supporting resources and links that will be part of the individual VLEs. They will also construct a draft VLE design and its components, supporting resources and overall organization of information within the individual VLEs.

Goal 3 – Promote resource discovery and usage through search engine optimization, trainings, and dissemination

Year 1 Tasks

1. Increase discovery of project resources
 - a. Developed NMSA Indexing Guideline and controlled vocabulary of Educational Issues which will standardize and increase interoperability of NMSA resources and metadata
 - b. The Evaluation Report (Appendix B) includes web metrics data that indicates increased discovery of project resources.
2. Present at NMSA, NSDL, and NSTA Annual Conferences
 - a. Web 2.0 for Science: Examples of Participatory Tools for Science Learning, NSTA Annual Meeting, March 20, 2009, New Orleans, LA - 16 attendees
 - b. Getting to the Good Stuff, 2008 NMSA Annual Conference, October 31, 2008, Denver, CO
 - c. Using Metrics Data, NSDL Annual Meeting, October 1, 2008, Washington, DC
 - d. Creating and Delivering Content Using Web 2.0 Tools, NSF Brown Bag, [need date], Washington, DC
3. Co-present/exhibit with Pathways, NSDL Resource Center
 - a. MSP2 project staff exhibited with the NSDL Resource Center staff at the NSTA Annual Conference, March 2009 and the NMSA Annual Conference, November 2008.
4. 5 webinars
 - a. 4 Webinars hosted by NMSA were held between February and April, 2008. registration number was 71 persons, 25 participants to the live Webinars, and 51 persons downloaded the recorded Webinars afterward.
 1. *April 28, 2009, 3:30pm EST, Global Warming and the Polar Regions*
Jessica Fries-Gaither and Kim Lightle
 1. 39 registrations; 9 attendees
 2. 26 downloads of recorded Webinar (as of 5/27/09)
 2. *April 14, 2009, 3:30pm EST, Getting to the Good Stuff: Online Resources for Middle School Math and Science*
Robert Payo and Kim Lightle
 1. 60 registrations; 23 attendees
 2. 73 downloads of recorded Webinar (as of 5/27/09)
 3. *March 31, 2009, 3:30pm EST, FunWorks: Inspiring Students to Pursue Math and Science Careers!*
Sarita Pillai, Director, Gender and Diversities Institute, EDC
 1. 95 registrations; 34 attendees
 2. 88 downloads of recorded Webinar (as of 5/27/09)
 4. *February 24, 2009, 3:30pm EST, Online Math Resources—for the Offline Classroom!*
Terry Herrera, Math Education Resource Specialist
 1. 92 registrations; 31 attendees
 2. 130 downloads of recorded Webinar (as of 5/27/09)

- b. NSDL hosted a Brown Bag Webinar on December 11, 2008, entitled, "What Do We Know About Middle School?" co-presented by Kim Lightle and Mary Henton
 - 1. 45 attendees
 - 2. 9 downloads of recorded Webinar
 - c. Monthly TappedIn events continue at the MSP room at <http://tappedin.org>. These events happen the second Monday of each month. A variety of topics are covered.
- 5. Publish in NMSA journals/newsletters. Articles describing MSP2 and inviting participation have appeared in the following NMSA publications
 - a. *Middle Ground*, October 2008, "NMSA in Action"
 - b. *Middle School Journal*, November 2008, "NMSA in Action"
 - c. *Middle Ground*, April 2009
- 6. Share information with EDC network - The MSP2 project has been promoted through EDC-wide emails about the project, through promotion of aforementioned webinars and events, and to recruit participants in youth VLE development activities (such as the focus groups and online surveys).

Goal 4 – Collaborate for sustainability

Year 1 Tasks

- 1. Research potential sponsorship opportunities
 - a. A significant amount of time during the advisory board meeting was directed at discussing possible sustainability models.
 - b. Conversations with Curriki and Learning Central have happened in terms of sustaining project resources
 - c. Conversations with Avetec are ongoing
 - d. Lightle participated in Ithaka Sustainability Roundtable; and MSP2 is one of the case studies
- 2. Investigate existing e-commerce models
 - a. Discussions continue about how NMSA can best allow non-members to access restricted content - individual articles and book chapters.
- 3. Convene advisory group, begin semi-annual series of Web conferences
 - a. Advisory board met February 4-5, 2008 (all Advisory Board documents can be found in Appendix B – Evaluation Report). A follow-up online meeting of the advisory board will be held in August 2009.

Goal 5 – Evaluate impact

Year 1 Tasks

In Year 1 we began evaluation efforts (pre-tests, online surveys, focus groups, interviews, Web metrics, monitor uptake of content across locations) of deliverables and applications of Web 2.0 tools. A detailed Year 1 Evaluation Report is included in Appendix B.

Describe the major findings resulting from these activities.

Nothing yet to report.

Describe the opportunities for training and development provided by your project.

Nothing yet to report.

Describe outreach activities your project has undertaken.

MSP2 has used a variety of methods for outreach. Project staff have shared information about MSP2 in face-to-face settings at the NMSA Annual Conference (October 31, 2008, Denver, CO) and the NSTA Annual Meeting (March 20, 2009, New Orleans, LA). Project staff presented a session entitled, "Getting to the Good Stuff," for 40 attendees. Sixteen individuals attended the session titled, "Web 2.0 for Science: Examples of Participatory Tools for Science Learning" at NSTA. In addition, MSP2 had a booth in the Exhibit Hall of the NMSA Annual Conference. At the booth staff handed out promotional materials, answered questions answered, and demonstrated the site.

To promote the Webinars, electronic announcements were sent to 10,054 teachers and principals from NMSA. Webinar advertisements were posted on the homepage of NMSA's Web site. Announcements were also included in NMSA's monthly electronic newsletter, *Middle-E-Collections*. Ads appeared in the print publication, *Middle Ground*. MSP2 posted Webinar announcements on its Web site, on NMSA's Facebook fan pages, on the NSDL homepage, the EDC homepage, and the NSF ITEST (500 members).

The webinars were also promoted by NSDL via the NSDL.org site through an advertisement pointing to the schedule on NMSA; via the NSDL Expert Voices Blog located at: <http://expertvoices.nsdl.org/digitalk12>; via NSDL's Twitter activity: <http://twitter.com/NSDL> (approx. 35 followers at the time of the webinars); via the ASTE listserv: Association of Science and Technology Centers; via the Sci-co list: Colorado Science Teachers Network; and finally via the NSDL White Board Report: 900 members on this list, including the NSDL community at large and those interested in NSDL activity.

PRODUCTS

What have you published as a result of this work?

The following items have been published as a result of Year 1 MSP2 activity:

- Math Assessment EID publication
- 26 Connecting News and 31 Exemplary Math and Science (57 total)
- Multiple NING blog posts

- Recordings of webinars (NMSA and NSDL Brown Bag)

What website or other Internet sites have you created?

<http://msteacher2.org> - this is the URL of the social network; we are using this site as the foundation for the virtual professional learning community.

<http://wiki.nsd.org/index.php/MiddleSchoolPortal> - this is the wiki page that includes links to the MSP2 Favorite Blogs page, EID publications, and Math, Science, and Education Issues subject lists.

What other specific products (databases, physical collections, educational aids, software, instruments, or the like) have you developed?

EDC has begun preliminary work to explore the Drupal platform as the design template and repository for the youth VLEs and associated content.

CONTRIBUTIONS

Describe the unique contributions, major accomplishments, innovations, and successes of your project relative to the principle discipline(s) of the project.

Nothing significant yet.

Describe the unique contributions, major accomplishments, innovations, and successes of your project relative to other disciplines of science or engineering.

Nothing significant yet.

Describe the unique contributions, major accomplishments, innovations, and successes of your project relative to the physical, institutional or information resources that form the infrastructure for research and education.

Nothing significant yet.

Describe the unique contributions, major accomplishments, innovations, and successes of your project relative to the development of human resources.

Nothing significant yet.

Describe the unique contributions, major accomplishments, innovations, and successes of your project relative to other aspects of public welfare beyond science and engineering, such

as commercial technology, the economy, cost-efficient environmental protection, or solution to social problems.

Nothing significant yet.

APPENDIX A – Virtual Learning Experiences for Youth (VLE) Documents

1. Literature Review

Bilal, D. (2002). Children design their interfaces for Web search engines: A participatory approach. In L. Howarth, C. Cronin, & A. Slawek (Eds.), *Advancing Knowledge: Expanding Horizons for Information Science. Proceedings of the 30th Annual Conference of the Canadian Association for Information Science* (pp. 204–214). Toronto, Canada: CAIS.

Bilal, D. (2003). Draw and tell: Children as designers of web interfaces. *Humanizing Information Technology: From Ideas to Bits and Back. Proceedings of the 66th Annual Meeting of the American Society for Information Science and Technology, Long Beach, CA* (pp. 135–141). Medford, NJ: Information Today Inc.

Druin, A. (1999). Cooperative inquiry: Developing new technologies for children with children. In M. Williams, & M. Altom (Chairpersons), *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 592–599). New York: ACM Press.

Druin, A., Bederson, B., Boltman, A., Miura, A., Knotts-Callahan, D., & Platt, M. (1999). Children as our technology design partners. In A. Druin (Ed.), *The design of children’s technology* (pp. 51–72). San Francisco: Kaufmann

Kafai, Y. (1999). Children as designers, testers, and evaluators of educational software. In A. Druin (Ed.), *The design of children’s technology* (pp. 123–145). San Francisco: Kaufmann.

Large, A., Beheshti, J., Nasset, V., & Bowler, L. (in press). Designing web portals in intergenerational teams: Two prototype portals for elementary school students. *Journal of the American Society for Information Science and Technology*.

Large, A., Beheshti, J., Nasset, V., & Bowler, L. (2003a). Children as designers of Web portals. *Humanizing Information Technology: From Ideas to Bits and Back. Proceedings of the 66th Annual Meeting of the American Society for Information Science and Technology, Long Beach, CA* (pp. 142–149). Medford NJ: Information Today.

Large, A., Beheshti, J., Nasset, V., & Bowler, L. (2003b). Children as Web portal designers: Where do we start? In W. C. Peekhaus, & L. F. Spiteri (Eds.), *Bridging the Digital Divide: Equalizing Access to Information and Communication Technologies. Proceedings of the 31st Annual Conference of the Canadian Association for Information Science* (pp. 139–152). Halifax, Canada: CAIS.

Large, A., Beheshti, J., & Rahman, T. (2002). Design criteria for children’s Web portals: The users speak out. *Journal of the American Society for Information Science and Technology*, 53(2), 79–94.

Scaife, M., & Rogers, Y. (1999). Kids as informants: Telling us what we didn’t know or confirming what we knew already. In A. Druin (Ed.), *The design of children’s technology* (pp. 27–50). San Francisco: Kaufmann.

Scaife, M., Rogers, Y., Aldrich, F., & Davies, M. (1997). Designing for or designing with? Informant design for interactive learning environments. In S. Pemberton (Ed.), *Proceedings of*

the SIGCHI Conference on Human Factors in Computing Systems (pp. 343–350). New York: ACM Press.

2. Youth Focus Group Protocol

Hello, my name is _____. First of all, thank you for participating in our focus group! I work for an organization called Education Development Center, and we are trying to make a new Website for youth around your age. It's going to be a Website that has lots of information about science and math. We've asked you here because we'd like to hear a little from you about what Websites you look at on the Internet, especially Websites you look at when you're doing projects and homework for school. I think that we'll be able to make a Website that is helpful and also pretty cool...but I'm definitely going to need some help, which is why we asked you to be in this group.

We'll be together in this group for about 1½ hours total. I'm REALLY interested in what you think about some things on the Internet, so I'm going to show you some things online and ask you some questions. Sometimes, I'll even ask you to show me things online. What's most important is that you share what you really think about these things—because we're trying to make a really cool Website, and we want to make it as cool as possible. If you have any questions along the way, just stop me so that you can ask your question.

Also, I just want to remind you that if you are a part of this focus group right now, you and your parents have both said that it is okay for us to video tape our conversations to help us take notes on this focus group. Only the people working on this project will be able to watch the videos, and they will be eventually destroyed when we're done taking notes from them. Finally, if at any point you don't want to be a part of this focus group, that's okay—just let me know.

INTRODUCTIONS (5 minutes)

Allows participants to build rapport with interviewer and each other.

Let's just go around the room really quick and introduce ourselves. We can say our first names, how old we are, and our favorite Website to go to on the Internet. I'll go first. [Model first name, age, Website; take turns around the room.]

GENERAL INTERNET USE (20 minutes)

Identifies what the Internet is typically used for, why, and how.

Great! Now that we know a little bit about each other, I want to ask you about those favorite Websites you talked about. I'm very interested in these Websites—one by one, do you think you can each show me your Website on this computer?

[Allow one participant to bring up a Website; for each Website, ask the following prompts]

- [Directed to participant who brought up Website]: So tell me why this is your favorite Website.

- [Directed to participants who did not bring up Website]: Have you ever been on this Website? What do you like about it? What don't you like about it?
- What do you think you'd do the most on this Website?
 - What is your favorite part of this Website?

SCIENCE AND MATH INTERNET USE (20 minutes)

Identifies what the Internet is typically used for regarding education, and how it is used.

Alright. So, now I have a little bit of a different question. How many of you have ever used the Internet to help with a science or math schoolwork? [Ask participants to raise hands.] Okay, and now how many of you have had teachers who use the Internet in science or math class? [Ask participants to raise hands.] Great! My next set of questions is about the Websites you use for science and math. What Websites do you use to help with science or math? One by one, do you think you can show me your favorite science and math Website on this computer?

[Allow one participant to bring up a Website; for each Website, ask the following prompts]

- [directed to participant who brought up Website]: So tell me why this is your favorite science and math Website.
- [directed to participants who did not bring up Website]: Have you ever been on this Website? What do you like about it? What don't you like about it?
- How did you hear about this Website?
 - Did you just find it on your own? How?
 - Did a friend tell you about it? Do you know how they heard about it?
 - Did your teacher tell you about it?
 - Did another adult tell you about it? Do you know how they heard about it?
- How do you know this is a good Website to use?
 - How are you sure that all of the things on this Website are the truth?

MSP2 (15 minutes)

Identifies youth perceptions of the current NSDL/MSP Websites.

Okay, so now I want to show YOU a Website. [Bring up MSP2 site.] This is a Website called the Middle School Portal 2: Math and Science Pathways. Now, just by looking at this Website, do you think you could tell me what you like about the way it looks? Why? What about things you don't like? Why?

What do you think would make this site better, if you had to use it for school? You can come up to the computer and click around if you need to. [Allow participants to click around if they would like as they give their answers.]

INTERNET USE ACTIVITY (20 minutes)

Demonstrates thought process, knowledge of resources, and search patterns of middle school youth with regard to using the Internet for schoolwork.

Now we're going to do something in pairs, so please pick a partner. [Allow participants to pair up.] Okay, now that you have a partner, I'm going to hand each pair a piece of paper with a science or math assignment. I'd like you and your partner to take a couple minutes and figure out how you would use the Internet to help with your assignment. And then, I'm going to ask you two to show the rest of us what you might do. There aren't any right or wrong answers, I'm really just interested in your plan and what you would actually do if your teacher gave you this assignment.

[Hand out different assignment cards. Allow each pair a few minutes to discuss their strategy. Afterwards, ask for volunteers to present their plan using the computer. Make sure all pairs present their plans to the group.]

STEM INTEREST (5 minutes)

The last question I have for all of you is about science and math topics you're interested in. You can just shout them out, and I'll write them on this piece of paper. [Write down list of topics mentioned. If necessary, give examples, such as "global warming" or "stock market."]

CLOSING (5 minutes)

Well, that's it! Do any of you have any questions about what we just did? [Field questions.] Okay, if any of you come up with other questions, my phone number and email are on your assent sheet right here [show contact information]. You can just call me if you think of any questions. Thank you all for your help! I think we're going to be able to make a pretty cool and useful Website. Because we appreciate you're the time you took to help us, we wanted to give you something. We have a [focus group incentive] for each of you. [Hand out incentive.] Thank you!

3. Youth Focus Group – Cover Letter to Parents

April 9, 2009

Dear EDC Newton Employees:

EDC, in conjunction with the Ohio State University and the National Middle School Association, is conducting a focus group, the Middle School Portal 2 (MSP2) focus group, to learn how youth use the Internet on a regular basis and, specifically, the ways in which youth use the Internet to help with schoolwork. The project is funded by the National Science Foundation.

The youth focus group will take place at EDC in **Conference Room B** on **Wednesday, April 22, 2009** from **10:00am until 12:00pm**. We are looking for **4-6 middle schoolers (12-14 years)** to participate in this focus group. Each participant will be compensated for their time with a **\$25**

Amazon.com gift card upon completion of the focus group. Specific details can be found in the attached parent consent form.

EDC is seeking permission for your child to participate in the MSP2 focus group. Attached to this email is a parental permission forms prepared by EDC and approved by EDC's IRB. These forms provide detailed information about the focus group. If you decide it is okay for your child to participate, please return a signed permission form to Kim Lucas (klucas@edc.org), and keep another copy for yourself. **Eligible middle schoolers will only be allowed to participate if a signed parent consent form is on file.** If more than 6 middle schoolers would like to participate, project staff will pick 6 participants at random and inform EDC employees via email that their middle schooler has been chosen.

Please contact the project director, Sarita Pillai (x2164) or Kim Lucas (x2745) at EDC if you have questions about the focus group.

Sincerely,

Kimberly Lucas
Research Assistant II
Education, Employment, and Community Programs
Education Development Center, Inc.

4. Youth Focus Group - Parental Permission

Purpose: The Middle School Portal 2 (MSP2) focus group will help us build an educational, science- and math- focused Website for middle school youth. Through this focus group, we hope to learn about the ways in which youth use the Internet on a regular basis and, specifically, the ways in which youth use the Internet to help with schoolwork. Education Development Center, Inc. (EDC), a non-profit based in Massachusetts that conducts educational research, is carrying out this focus group. The focus group is funded by the National Science Foundation.

Procedure: The MSP2 focus group will take place in **Conference Center C of Education Development Center, Inc. (55 Chapel St., Newton, MA 02458)** on **Wednesday, April 22, 2009** between **10am-12pm**. The focus group will consist of 4-6 middle school-aged youth (ages 12-14 years). Each participant is being asked to participate for one focus group lasting no longer than 2 hours.

If you accept the invitation to participate in the MSP2 focus group, we will ask your son/daughter to do the following:

- Look at the MSP2 Website (www.msteacher.org) and offer opinions/answer questions about the site.
- Share favorite Websites in general and opinions about why they are favorites.
- Share favorite Websites for looking up educational information for projects/homework and opinions about why these sites are used or how these sites are “better” for schoolwork than other sites.
- Share opinions about what they like in Websites in general.
- Share opinions about their favorite science and math topics to learn about.

We will make an audio or video recording of the focus group, so that we can ensure accurate recording of the information shared during the focus group.

Risks: To the best of our knowledge, participation in the MSP2 focus group is associated with minimal risk of harm to your son/daughter. We do not expect the inconvenience, if any, to be more than ordinarily encountered in daily life. There may also be a small risk associated with breach of confidentiality but this is unlikely to happen or cause harm (see Confidentiality section below).

Benefits: There are likely to be no direct benefits to you or your child for participating in the MSP2 focus group, but feedback from your son/daughter may help us design a Website for all middle school students, and it will contribute to the general understanding of what today’s middle school students like and dislike on the Internet.

Costs and Payments: There may be some costs to you associated with travel and parking associated depending on the location of focus group. Upon completion of the focus group, your child will be given a **\$25 Amazon.com gift certificate** as a way of thanking him/her for the time he/she has given us.

Confidentiality: All information gathered will be treated as confidential. Real names will be replaced by pseudonyms or codes in the data files. This informed consent document, with your and your child’s name on it, will be stored in a locked cabinet at EDC. Recordings from the focus group will be kept in a secure office at EDC and will be destroyed when our Website is finished. Any public presentations and published reports resulting from this research will exclude any information that might identify you child.

Voluntary Participation: Your child’s participation in the MSP2 focus group is completely voluntary. He/she will be given the option of participating before the focus group begins, and both his/her assent and your consent will be required for him/her to be a part of the focus group. Refusal to participate will involve no penalty or loss of benefits to which you and your child are otherwise entitled, and you and your child may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

Contact Information: Questions about the MSP2 focus group should be directed to Sarita Pillai, at 1-800-225-4276 ext. 2164 (spillai@edc.org). If you have any questions regarding your or your child's rights as a participant in this focus group or have any complaints about the research, you can contact EDC's Human Protection Program at 1-800-225-4276 ext. 2971 or HumanProtections@edc.org.

STATEMENT OF CONSENT

I have read the summary of the focus group above. It has been explained to my full satisfaction. I have received a copy of this form that I can keep.

[Print child's name here]

Please check all applicable boxes.

☐ **I agree** to have my child (named above) participate in the MSP2 focus group and to being audio/video recorded as part of the focus group.

OR

☐ **I do NOT agree** to have my child (named above) participate in the MSP2 focus group.

[Print name of Parent/Guardian Giving Consent]

Signature: _____ Date: _____

Parent/Guardian Contact Phone Number: _____

5. Youth Focus Group – Student Assent

Hello! Education Development Center is conducting a focus group, and we'd like to invite you to participate in it. This form describes what the focus group is all about. First, it tells you a little bit about the focus group. After that, it asks if you'd like to participate in the focus group.

What's the focus group all about? Our focus group is called the Middle School Portal 2 (MSP2) focus group, and we want to find out what Websites you look at on the Internet. We want to know about Websites you look at when you're doing things for school, like projects and homework. We're looking for about 4-6 middle schoolers to participate in this focus group. By participating in the MSP2 focus group, you will help us design and create a Website for all middle school students.

What will I do as part of the focus group? The MSP2 focus group will take place in **Conference Center C of Education Development Center, Inc. (55 Chapel St., Newton, MA 02458)** on

Wednesday, April 22, 2009 between 10am-12pm. It will probably take 1½ hours to complete the whole focus group. During the focus group, we will do the following:

- Look at the MSP2 Website (www.msteacher.org) and offer opinions/answer questions about the site.
- Share favorite Websites in general and opinions about why they are favorites.
- Share favorite Websites for looking up educational information for projects/homework and opinions about why these sites are used or how these sites are “better” for schoolwork than other sites.
- Share opinions about what you like in Websites in general.
- Share opinions about your favorite science and math topics to learn about.

We will be making an audio/video recording of the focus group, so that we can remember what everyone talked about.

How much does it cost? Do I get anything?

Participating in the MSP2 focus group might take you away from other activities you might want to do. You might also need to figure out a way to get to Education Development Center—by either T or by getting someone to drop you off. Aside from that, it won’t cost you anything to participate in the MSP2 focus group. In addition, we will give you a **\$25 Amazon.com gift certificate** as a way of thanking you for the time you give us if you participate.

It’s up to you! Both you and your parents have to agree to allow you to take part in the MSP2 focus group. If you agree to take part in it and then you change your mind later, that’s okay, too. Nothing bad will happen to you if you decide not to participate or you change your mind later. It’s your choice.

Confidentiality: We will do everything we can to keep your participation in the MSP2 focus group private. If we use any information from this focus group, we will never use your name or anything that could give away who you are. We will not show the video recording of the focus group to anyone but other people working on the MSP2 project with us. We will do a good job at keeping all our records secret by following the rules that the U.S. government has made for researchers. In the same way, we would like to ask you to treat anything you learn about other people in the focus group confidential unless those people say it’s okay to talk about those things with other people.

Contact Information: Questions about the MSP2 focus group should be directed to Sarita Pillai, at 1-800-225-4276 ext. 2164 (spillai@edc.org). If you have any questions regarding your rights as a participant in this focus group, you can contact EDC’s Human Protection Administrator at 1-800-225-4276 ext. 2971 or HumanProtections@edc.org.

STATEMENT OF ASSENT

I have read the summary of the focus group above. It has been explained to my full satisfaction. I have received a copy of this form that I can keep.

[Print name here]

q **I agree** to participate in the MSP2 focus group and to being audio/video recorded as part of the focus group.

Or

q **I do NOT agree** to participate in the MSP2 focus group.

Signature: _____ Date: _____

6. Educator Focus Group Protocol

Hello, my name is _____. First of all, thank you for participating in our focus group! I work for an organization called Education Development Center, Inc., a non-profit based in Massachusetts that conducts educational research, and we are building an educational, science- and math- focused Website for middle school youth. Through this focus group, we hope to learn about the ways in which you perceive youth using the Internet on a regular basis and, specifically, the ways in which you perceive youth using the Internet to help with schoolwork. This focus group is funded by the National Science Foundation.

This focus group should last no longer than 1½ hours total. I'm interested in your experiences with middle schoolers both in and out of the classroom and what you perceive to hold their interests when they are online. In addition, I will show you our current Website and explain its focus to elicit your input about how best to incorporate the youth component. As we move through the focus group, if you have any questions, please feel free to interrupt me so that you can ask them.

Also, I just want to remind you that as a part of this focus group, you are consenting to being a part of an audio/video taped focus group. I'd like to reassure you that only the people working on this project will be able to watch the videos, and they will be eventually destroyed when we have completed taking notes from them. In the same vein, I'd like to ask you to respect each other's confidentiality by not sharing identifiable comments outside of this group. Finally, if at any point you would like to cease participation in this group, please just let me know.

INTRODUCTIONS (10 minutes)

Allows participants to build rapport with interviewer and each other.

Let's just go around the room really quick and introduce ourselves. We can say our first names, what we teach (grade and subject), and whether we use the Internet to help educate our learners (if so, if you could just name one or two). I'll go first. [Model first name, job, Website; take turns around the room.]

SCIENCE AND MATH INTERNET USE (30 minutes)

Identifies what the Internet is typically used for in the classroom, and how it is used.

Jumping off from the Websites you mentioned, I'd like to ask you a bit about them. I'd like to go around the room and, if you've mentioned a Website or two, could you talk a little about why you use it and maybe how you use it in your classroom?

[Have participants talk about one Website at a time; after each participant describes one Website, ask the following prompts]

- [Directed to participants who did not bring up Website]: Have you ever used this Website in the classroom? What do you like about it? What don't you like about it?
 - Is it "effective"? In what ways?
- Do any of you know of Websites you've tried to use, but just ended up frustrating you or not giving you the information you'd like?
 - Which Websites would you tell other educators to steer clear of?

MSP2 (30 minutes)

Identifies educator perceptions of the current MSP2 site.

Alright. We're now going to switch gears, and I am going to bring up a Website. [Bring up MSP2 site.] This is the Website for the Middle School Portal 2: Math and Science Pathways. I'd like to know how many of you have used this site to find resources to use with your classes or as a reference for classes/curriculum you have taught? [Allow participants to raise hands.] Alright, we're going to break into two groups here. Those who have used it, please move to one side of the room, those who haven't please move to the other. [Allow time for rearranging.] I'm going to provide you with some questions, and give each group about 5 minutes to come up with some answers to present to the group.

- [Directed at those who HAVE NOT used the NSDL Website]: Do you find this Website useful? Can you see yourself potentially using it either as a resource or in your classrooms? Feel free to click around on it.
- [Directed at those who HAVE used the NSDL Website]: How did you hear about this Website? What tips and tricks might you give to the others who are just learning about it?
 - What are some strengths of the site?
 - What are you weaknesses of the site?

- [Directed at the whole group]: Do you have any recommendations on how to make this site more accessible for you? How about recommendations on how to make this site more student-friendly? Any other comments about this site?

GENERAL INTERNET USE (10 minutes)

Identifies what students typically use the Internet for, why, and how.

This is great feedback! Our next question has to do with Websites you've noticed your students using on a regular basis.

- We want to figure out what is appealing to students, and why, so if you can name some Websites that we can check out, please shout them out now. [Write Website names down on large piece of paper.]
- Also, if you happen to know what features of these Websites (or any Websites, really) your students are drawn to, we'd like to know that as well. [Write down features of Websites.]
- Finally, what content do you wish educational Websites included?
 - What content are your students most drawn to?
 - What content would be helpful to you as you teach?
 - What kinds of Websites would you consider using with your students in class?

If anything else comes to mind at a later date, please do email me with your thoughts.

STEM INTEREST (5 minutes)

The last question I have for all of you is about science and math topics your youth are interested in. What are they? You can just shout them out, and I'll write them on this piece of paper. [Write down list of topics mentioned. If necessary, give examples, such as "global warming" or "stock market."]

CLOSING (5 minutes)

Well, that's it! Do any of you have any questions about anything we just did? [Field questions.] If any of you come up with additional questions, please feel free to contact me. [Hand out business card.] Thank you all for your help! Because we appreciate you're the time you took to help us, we wanted to give you something. We have a [focus group incentive] for each of you. [Hand out incentive.] Thank you!

7. Educator Focus Group - Educator Permission

You are invited to participate in a focus group.

Purpose: The MSP2 focus group will help us build an educational, science- and math- focused Website for middle school youth. Through this focus group, we hope to learn about the ways in which youth use the Internet on a regular basis and, specifically, the ways in which youth use the Internet to help with schoolwork. Education Development Center, Inc. (EDC), a non-profit

based in Massachusetts that conducts educational research, is carrying out this focus group. The focus group is funded by the National Science Foundation.

Procedure: The MSP2 focus group will take place at the National Science Teachers Association (NSTA) Conference in New Orleans, LA on Friday, March 20, 2009 from 10:00am-12:00pm. The focus group will be held in the Ellendale Boardroom, Sheraton New Orleans Hotel. Each participant is being asked to participate for one focus group lasting no longer than 2 hours. If you accept the invitation to participate in the MSP2 focus group, we will ask you to do the following:

- Look at the MSP2 Website (www.msteacher.org) and offer opinions/answer questions about the site.
- Share your perceptions of youth favorite Websites in general and opinions about why they are favorites.
- Share your perceptions of youth favorite Websites for looking up educational information for projects/homework and opinions about why these sites are used.
- Share opinions about topics youth enjoy learning about with regard to science and math.

We will audio/video record the focus group, so that we can ensure accurate recording of the information shared during the focus group.

Risks: To the best of our knowledge, participation in the MSP2 focus group is associated with minimal risk of harm. We do not expect the inconvenience, if any, to be more than ordinarily encountered in daily life. There may also be a small risk associated with breach of confidentiality but this is unlikely to happen or cause harm (see Confidentiality section below).

Benefits: There are likely to be no direct benefits to you for participating in the MSP2 focus group, you're your feedback may help us design a Website for all middle school students, and it will contribute to the general understanding of what today's middle school students like and dislike on the Internet.

Costs and Payments: There should not be any cost to you for participation in the MSP2 focus group. You will be given a **\$50 Amazon.com gift certificate** as a way of thanking you for the time you have given us.

Confidentiality: The MSP2 focus group staff will protect your privacy as well as that of all of the participants in all published reports resulting from this focus group. All information gathered will be maintained in strict confidentiality, and pseudonyms will be used whenever information is used for analysis. This informed consent document, with your name on it, will be stored in a locked cabinet at EDC. Recordings from the focus group will be kept in a secure office at EDC and will be destroyed when our Website is finished. Additionally, all members of the focus group (including yourself) will be asked to maintain confidentiality of what is said in the group,

ensuring that identifiable comments made by focus group members will not be shared outside of the focus group.

Voluntary Participation: Your participation in the MSP2 focus group is completely voluntary. You will be given the option of participating before the focus group begins, and your consent will be required for you to be a part of the focus group. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled, and you may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

Contact Information: Questions about the MSP2 focus group should be directed to Sarita Pillai, at 1-800-225-4276 ext. 2164 (spillai@edc.org). If you have any questions regarding your rights as a participant in this focus group, you can contact EDC's Human Protection Administrator at 1-800-225-4276 ext. 2971 or HumanProtections@edc.org.

STATEMENT OF CONSENT

I have read the summary of the focus group above. It has been explained to my full satisfaction. I have received a copy of this form that I can keep.

Please check all applicable boxes.

☐ **I agree** to participate in the MSP2 focus group and to being audio/video recorded as part of the focus group.

OR

☐ **I do NOT agree** to participate in the MSP2 focus group.

[Print name here]

Signature: _____ Date: _____

8. Youth Online Survey

If you've reached this page, then that means your educator or mentor has asked you to fill out a survey.

Why should I fill out this survey? By filling out this survey, you will help us learn about middle schoolers (such as yourself) and how they use the Internet. The questions on this survey are

about: what you think about science and math, whether or not you use computers and the Internet, how you use the Internet, and what you look at when you go online. We are trying to design a Website for middle school youth like you, and we hope you'll help us. If you take the time to fill out this survey, your answers will help us design our Website based on your feedback, and we will better understand what middle schoolers like and dislike on the Internet.

How much does it cost? Do I get anything? It won't cost you anything to take the survey—it's free! Also, we will have a drawing in **June 2009** and **10** participants will get a **\$25 Amazon.com gift certificate** as a way of thanking you for the time you give us if you participate. If you fill out your contact information at the end of the survey, we'll enter you in the drawing and send you your **\$25 Amazon.com gift certificate** if you are picked! We'll be sure to keep your contact information separate from your survey, so that we are sure to use that information only to contact you if you've won the raffle.

It's completely up to you! We also want you to know that if you agree to fill out the survey and then you change your mind later, that's okay. Nothing bad will happen to you if you decide not to participate or you change your mind later. It's your choice.

CONFIDENTIALITY: We will do everything we can to keep the information you tell us in the survey private. The information you give us will only be seen by us (the people who made the survey), and we will never use your name or anything that could give away who you are. We will do a good job at keeping all our records secret by following the rules that the U.S. government has made for researchers.

Do you have any questions? Questions about the MSP2 survey should be directed to Sarita Pillai, at 1-800-225-4276 ext. 2164 (spillai@edc.org). If you have any questions about your rights as a participant in this survey, you can contact EDC's Human Protection Administrator at 1-800-225-4276 ext. 2971 or HumanProtections@edc.org.

STATEMENT OF ASSENT

I have read the summary of this survey above. By clicking on the "Take the Survey!" button below, I am saying that I would like to participate in the MSP2 survey.

[Click here to start the MSP2 survey]

[page 2]

All questions optional.

First, we want to know how you feel about using computers and the Internet to complete tasks. Pick the answer that best represents your agreement or disagreement with each statement.

I am good at collecting information using technology (e.g., Internet, search engines). **Check one.**

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

I am good at using technology to organize information (spread sheets, word processing). **Check one.**

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

I know how to use technology to solve everyday problems. **Check one.**

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

I avoid using technology because I am not very good at using it. **Check one.**

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

I am good at using technology to better understand ideas that I learned in school. **Check one.**

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

I am good at using technology to communicate with other people. **Check one.**

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

If I could use the technologies that scientists and engineers use when they do their work, it would be easier for me to learn. **Check one.**

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

[page 3]

All questions optional.

Next, we have some questions about the kinds of jobs you're interested in.

List one job you think you'd like to have as an adult.

Open-ended; one line

Do you think you will need to use science, math, or technology to do this job? **Check one.**

Yes

No

Not sure

List up to five different jobs you aware of that involve science, math, technology, or engineering.

Open-ended; list up to 5

What are some of your favorite science topics to learn about?

Open-ended; list up to 3

What are some of your favorite math topics to learn about?

Open-ended; list up to 3

Outside of school, how often did you visit museums, science centers, colleges, or do other activities (such as community service/volunteering or special programs) that present science, math, or technology? **Check one.**

Never

1-2 times

3-5 times

More than 5 times per year

List some of these places below.

Open-ended; list up to 5

List five of your favorite things to do for fun.

Open-ended; list up to 5

[page 4]

All questions optional.

The next set of questions are about how you use the computer and what you do online.

Where do you most often use a computer? Check one.

Home

School

Library

Other: _____

Does your school have computers available for students to use? Check one.

Yes

No

How often do you use computers in the following school courses?

a. Science Check one.

Never

Hardly ever

About monthly

Weekly

About daily

b. Math Check one.

Never

Hardly ever

About monthly

Weekly

About daily

Do you think more of your classes could be taught using the Internet? Check one.

Yes

No

Not sure

How comfortable are you using computers? Check one.

Not at all comfortable

A little comfortable

Comfortable

Very comfortable

Do you have a computer at home? **Check one.**

Yes

No

If above is yes: Do you have Internet access at home? **Check one.**

Yes

No

[page 5]

All answers optional.

We're interested in knowing how you use computers and the Internet when you're doing something for school and when you're doing something for fun. If you only do an activity for school, just check the "For School" box. If you only do an activity for fun, just check the "For Fun" box. If you do an activity for school *and* for fun, check both boxes. **Check all that apply.**

	For School	For Fun	Don't Do
Create or work on my own page on social networking Websites (ex. MySpace, Facebook)			
Create my own characters/avatars and do things in virtual worlds (ex. Second Life, WOW, Gaia, or Habbo Hotel)			
Send or receive instant messages			
Talk to people in "chat rooms"			
Download or share music/video files			
Create or work on webpages			
Write computer programs			
Use software packages to create animations			
Use a digital camera or digital camcorder to capture images or video and upload them online			
Share something online that you created yourself, such as your own artwork, photos, music, stories or videos			
Take material you find online or that you've created—like songs, text or images—and remix it into your own artistic creation			
Using search engines to find useful information on the Internet			
Use large databases to find or analyze information			
Use computers to analyze data			
Use basic computer applications to write, research, and communicate (ex., Word, spreadsheets, email, presentations, Internet)			

Create or work on an online journal or blog			
Contribute to online forums, online dialogs, wikis			
Download a podcast so you can listen to it or view it at a later time			
Develop video games			
Play online games			
Use simulations			
Use integrated learning labs ("Tech labs")			

What are the different ways you use social networking Websites (for example, Facebook or MySpace)? Do you ever use those Websites to... **Check all that apply.**

Make new friends

Stay in touch with friends you see a lot

Stay in touch with friends you rarely see in person

Flirt with someone

Make plans with your friends

Don't use

Other: _____

If anything but "Don't use" is checked: We'd like to know the specific ways you communicate with your friends using social networking Websites (for example, Facebook or MySpace). Do you ever... **Check all that apply.**

Post messages to a friend's page or wall

Send a bulletin or group message to all of your friends

Send private messages to a friend within the social networking system

Wink, poke, give "e-props" or kudos to your friends

Post comments to a friend's blog

Other: _____

About how often do you visit social networking Websites (for example, Facebook or MySpace)? **Check one.**

Several times a day

About once a day

3-5 days a week

1-2 days a week

Every few weeks

Less often

Not sure

Do you ever use any of the following to play games, whether or not you personally have one?

Check all that apply.

A game console like an Xbox, a Playstation or a Wii

A portable gaming device like P-S-P, D-S or Gameboy

A desktop or laptop computer

A cell phone or handheld organizer

Don't use

If anything but "Don't use" is checked: Do you play Massive Multiplayer Online Games, such as World of Warcraft? **Check one.**

Yes

No

Not sure

Do you play console games that utilize online multiplayer functions, such as Xbox Live?

Check one.

Yes

No

Not sure

What are your current top three favorite games?

Open-ended; list up to 3

[page 6]

All answers optional.

What Websites do you like to visit for fun? (URL or name of site)

Open-ended; list up to 3

What Websites do you visit for school? (URL or name of site)

Open-ended; list up to 3

What Websites do you visit when you want to find something on your own (not school related)? (URL or name of site)

Open-ended; list up to 3

From all these Websites you visit which ones do you enjoy the most? (URL or name of site)

Open-ended; list up to 3

[page 7]

Are your favorite Websites...? **Check all that apply.**

Easy to navigate

Easy to find info

Visually appealing

Pleasant to interact with/interactive

Youth oriented

Other: _____

What does the description “youth oriented” mean to you? **Check all that apply.**

Website that allows interactive content

Website that is flashy

Website that has a lot of images

Website that is very colorful

Website that is easy to navigate

Other: _____

We’re interested in the kinds of things you do when you use the Internet. Not everyone has done these things. Please just tell me whether you ever do each one, or not. Do you ever...

Check all that apply.

Buy things online, such as books, clothing or music

Look online for health, dieting, or physical fitness information

Go online to get news or information about current events

Go online to get information about a college, university or other school you are thinking about attending

Go to Websites about movies, TV shows, music groups, or sports stars you are interested in

Watch a video on a video-sharing Website like YouTube or GoogleVideo

Read the online journals or blogs of others

How do you determine if a Website is trustworthy and the information provided is correct?

Open-ended; paragraph

For the most part, I believe the information found on the Internet. **Check one.**

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

Do you visit Websites for science and math work? **Check one.**

Yes

No

If the above is yes:

a. Which Websites?

Open-ended; list up to 3

b. Do you like these Websites? **Check one.**

Yes

No

If above is answered: Why or why not?

c. How did you find out about these Websites?

Open-ended; paragraph

[page 8]

All answers optional.

The last set of questions are questions about you.

Current Grade **Check one.**

6

7

8

9

What year were you born?

Open-ended; 1 line

What is your gender?

Open-ended; 1 line

What is your race? **Check all that apply.**

Asian/Pacific Islander

Black/African-American

Hispanic/Latino

American Indian

White/Caucasian

Other: _____

What language do you speak at home?

Open-ended; 1 line

Is there anything else you would like to add about yourself or your interests?

Open-ended; paragraph

[page 8]

Thank you for taking the MSP2 survey!

If you have questions about the MSP2 survey you just took, contact Sarita Pillai, at 1-800-225-4276 ext. 2164 (spillai@edc.org). If you have any questions regarding your rights as a participant in this

survey, you can contact EDC's Human Protection Administrator at 1-800-225-4276 ext. 2971 or HumanProtections@edc.org.

If you would like to enter yourself in the drawing for a **\$25 Amazon.com gift certificate**, please click on the link below and enter your phone number and email. This information will only be used if you are one of the **10** participants to win a **\$25 Amazon.com gift certificate**. We will use this information to let you know that you've won and send your **\$25 Amazon.com gift certificate** to you.

[new survey]

All answers optional.

Thank you for taking the MSP2 survey!

If you would like to enter yourself in the drawing for a **\$25 Amazon.com gift certificate**, please enter your contact information in the lines below. This information will only be used if you are one of the **10** participants to win a **\$25 Amazon.com gift certificate**. We will use this information to let you know that you've won and send your **\$25 Amazon.com gift certificate** to you.

Phone: **Open-ended; 1 line**

Email: **Open-ended; 1 line**

9. Youth Online Survey – Cover Letter to Parents

[partner school/organization letterhead]

[date]

Dear Parents:

I am sending this letter on behalf of Education Development Center, Inc. (EDC), from Newton, MA.

EDC is putting out an online survey, the (MSP)² youth survey, to learn how youth use the Internet on a regular basis and, specifically, they ways in which youth use the Internet to help with schoolwork. The project is funded by the National Science Foundation.

EDC staff plan to have participants fill out an online survey to share opinions on science and math in and out of school, share favorite Websites in general and opinions about why they are favorites, and share favorite Websites for looking up educational information for projects/homework and opinions about why these sites are used or how these sites are "better" for schoolwork than other sites. No personal or identifying information will be asked,

though there is a raffle for a \$25 Amazon.com gift card, and your child may be asked to provide contact information to be used only for the purposes of mailing the prize. This contact information will not be linked to your child's survey answers in any way. I am assisting EDC in administering this survey to inform the design of a science- and math-focused educational Website for middle school youth.

I will set aside some time for our group to fill out this survey during our regularly scheduled meeting time. If you do not want your son or daughter to participate in this survey, he or she will not have to. I will provide an alternate activity for non-participating youth during this time. This letter is only meant to inform you that this will be an optional activity in our group. If you have any questions about the survey, please contact Sarita Pillai, the project director, at EDC (1-800-225-4276 ext. 2164, spillai@edc.org).

Please note that while I am helping EDC administer this survey, I will not release any information about you or your child to EDC without your permission. **The survey will remain completely anonymous, with the exception of optional contact information for the raffle.**

Please feel free to contact me if you have any questions about my role. Please contact Sarita Pillai at EDC if you have questions about the focus group.

Sincerely,
[educator name]

10. Youth Online Survey – Cover Letter to Educators

[date]

Dear Educator:

Education Development Center, Inc. in Newton, MA is putting out an online survey, the (MSP)² youth survey, to learn how youth use the Internet on a regular basis and, specifically, they ways in which youth use the Internet to help with schoolwork. The project is funded by the National Science Foundation.

EDC staff invite you and the youth you work with to fill out an online survey to share opinions on science and math in and out of school, share favorite Websites for youth in general and opinions about why they are favorites, and share favorite Websites for looking up educational information for projects/homework and opinions about why these sites are used or how these sites are “better” for schoolwork than other sites. This results of this survey will only be used to inform the design of a science- and math-focused educational Website for middle school youth. No personal or identifying information will be asked, though there is a raffle for ten \$25 Amazon.com gift cards for participating youth and a separate raffle for ten \$50 Amazon.com

gift cards for participating educators, and participants may be asked to provide contact information to be used only for the purposes of mailing the prize.

If you would like to aid EDC in this endeavor, we ask that you set aside some time for your group to fill out this survey during your regularly scheduled meeting time. A form letter explaining the project and the use and purpose of the survey has been attached to this email for you to distribute as you see fit. In addition, you are asked to explain this project to the youth you work with and answer any questions they might have in order to ensure that they understand the use and purpose of the survey. Please note that this survey is completely optional, information obtained via this survey will remain confidential, and participants will remain completely anonymous unless they provide optional contact information for the raffle prize. For the youth survey, participant contact information will not be linked to their survey answers in any way.

If you have any questions about the project, you can contact Sarita Pillai, the project director, at EDC (1-800-225-4276 ext. 2164, spillai@edc.org). Please also feel free to contact me if you have any questions about the survey or the project. We look forward to your participation!

Sincerely,

Kimberly Lucas

Research Assistant, Middle School Portal: Math and Science Pathways
Education Development Center, Inc.

11. Educator Online Survey

If you've reached this page, then that means you have been asked you to fill out a survey. By filling out this survey, you will help us learn about middle school youth and how they use the Internet. The questions on this survey are about: what youth think about science and math, whether or not you use computers and the Internet in your classrooms or programs, how youth use the Internet, and what youth look at when they go online. We are trying to design a Website for middle school youth, and we hope you'll help us.

If you take the time to fill out this survey, your answers will help us design our Website based on your feedback, and we will better understand what middle schoolers like and dislike on the Internet. It won't cost you anything to take the survey—it's free! Also, we will have a drawing in **June 2009** and **10** participants will get a **\$50 Amazon.com gift certificate** as a way of thanking you for the time you give us if you participate. If you fill out your contact information at the end of the survey, we'll enter you in the drawing and send you your **\$50 Amazon.com gift certificate** if you are picked.

We will do everything we can to keep the information you tell us in the survey private. The information you give us will only be seen by project staff at Education Development Center, Inc., and we will never use your name or anything that could give away who you are. We will keep all our records confidential. Additionally, this survey is completely voluntary: you are in no way obligated to complete the survey once you have started.

Questions about the MSP2 survey should be directed to Sarita Pillai, at 1-800-225-4276 ext. 2164 (spillai@edc.org). If you have any questions regarding your rights as a participant in this survey, you can contact EDC's Human Protection Administrator at 1-800-225-4276 ext. 2971 or HumanProtections@edc.org.

STATEMENT OF CONSENT

I have read the summary of this survey above. By clicking on the "Take the Survey!" button below, I am saying that I would like to participate in the MSP2 survey.

[Click here to start the MSP2 survey]

[page 2]

Both questions required.

What subjects do you currently teach or does your program currently address? *Check all that apply.*

Science: _____

Math: _____

Other: _____

What grade level(s) do you currently work with? *Check all that apply.*

5th grade

6th grade

7th grade

8th grade

[page 3]

All questions optional.

What technologies (e.g., computer, digital camera/camcorder, smart board) do you use with your youth?

Open-ended, paragraph

What Websites do you use with your youth?

Open-ended, paragraph

How do you usually find these sites?

Open-ended paragraph

Do your students have any Website preferences for educational/academic help? **Check one.**

Yes

No

Please list these Websites here:

Open-ended, list up to 5

Indicate how each of the following describes the ways your youth learn.

- a. Youth group projects often involve technology usage. **Check one.**

Strongly agree

Agree

Disagree

Strongly disagree

- b. Youth develop their own “technology learning environment” by engaging their educator, fellow youth, and experts outside of the classroom. **Check one.**

Strongly agree

Agree

Disagree

Strongly disagree

[page 4]

All questions optional.

In your experience thus far, what have you found to be most valuable in terms of using the computer/Internet with your youth? For instance, have you found that certain kinds of Websites engage your youth more than other kinds of Websites? Or perhaps you have found particular elements of certain Websites (games, colors and font, etc.) that your youth especially gravitate towards?

Open-ended, paragraph

In your experience thus far, what have you found to be the most frustrating, least useful about using technologies with your youth?

Open-ended, paragraph

As you look forward, what do you anticipate as the most likely obstacle(s) when using computers/Internet with your youth?

Open-ended, paragraph

Describe the impact of your work using computers/Internet with youth on your youths' *achievement* in math or science.

Open-ended, paragraph

Please list some of the topics you use to teach science or math concepts (e.g., stock market, glaciers and global warming).

Open-ended, list up to 5

[page 5]

All questions optional.

Thank you for taking the MSP2 survey!

If you would like to enter yourself in the drawing for a **\$50 Amazon.com gift certificate**, please enter your contact information in the lines below. This information will only be used if you are one of the **10** participants to win a **\$50 Amazon.com gift certificate**. We will use this information to let you know that you've won and send your **\$50 Amazon.com gift certificate** to you.

Phone: Open-ended, one line

Email: Open-ended, one line

Questions about the MSP2 survey should be directed to Sarita Pillai, at 1-800-225-4276 ext. 2164 (spillai@edc.org). If you have any questions regarding your rights as a participant in this survey, you can contact EDC's Human Protection Administrator at 1-800-225-4276 ext. 2971 or HumanProtections@edc.org.

12. Educator Online Survey – Cover Letter to Educators

Dear Educator:

Education Development Center, Inc. in Newton, MA is putting out an online survey, the (MSP)² youth survey, to learn how youth use the Internet on a regular basis and, specifically, they ways in which youth use the Internet to help with schoolwork. The project is funded by the National Science Foundation.

EDC staff invite you and the youth you work with to fill out an online survey to share opinions on science and math in and out of school, share favorite Websites for youth in general and opinions about why they are favorites, and share favorite Websites for looking up educational information for projects/homework and opinions about why these sites are used or how these sites are "better" for schoolwork than other sites. This results of this survey will only be used to inform the design of a science- and math-focused educational Website for middle school youth. No personal or identifying information will be asked, though there is a raffle for ten \$25 Amazon.com gift cards for participating youth and a separate raffle for ten \$50 Amazon.com

gift cards for participating educators, and participants may be asked to provide contact information to be used only for the purposes of mailing the prize.

If you would like to aid EDC in this endeavor, we ask that you set aside some time for your group to fill out this survey during your regularly scheduled meeting time. A form letter explaining the project and the use and purpose of the survey has been attached to this email for you to distribute as you see fit. In addition, you are asked to explain this project to the youth you work with and answer any questions they might have in order to ensure that they understand the use and purpose of the survey. Please note that this survey is completely optional, information obtained via this survey will remain confidential, and participants will remain completely anonymous unless they provide optional contact information for the raffle prize. For the youth survey, participant contact information will not be linked to their survey answers in any way.

If you have any questions about the project, you can contact Sarita Pillai, the project director, at EDC (1-800-225-4276 ext. 2164, spillai@edc.org). Please also feel free to contact me if you have any questions about the survey or the project. We look forward to your participation!

Sincerely,

Kimberly Lucas

Research Assistant, Middle School Portal 2: Math and Science Pathways
Education Development Center, Inc.

13. Youth design Team – Cover Letter to Parents

[date]

Dear Parents:

I am sending this letter on behalf of Education Development Center, Inc. (EDC), from Newton, MA.

EDC is creating a Website design team, the Middle School Portal 2 (MSP2) Design Team, to create an educational, science- and math- (STEM) focused Website for middle school youth. The project is funded by the National Science Foundation.

EDC is seeking permission for your child to participate in the MSP2 Design Team. Enclosed with this letter are two parental permission forms prepared by EDC. These forms provide detailed information about the MSP2 Design Team. If you have any questions about the MSP2 Design Team, please contact Sarita Pillai, the project director, at EDC (1-800-225-4276 ext.

2164, spillai@edc.org). If you decide it is okay for your child to participate, please return a signed permission form to the South End Technology Center, and keep another copy for yourself. We will give the form to the focus group staff at EDC.

Please note that while the South End Technology Center is helping EDC conduct the focus by providing information about the focus group to the parents of youth who might be able to help them with their focus group, we will not release any information about you or your child to EDC without your permission. **We will only release your names and your child's name if you agree to your child's participation and sign and return one of the attached forms.** If you sign the permission form and return it, we will also help the MSP2 Design Team staff schedule meeting times with your child during our meeting times.

Please feel free to contact me if you have any questions about the South End Technology Center's role. Please contact Sarita Pillai at EDC if you have questions about the focus group.

Sincerely,

[South End Tech Center staff name]

[title]

14. Youth Design Team - Parental Permission

Your son/daughter is invited to participate in a Website design team where their design choices and preferences will be researched and studied to produce a Website for the public.

Purpose: The Middle School Portal 2 (MSP2) Design Team will work together to create an educational, science- and math- focused Website for middle school youth. Education Development Center, Inc. (EDC), a non-profit based in Massachusetts that conducts educational research, is running this Design Team. The Design Team is funded by the National Science Foundation.

Procedure: The MSP2 Design Team will meet at the South End Technology Center (359 Columbus Ave., Boston, MA 02116). We will meet **twice a week** for **10-12 weeks from April 2009 to June 2009**. The Design Team will consist of 6-8 middle school-aged participants recruited from the South End Technology Center. At least two adults (from EDC or the South End Technology Center) will be present at each Design Team meeting.

Each meeting will last for no more than **2 hours** each time. Meeting dates and times will be arranged with the South End Technology Center (SETC) and will be shared with the families of potential participants prior to the beginning of the sessions. If you accept the invitation to participate in the MSP2 Design Team, we will ask your son/daughter to do the following:

- Plan, design, and develop a fun and interactive Website about science and math

- Look at the NSDL Website (www.nsdl.org) and offer opinions/answer questions about the site
- Share favorite Websites in general and opinions about why they are favorites
- Share favorite Websites for looking up educational information for projects and homework and opinions about why these sites are used or how these sites are “better” for schoolwork than other sites
- Share opinions about what they like in Websites in general
- Create science, technology, engineering, and math (STEM) activities to post on the Website

We may audio/video record or photograph parts of the MSP2 Design Team meetings, so that we can ensure accurate recording of the information shared during the focus group.

EDC and SETC will only be responsible for your child during the designated design team meeting dates/times while the design team is meeting at SETC. EDC and SETC will not be responsible for your child beyond these dates, times, and premises. A list of contact phone numbers and people who can pick your child up is requested at the end of this form. EDC and SETC will use the phone numbers provided in the event that your child does not show up on time for a Design Team meeting. EDC and SETC will only allow your child to leave Design Team meetings with people that you list—please be sure to arrange transportation for your child to and from SETC in advance.

Risks: To the best of our knowledge, participation in the MSP2 Design Team is associated with minimal risk of harm to your son/daughter. You and your child may be inconvenienced by travel to and from SETC. There may also be a small risk associated with breach of confidentiality but this is unlikely to happen or cause harm (see Confidentiality section below).

Benefits: By participating in the MSP2 Design Team, your son/daughter will help us design and create a Website for all middle school students. In addition, he/she will be learning new things about how Websites are created and about where they can find online resources for science and math.

Costs and Payments: Participation in the MSP2 Design Team activities is free, but participants or participant families may incur costs for travel to or parking near the meeting site (parking may be difficult to find). Your child will be given **an iPod Touch** as a way of thanking him/her for the time he/she has given us. Each participant will receive his/her incentive at the completion of all the Design Team meetings, so long as he/she has fulfilled all of the following parameters: regular and on-time attendance at all sessions for the entire duration of each session, adherence to youth-created code of conduct, positive and active participation in sessions.

Confidentiality: The MSP2 Design Team staff will protect your child’s privacy as well as that of all of the participants in all published reports resulting from this focus group. All information gathered will be maintained in strict confidentiality, and pseudonyms will be used whenever information is used for analysis. This informed consent document, with your and your child’s name on it, will be stored in a locked cabinet at EDC. Video, photographic, and audio recordings from the focus group will be kept in a secure office at EDC and will be destroyed when our Website is finished. All participants will be asked to treat all information learned through the duration of the Design Team meetings as confidential.

Voluntary Participation: Your child’s participation in the MSP2 Design Team is completely voluntary. He/she will be given the option of participating before the Design Team begins to meet, and both his/her assent and your consent will be required for him/her to be a part of the Design Team. Refusal to participate will involve no penalty or loss of benefits to which you and your child are otherwise entitled, and you and your child may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

Contact Information: Questions about the MSP2focus group should be directed to Sarita Pillai, at 1-800-225-4276 ext. 2164 (spillai@edc.org). If you have any questions regarding your rights as a participant in this Design Team, you can contact EDC’s Human Protection Administrator at 1-800-225-4276 ext. 2971 or HumanProtections@edc.org.

STATEMENT OF CONSENT

I have read the summary of the MSP2 Design Team above. It has been explained to my full satisfaction. I have received a copy of this form that I can keep.

[Print child’s name here]

Please check all applicable boxes.

q **I agree** to have my child (named above) participate in the MSP2 Design Team and to being audio/video recorded/photographed as part of the design team. I understand that my permission does not guarantee my child a spot on the Design Team, but will allow him/her to be on the Design Team should he/she be accepted.

OR

q **I do NOT agree** to have my child (named above) participate in the MSP2Design Team.

[Print name of Parent/Guardian Giving Consent]

Signature: _____ Date: _____

Contact Phone Number(s): _____

People allowed to pick up my son/daughter: _____

15. Youth Design Team - Student Assent

Hello! Education Development Center is putting together a youth design team, and we'd like to invite you to participate in it. This form describes what the design team is all about. First, it tells you a little bit about the design team. After that, it asks if you'd like to participate in the design team.

What's the Design Team all about? Our design team is called the Middle School Portal 2 (MSP2) Design Team, and we will work together to create a Website that middle schoolers can use for help with math and science school projects and homework and/or just to find interesting information about math and science. We're looking for about 8 middle schoolers to participate in our design team.

What will the Design Team do? The MSP2 Design Team will meet at the South End Technology Center (359 Columbus Ave., Boston, MA 02116). We will meet **twice a week** for **10-12** weeks from **April 2009 to June 2009**. We'll meet for no more than **2 hours** each time. Participants in the design team will do the following:

- Plan, design, and develop a fun and interactive Website about science and math.
- Look at the NSDL Website (www.nsd.org) and offer opinions/answer questions about the site.
- Share favorite Websites in general and opinions about why they are favorites.
- Share favorite Websites for looking up educational information for projects and homework and opinions about why these sites are used or how these sites are "better" for schoolwork than other sites.
- Share opinions about what you like in Websites in general.
- Create science, technology, engineering, and math activities to post on the Website

We may audio/video record or photograph parts of the MSP2 Design Team meetings so that we can remember what happened during the meetings.

How much does it cost? Do I get anything? Participating in the MSP2 Design Team activities is free, but it might take you away from other activities for a short time each week. You might also need to figure out a way to get to the South End Technology Center—by either T or by getting someone to drop you off. Aside from that, it won't cost you anything to participate in the MSP2 Design Team.

By participating in the MSP2 Design Team, you will help us design and create a Website for all middle school students. In addition, you will get to learn new things about how Websites are created and about where you can find online resources for science and math. In addition, we will give you **an iPod Touch** as a way of thanking you for the time you give us if you fulfill the following: regular and on-time attendance at all sessions for the entire duration of each session, adherence to youth-created code of conduct, positive and active participation in sessions.

It's up to you! Both you and your parents have to agree to allow you to take part in the MSP2 Design Team. If you agree to take part in it and then you change your mind later, that's okay, too. Nothing bad will happen to you if you decide not to participate or you change your mind later. It's your choice.

Confidentiality: We will do everything we can to keep your participation in the MSP2 Design Team private. If we use any information from this design team, we will never use your name or anything that could give away who you are. We will do a good job at keeping all our records secret by following the rules that the U.S. government has made for researchers. In the same way, we would like to ask you to treat anything you learn about other Team members confidential unless those Team members say it's okay to talk about those things with other people.

Contact Information: Questions about the MSP2 Design Team should be directed to Sarita Pillai, at 1-800-225-4276 ext. 2164 (spillai@edc.org). If you have any questions regarding your rights as a participant in this Design Team, you can contact EDC's Human Protection Administrator at 1-800-225-4276 ext. 2971 or HumanProtections@edc.org.

STATEMENT OF ASSENT

I have read the summary of the MSP2 Design Team above. It has been explained to my full satisfaction. I have received a copy of this form that I can keep.

[Print name here]

- q **I agree** to participate in the MSP2 Design Team and to being audio/video recorded/photographed as part of the design team.

Or

- q **I do NOT agree** to participate in the MSP2 Design Team.

Signature: _____ Date: _____

16. Youth Design Team - Contract

The MSP2 Design Team consists of middle schoolers who work together to create a Website that other middle schoolers can use for help with math and science school projects and homework and/or just to find interesting information about math and science.

Project Meetings

The MSP2 Design Team will meet at the **South End Technology Center** (359 Columbus Ave., Boston, MA 02116). We will begin meeting on **May 6, 2009** and will continue to meet twice a week on **Wednesdays** and **Thursdays** for **8 weeks**. Each meeting will last for **2 hours** from **4:30pm** until **6:30pm**.

Design Team Activities

- Plan, design, and develop a fun and interactive Website about science and math
- Look at the NSDL Website (www.nsdl.org) and offer opinions/answer questions about the site
- Share favorite Websites in general and opinions about why they are favorites
- Share favorite Websites for looking up educational information for projects and homework and opinions about why these sites are used or how these sites are “better” for schoolwork than other sites
- Share opinions about what you like in Websites in general
- Create activities to post on the Website

Expectations for Design Team Members

MSP2 Design Team members are expected to:

- Show up to all meetings on time and prepared.
- Let meeting leaders know in advance if you’ll be late or miss a meeting.
- Actively participate in meeting activities.
- Follow the Code of Conduct that everyone creates and agrees to (see reverse).

Design Team Member Compensation

MSP2 Design Team members who have fulfilled the above expectations by the end of the 8 weeks will receive **an iPod Touch** as compensation for their hard work.

I have read the guidelines and expectations for being a part of the (MSP)² Design Team. I understand what it means to be a part of this team, and I would like to participate.

Signature
Date

Printed Name
Code of Conduct

17. Youth Design Team – Pre-Survey

Name: _____**Date:** _____

Think about using the Internet and the things you know how to do online. Also, think about science, math, technology, and engineering. Then answer the questions below.

1. How interested are you in the following subjects?

	Not interested			Very interested	
	1	2	3	4	5
Math					
Science					
Technology					
Engineering					

2. My level of confidence about my abilities and my knowledge of the following subjects is:

	Not confident			Very confident	
	1	2	3	4	5
Math					
Science					
Technology					
Engineering					

3. Rate your current level of interest in a career that involves the following subjects:

	Not interested			Very interested	
	1	2	3	4	5
Math					
Science					

Technology					
Engineering					

4. Check the box that most accurately describes how well you can perform each of the following tasks:

	I don't know what this means.	I don't know how to do this.	I can do this.	I can do this well.	I can teach someone how to do this. I'm an expert.
List all of the parts ("visual elements") of a Web page.					
Describe the basic structure of a Web page.					
Explain how colors affect the look and feel of a Web page.					
Explain how animation on a Web page can be a good idea or a bad idea.					
Draw or sketch a Web site out on paper.					
Use web tools to sketch out a Web site.					
Explain how to design a good Web page to a friend.					

5. List two really good Websites (either the name of the site or the URL) to go to if you need help with science or math school work that are NOT Google or Ask.com:

a. _____

b. _____

6. If you're looking online for information for a school project, how can you tell if a Website is trustworthy?

7. Give one example of using math **outside of** school.

8. Give one example of using science **outside of** school.

9. How strongly do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Agree	Strongly Agree
Most people should study some science .				
Most people should study some math .				
You can get along perfectly well in everyday life without science .				
You can get along perfectly well in everyday life without math .				
I believe that it is very important for me to learn how to use technology .				
I would like to work in a job that uses a lot of science .				
I would like to work in a job that uses a lot of math .				
I would like to work in a job that uses a lot of technology .				

10. What is one interesting thing you'd like to learn as a part of the MSP2 Design Team?

11. What do you think will be challenging/difficult about being a part of the MSP2 Design Team?

That's it! You're done!

18. Youth Design Team – Post-Survey

Name: _____

Date: _____

Think about using the Internet and the things you know how to do online. Also, think about science, math, technology, and engineering. Then answer the questions below.

1. How interested are you in the following subjects?

	Not interested			Very interested	
	1	2	3	4	5
Math					
Science					
Technology					
Engineering					

2. My level of confidence about my abilities and my knowledge of the following subjects is:

	Not confident			Very confident	
	1	2	3	4	5
Math					
Science					
Technology					
Engineering					

3. Rate your current level of interest in a career that involves the following subjects:

	Not interested			Very interested	
	1	2	3	4	5

Math					
Science					
Technology					
Engineering					

4. Check the box that most accurately describes how well you can perform each of the following tasks:

	I don't know what this means.	I don't know how to do this.	I can do this.	I can do this well.	I can teach someone how to do this. I'm an expert.
List all of the parts ("visual elements") of a Web page.					
Describe the basic structure of a Web page.					
Explain how colors affect the look and feel of a Web page.					
Explain how animation on a Web page can be a good idea or a bad idea.					
Draw or sketch a Web site out on paper.					
Use web tools to sketch out a Web site.					
Explain how to design a good Web page to a friend.					

5. List two really good Websites (either the name of the site or the URL) to go to if you need help with science or math school work that are NOT Google or Ask.com:

a. _____

b. _____

6. If you're looking online for information for a school project, how can you tell if a Website is trustworthy?

7. Give one example of using math **outside of** school.

8. Give one example of using science **outside of** school.

9. How strongly do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Agree	Strongly Agree
Most people should study some science .				
Most people should study some math .				
You can get along perfectly well in everyday life without science .				
You can get along perfectly well in everyday life without math .				
I believe that it is very important for me to learn how to use technology .				
I would like to work in a job that uses a lot of science .				
I would like to work in a job that uses a lot of math .				
I would like to work in a job that uses a lot of technology .				

10. **In general**, what was the coolest thing you did with the MSP2 Design Team? What was fun about it?

11. **In general**, what was the least interesting thing you did with the MSP2 Design Team? Why do you say that?

12. How would you change the MSP2 Design Team to make it better?

13. If a friend of yours was considering coming to this program, what would you tell her/him?

14. Do you think participating in the MSP2 Design Team has made you think differently about science, math, technology, and/or engineering? Please explain.

15. How strongly do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Agree	Strongly Agree
I think I learned a lot from participating in the MSP2 Design Team.				
I think the sessions were too long.				
I put a lot of effort into the MSP2 Design Team.				
Overall, MSP2 Design Team was a worthwhile experience for me.				

19. Youth Design Team – Curriculum (DRAFT)

1st session

- Talk about the project (5 min)
- Introductions: name, age, grade, school, what do you like about your school, what do you like to do for fun (5-10 min)
- Sign consent form (3 min)
- Warm-up games to foster group integration
- *Circle games (20 to 30 min):*
 - 1. Each person says his/her name followed by an adjective that best describes himself/herself.
 - 2. As a second round, the group repeats together with the person the name and adjective.
 - 3. Each person says own name followed by a gesture and sound.
- Create a contract of conduct(20 to 30 min)
- Give the youth on-line survey (45 minutes)

2nd Session

- Warm-up games to foster group integration (20 to 30 min)
 - In a circle, each person says own name followed by a gesture and sound and everybody else repeats.
 - *The machine of rhythms:* one person starts a rhythmical gesture and sound; one by one should add to this gesture/sound trying to create an unified machine; the participants should try to be close to each other in other to better portray the machine; once everybody has her own gesture/sound, the joker asks them to do it faster, louder, slower, softer in any variation she/he desires.
- Give the youth the pre-survey
- Brain storming ideas about cool web-sites

Write the questions below on the board (worksheet #1). In a circle ask the questions below one by one waiting each kid to answer them. Only move to the next question after the discussion about the current one is finished. If we cannot cover all these questions, we continue on the following session.

 - How do you find about a given site? Friends/teachers/google/advertising/other?
 - What do you like the most about the web sites you visit?
 - Is there anything in the visual lay-out of the site that grabs your attention? If yes, what are the visual cues?
 - Do you get hooked by a site because of its graphical/flashy design or because of its contents (what the site offers you)? Or both? Explain.
 - What about navigating the site? What kinds of navigation styles do you like the most? Do you stop going to a site if it does not provide good navigation options?

- Can you show me examples of cool sites? Show us what you like and dislike in these sites. Two kids per computer should access the site(s) than the whole group go around each computer looking and discussing about the sites. This discussion will exemplify the questions asked before.

As the participants demo their cool web sites, we generate a list of desirable features adding to the one generated at the 1st session.

Give them a short homework as for example: bring in a piece of paper the address of 3 websites you use for math/science homework (not google or ask.com)

3rd session

- Warm-up games to foster group integration (20 to 30 min)
 - *The driver is crazy*: Split the group in two, making two lines. The first one in the line is the driver. As the leader gives the sign the driver has to drive in a crazy way while all the others on the line behind him need to hold tight so not to get loose (they should hold on the waist level). Change the motorist until each one has a turn.
 - *Mix up the two groups and go for a second round*
- Highlight the differences between search web sites, portal and specific web sites (content/theme based) as for example <http://www.periodictable.com/>
- Split them in group of two and give a worksheet to complete while looking at existing STEM related web sites (all of this is and more on worksheet #2):
 - What do you like and dislike about the site?
 - How the visual/graphic affects your experience using it?
 - How do you like the content?
 - How do you like the navigation options?
 - Was it easy to find information and activities on this Web site? Why or why not?
 - Would you tell your friends to visit this Web site? Why or why not?
 - Do you have anything to add to the list of features we have generated so far?
 - Comment on the features below for each site
 - Lay-out
 - Colors that like/dislike (hurt the eyes/make it difficult to read the info)
 - Contrast of big and little prints
 - Font
 - Balance of image and text : image size and amount of text to go with image (others?)
 - Navigation
 - Links: how should they appear? – what makes them stick out (more visible)?
 - How far should a scroll bar move? What is the best balance?
 - What is the best way to go to another page? Links, menu, buttons?

Two students at a time demo the known sites and share the answers with the whole group (one desktop will be set up with the projector or smart board).

All the answers should be summarized as a list of features and written in a white paper for the whole group to see. If there is time ask each group to go to a science website given by us and ask them to critique them. Explain the critique based on the items above to the whole group.

4th Session

- Warm-up games to foster group integration and creativity (20 to 30 min)
 - *Collaborative storytelling*: Each person says one word for a story created on the spot.
 - Each person says a sentence for a story being created by the whole group.
- Circle discussion:
Comment about tardiness, behavior (talking at the same time and distracting each other), snack together, computer use
Start at the edhead site and discuss only the features
Critique all the other sites the group visited
- Continue looking at STEM web sites and jotting down what we like and dislike on each one of them.

If there is time (unlikely), we ask the team to access a few more sites and discuss about each one of them using the same worksheet of previous session or ask them to search for science and math websites that match the established criteria of good sites and rate them using table of worksheet #2.

Extra sites that can be viewed:

Society of Women Engineers: <http://aspire.swe.org>

ArtBotics from UMass Lowell: <http://artbotics.cs.uml.edu/>

<http://www.geogebra.org/cms/>

<http://www.funbrain.com/>

<http://www.brainpop.com/>

<http://dsc.discovery.com/>

Sites visited and critiqued by the kids by the end of last two sessions:

<http://www.edheads.org/activities/knee/index.htm>

http://www.recyclezone.org.uk/fz_challenge.aspx

<http://www.nyphilkids.org/composition/main.phtml?>

<http://www.alifetimeofcolor.com/main.taf?p=4,1>

<http://www.learner.org/interactives/parkphysics/coaster/>

<http://www.periodictable.com/>

Exploratorium After School: <http://www.exploratorium.edu/afterschool/>

PBS Kids Zoom Science: <http://pbskids.org/zoom/activities/sci>

Society of Women Engineers: <http://aspire.swe.org>

ArtBotics from UMass Lowell: <http://artbotics.cs.uml.edu/>

<http://www.geogebra.org/cms/>

<http://www.funbrain.com/>

<http://www.brainpop.com/>

<http://dsc.discovery.com/>

5th Session

- Warm-up games to foster group bonding and creativity (10 to 15 min)
 - *A round of rhythm and movement*: One person in the center of a circle makes a movement or gesture accompanied by a sound, and everybody in the circle has to imitate this gesture and sound as much as possible; then another person comes to the center to make the gesture/sound, and so on until everyone gets a turn.
- Discuss our finding on likes/dislikes of visited fun and STEM web-sites
 - What did we learn from the visited STEM web-sites?
 - From what we have seen, which features would we like to incorporate on our design?
 - Which kind of web site would you like to design for you and your peers to engage with science and math?
 - Which would be the look and feel of it?
 - Which would be the content of it?
- Introducing tools to help design web-sites
 - www.synthasite.com/
 - www.webs.com/
 - www.balsamiq.com/# (More likely one to be used)
 - www.evolus.vn/Pencil/
- Start implementing our ideas on paper (story boards) and/or the computer-based design tool
 - Draw screen lay-outs
 - Draw navigation style/lay-out
 - Use smart board

6th Session

- Warm-up games to foster group bonding and creativity (15 min)
 - *Lines of five*: the first person in line makes a gesture and sound in rhythm and all the other four in line must repeat; the first person in line goes to the back of the line and the second person should add another gesture and sound and so on until the fifth person in line gives it contribution and the line repeats all the five gestures and sounds in order.
- Continue working on designing the web site through drawing, discussions and using tech tools
- Brain storm ideas for STEM based activities that foster hands-on learning
 - Would you like to create activities to post on the site?
 - Would you like to create guidelines for activities using text, animation or video?
 - What kind of ideas you have for science, math , engineering and tech related activities?

- Give them a quick homework assignment

7th Session

- Warm-up games if it is still necessary (foster creativity/flow if ideas) (15 to 20 min)
 - *Complete the image*: two people shake hands. The others look and decide what could that be: business meeting, lovers, drug deal? Then in pairs, participants should be shaking hands and freezing the position, so that one person gets out while the other is frozen, the person who comes out should look at the image and quickly try to transform it with another position for the hand shake; the first person then leaves while the second is frozen and does the same. The facilitator should that goes on for a while and might ask the participants to change pairs, or put a chair or any prop between each pair and observe if and how the dynamics change.
- Designing web-site using tech tools and paper mock-ups
- Introduce Search worksheets:
 - The kids will be given topics to research one and write down which words they use to find the answers and which sites
 - The kids are in charge of explaining to others how to research the topic by creating guidelines such as step 1, step 2 ,etc
- Design activities to be presented at the web site (content) if a few kids are interested in doing this
 - Generate a list of ideas and choose one to start working on
 - Perhaps this subgroup needs to research for some activity they want to execute

8th Session

- Warm-up games if it is still necessary (foster creativity/flow if ideas) (30 min)
 - *The Chief*: The students should be in circle. One person volunteers to go out. When he comes back everybody is doing the same movement/sound. There is one chief who changes the movements and everybody else follows. This person should change often and the volunteer should find out who is the chief.
- Designing web-site using tech tools and/or story boards
- Looking for resources (content) to add to the site
- Design activities to be posted at the web site (content)
 - Write down list of materials needed to create the activity
 - Write down a guideline helping kids to put the activity/experiment together
- Give them a quick homework assignment

9th, 10th Session

- Warm-up games if it is still necessary (foster creativity/flow if ideas)
- Designing web-site using tech tools and/or story boards
- Critiquing /validating resources (content) we provide
- Design activities to be posted at the web site (content)
 - Plan to record an audio or video tape of the guidelines

11th – 20th Session

- Continue web site design
- Continue content design
 - If the group decide to video tape the proposed activities, start at this session and go on until the last session (20th)

These activities will continue until the 20th session (end of the project). If the team members feel that the design is done before the project is finished, they can start testing it with their peers in school. It will be an initial prototype, but they can gather feedback and decide whether or not to incorporate feedback into the design. Otherwise, EDC team finishes the design and will have a working prototype by the end of the summer 2009 which will be revised and tested with other groups of students.



Evaluation & Assessment Center
MATHEMATICS • SCIENCE • EDUCATION

Evaluation of Middle School Portal 2: Math & Science Pathways (MSP2) Year 1 Report 2008-2009

Miami University
408 McGuffey Hall
Oxford, OH 45056

Phone: 513-529-1686
Fax: 513-529-2110
Website: <http://ohioeval.muohio.edu>

Please cite as follows:

Woodruff, S. B. & Morio, K. L. (2008). *Evaluation of middle school portal 2: Math & science pathways (MSP2) year 1 report 2008-2009*. Oxford, OH: Miami University, Ohio's Evaluation & Assessment Center for Mathematics and Science Education.

Distributed by Ohio's Evaluation & Assessment Center for
Mathematics and Science Education
408 McGuffey Hall
Miami University
Oxford, Ohio 45056

Middle School Portal 2: Math & Science Pathways (MSP2)

Ohio's Evaluation & Assessment
Center for Mathematics and Science
Education

Miami University
Oxford, Ohio

Sarah Woodruff Principal Investigator
Kristen Morio Research Associate

Table of Contents

Table of Contents	iv
List of Tables.....	vi
List of Figures	vii
Introduction	1
Project Background & Goals	2
Evaluation.....	3
Evaluation of Process and Progress	3
Goals & Timeline	3
MSP2 Project Wiki.....	6
Meetings & Conferences.....	6
Planning Meeting	6
Advisory Board Meeting.....	6
Conference Calls.....	7
Evaluation of the MSP2 Web Portal	7
MSP2 Ning	7
Webmetrics.....	7
MSP2 Ning	8
Connecting News with National Science Education Standards Blog	8
Exemplary Resources for Middle School Math and Science Blog.....	9
MSP2 Wiki Pages	9
Evaluation of Dissemination Activities.....	10
National Science Digital Library Brown Bag Series: Web Seminar Evaluations	10
Middle School - What Do We Know: December 11, 2008	10
National Middle School Association Web Seminar Evaluations.....	10
Webinar 1: Online Math Resources -- for the Offline Classroom!.....	11
Webinar 2: FunWorks: Inspiring Students to Pursue Math and Science Careers!	13
Webinar 3: Getting to the Good Stuff: Online Resources for Middle School Math and Science.....	14
Webinar 4: Global Warming and the Polar Regions.....	15
Tapped In Events	17
Evaluation of Collaborative Activities	17
Evaluation of MSP2 Advisory Board Meeting.....	17
Observations	17

Feedback	18
Evaluation of Impact.....	19
Design Team	19
Educator Focus Group.....	20
Youth Focus Group	20
Continuing Activities	22
Summary	23
Recommendations	25
References.....	26
Appendices	27
Appendix A. MSP2 Matrix	28
Appendix B. E & A Center Advisory Board Meeting Report	29
Appendix C. Facilitator’s Advisory Board Meeting Report.....	33
Appendix D. Teacher Leader Overview	47
Appendix E. NSDL Web Seminar Evaluation: Middle School: What do we know?.....	49
Appendix F. NMSA Web Seminar Questionnaire	53
Appendix G. Advisory Board Questionnaire	56
Appendix H. Educator Focus Group Transcript Summary.....	57
Appendix I. Youth Focus Group Transcript Summary	58

List of Tables

Table 1. Year 1 Proposed Tasks and Progress Crosswalk	3
Table 2. MSP2 Wiki page visits from February to April 2009	10
Table 3. Average Item Ratings, NMSA Webinars 1, 2, 3 and 4.....	11
Table 4. NMSA Webinar 1 Response Frequencies	12
Table 5. NMSA Webinar 2 Response Frequencies	13
Table 6. NMSA Webinar 3 Response Frequencies	15
Table 7. NMSA Webinar 4 Response Frequencies	16
Table 8. Advisory Board Meeting Evaluation, Frequencies and Mean Item Scores	18

List of Figures

Figure 1. Unique Visits to MSP2 Portal Blogs	9
--	---

Introduction

Ohio's Evaluation & Assessment Center for Science and Mathematics Education (E & A Center) is the external evaluator for the Middle School Portal 2: Math & Science Pathways (MSP2) Project. Dr. Sarah Woodruff, Miami University, is the Principal Investigator for the evaluation, and Mrs. Kristen Morio, Research Associate, is the Project Director. Dr. Woodruff and Mrs. Morio oversee all aspects of the evaluation.

This report is divided into four sections. Section one provides background information about the MSP2 project and goals. Section two provides information about Year 1 evaluation activities. Section three provides future evaluation plans and ongoing evaluation activities. Section four summarizes the evaluation for Year 1 and provides recommendations for further project years.

Project Background & Goals

The Middle School Portal 2: Math & Science Pathways (MSP2) Project is a collaboration among The Ohio State University College of Education (OSU), the National Middle School Association (NMSA), and the Education Development Center (EDC). The purpose of the MSP2 project is to enhance an established middle school educator website, *NSDL Middle School Portal*, with Web 2.0 tools to promote interactivity, collaboration, and knowledge sharing among its users. The project also will add a youth component to the website.

The five goals of the project are to:

- **Goal 1:** Select, organize, develop, and contextualize quality learning resources in the areas of science and mathematics, 21st century skills, STEM careers, and middle-level education.
- **Goal 2:** Design a portal that provides access to content, interactive opportunities, and virtual support for educators and youth and facilitates the creation of a virtual professional learning community (VPLC) of middle-level mathematics and science educators.
- **Goal 3:** Promote resource discovery and usage through search engine optimization, trainings and workshops, and dissemination.
- **Goal 4:** Collaborate with multiple organizations to sustain project resources and continue to meet the needs of the middle-level mathematics and science community after funding ends.
- **Goal 5:** Evaluate the impact of project deliverables on educators and youth and determine how developers of digital resources and collections can best support the educational use of Web 2.0 tools and services.

Evaluation

Overarching evaluation efforts focus on assessing the progress toward project goals and monitoring project implementation. Qualitative and quantitative data will be collected in Years 2 and 3 of the evaluation to provide both formative and summative analyses of impact.

During Year 1 of the evaluation, the E & A Center staff worked with the MSP2 Project Team in the development and refinement of the evaluation matrix (see Appendix A). The E & A Center and the Project Team have communicated via email, conference calls and face-to-face meetings to discuss the progress of the evaluation and project. A wiki¹ was launched and maintained by the Project Team to keep all team members, including the E & A Center, involved in the development of each project component, updated on project progress, and to provide a forum for discussion of project issues and ideas.

Evaluation of Process and Progress

During Year 1, process and progress of the MSP2 project were evaluated using three sources. The first source, a crosswalk, is provided to compare proposed Year 1 tasks with actual progress (Table 1). It should be noted that this report will be submitted 8 months after, rather than one year after, funding for the project. The second source of data was the project wiki that has been maintained and updated since January 2008. Meetings and conference calls served as the third source of data for evaluation of the process and progress of the MSP2 project.

Goals and Timeline

Table 1 shows proposed tasks to be completed in Year 1 and the progress on each task in relation to each project goal as reported by the Project Team.

Table 1. *Year 1 Proposed Tasks and Progress Crosswalk*

Goal	Proposed Year 1 Tasks	Actual Progress on Tasks
Goal 1: Select, organize, develop, contextualize quality learning resources in science, mathematics, 21 st century skills, STEM careers, and middle-level education.	Update 24 math/science Explore in Depth (EID) publications	45 EID publications converted to wiki pages. Links were added and updated and dead links were removed.
	Launch Science News for Students blog	Task scheduled for Summer 2009.
	Write 6 new EIDs (education issues)	1 new EID launched March 2009, 5 EIDs will launch before August 2009
	Create on-demand resource lists	Resource lists continue to be generated through the MSP2 blogs and Diigo lists. As of May 2009, there are 57 new blog posts and 7 Diigo groups and lists.

¹ A wiki is a collaborative website that can be modified or contributed to by its users. (Encyclopedia Britannica, n.d.)

	Expand MSP2 collection	Blog posts (57 during Year 1) automatically cataloged to MSP2 collection. Wiki pages will be cataloged to MSP2 collection starting May 2009.
	Create tutorials/promotional materials/informational tools	MSP2 bookmark was printed and distributed at the NMSA and NSTA 2009 meetings.
	Update http://msteacher.org	The NSDL Middle School Portal website is currently being updated with a new homepage, new science and math pathways pages, and a banner connecting visitors to "connect with colleagues" via the social network. The original EID pages are still available but will have a link to the wiki version. Launch date of the updated NSDL Middle School Portal website is scheduled for July 1, 2009. New Expert Voices blogposts continue to be written and are RSS-fed to the NSDL Middle School Portal website.
Goal 2: Design portal that provides access to content, interaction, virtual support for educators and students, facilitate VPL.	Populate MSP2 social networking sites	As of May 5, 2009, there were 75 active members of the MSP2 social networking site. Four Diigo (social bookmarking) groups have been populated with 5-8 members each. 19 math and 28 science wiki pages have been created with over 700 visitors. Three groups (math, science, and integrating technology) have been started within the social network with 10-18 members each. A National Science Education Standards widget, GoodReads bookclub, and 21 event descriptions were added.
	Initiate use of the MSP2 collaboration sites (e.g., Curriki, Tapped In)	MSP2 content is currently being added to Curriki, YouTube, SchoolTube, and TeacherTube. Other education-based collaboration sites will be explored.

	Recruit/train Cohort 1 of Teacher Leaders	Three Teacher Leaders have been recruited, trained and are active in the MSP2 social network.
	Digital story workshop at NMSA meeting	Task scheduled for Fall 2009.
	Design youth virtual learning experiences (VLEs)	Literature reviews, protocol and survey development, IRB submission, 2 focus groups, and the recruitment and initiation of a youth Design Team have been completed in order to design and develop accessible VLEs.
Goal 3: Promote resource discovery and usage through search engine optimization, trainings and workshops, and dissemination.	Present at NMSA, NSDL, JCDEL, NSTA, and NCTM Annual Conferences	Project Team members presented at 1 NSTA annual meeting, 1 NMSA annual conference, and 1 NSDL annual meeting.
	Co-present/exhibit with Pathways, NSDL Resource Center	Project staff exhibited with NSDL Resource Center staff at 1 NSTA annual conference (2009) and 1 NMSA annual conference (2008).
	4 webinars, monthly Tapped In, Second Life events	5 webinars and 7 monthly Tapped In events have been conducted.
	Publish in NMSA journals/newsletters	3 NMSA publications have included a description and information regarding MSP2.
	Share information with EDC network	MSP2 has been promoted through the EDC homepage, through center-wide emails, and through recruitment materials for youth VLE development activities.
	Implement a series of Year 1 online 'launch' activities such as creation of MSP2 channels on Facebook and YouTube	Task scheduled for Summer 2009.
Goal 4: Collaborate for sustainability.	Research potential sponsorship opportunities	Sustainability was discussed with the Advisory Board. Conversations were held with Curriki, Avetec and Learning Central. Project PI participated in Ithaka Sustainability Round Table where MSP2 is one of the case studies.
	Investigate existing e-commerce models	Discussion and research are ongoing.

	Convene advisory group, begin semi-annual series of Web conferences	Advisory Board met February 2009. Online follow-up meeting scheduled for August 2009.
Goal 5: Evaluate impact.	Begin evaluation efforts (pre-tests, online surveys, focus groups, interviews, web metrics, monitor uptake of content across locations) of deliverables and applications of Web 2.0 tools	5 webinars have been evaluated. Webmetrics have been collected from September 2008 through May 2009. Data have been analyzed by evaluation team. Advisory Board meeting was evaluated. 2 focus groups have been held and summarized for evaluation purposes.

MSP2 Project Wiki

The MSP2 project wiki (<http://MSP2.pbworks.com/>) was created by Project PI Kimberly Lightle in January 2008. Project Team members are able to collaborate on documents for the project by logging on to the wiki website with permission from the wiki creator. Team members can edit and create documents pertinent to the project. Through continuous monitoring of site activities, the evaluation team, as well as all Project Team members, have been able to stay updated regarding progress of each component for the MSP2 project. The wiki is updated often and has been an important tool for this collaborative project. As of May 6, 2009 the MSP2 wiki consisted of 25 folders containing 63 modifiable pages and 151 linked files.

Meetings and Conferences

Planning Meeting

A planning meeting was held on November 18 and 19, 2008. Representatives from each project partner (OSU, NMSA, EDC, and E & A) attended and shared ideas for launching the MSP2 project. Topics discussed included branding and messaging, communication, potential Advisory Board members, and project timelines. The meeting included group brainstorming sessions as well as specialized small-group discussions. Meeting notes and follow-up thoughts were recorded in the MSP2 wiki.

Advisory Board Meeting

The first meeting of the MSP2 Advisory Board was held February 4 and 5, 2009. Evaluation team members attended the meeting to observe the process of establishing collaboration between participants with diverse backgrounds and experiences. A summary of the Advisory Board Meeting evaluation report can be found in the *Evaluation of Collaboration Activities* section and full reports can be found in Appendices B and C.

Conference Calls

Conference calls are held for all project staff members, including the evaluation project director, on the last Tuesday of every month. Updates on project components also are shared among collaborators on a monthly basis. Project PIs have a scheduled conference call every Tuesday.

Evaluation of the MSP2 Web Portal²

A primary goal of the MSP2 project is to create a web portal that is accessible to middle-level mathematics and science educators. The main component of the portal is the MSP2 Ning³ which includes links to educational resources, discussion forums, wiki pages, blogs⁴ and mathematics and science content. Project Team members believe that the use of these technology tools can facilitate the creation of virtual professional learning communities (VPLCs) of middle-level mathematics and science educators. In order to evaluate Year 1 activity on the portal, monthly website statistic (webmetric) reports were collected and analyzed to determine website usage.

Evaluation data, including Teacher Leader interviews, continued webmetric reports, will be collected for the portal during Years 2 and 3 and site monitoring reports.

MSP2 Ning

The MSP2 Ning was launched in January 2009. The Ning is the main component of the MSP2 portal. From the Ning, users can access all other components of the MSP2 project, including middle school science and mathematics resources, wiki pages, blogs, Diigo⁵ bookmarks, and discussion forums. Currently, there are 75 active members in the MSP2 Ning. Six discussions have been started, 3 groups have been formed, and 14 blog posts have been posted as of May 5, 2009.

A group of Teacher Leaders is currently being recruited and trained by Co-PI Mary Henton of the National Middle School Association (NMSA) to facilitate the virtual learning experiences of teachers participating in the MSP2 portal. MSP2 Teacher Leaders are second-stage middle grades teachers of mathematics and/or science. Teacher Leaders are asked to make a two-year commitment to the project. Currently, three Teacher Leaders are active on the MSP2 site; these Teacher Leaders are clearly marked as “hosts” on the MSP2 Ning website. Teacher Leaders will assist in teacher usage of the MSP2 portal as well as recruit and engage participants in the VPLCs. Teacher Leaders also are asked to participate in professional development activities and to contribute to content development for the website. See Appendix D for an overview of Teacher Leader responsibilities.

Webmetrics

While components of the portal have been active for varying lengths of time prior to project funding, the MSP2 Ning was not launched until February 2009. Components that were active

² A *web portal* is defined as a gateway to related information. (Fox Development, n.d.)

³ A *ning* is an online platform for people to create their own social networks. (Economist.com, 2007)

⁴ *Web log (blog)* is a type of website to which its creator periodically adds, discusses and links to content (e.g., text, pictures, videos). (Economist.com, 2006)

⁵ *Diigo* is a social bookmarking website that allows users to bookmark and tag web pages as well as use other organizational tools for internet resources. Social bookmarking allows users to link to each other's collection of bookmarks. (Diigo, n.d.)

prior to project funding include the *Exemplary Resources for Middle School Math and Science Blog* (February 28, 2008) and the *Connecting News with National Science Education Standards Blog* (September 5, 2007). For the MSP2 project, website statistics (webmetrics) were collected for project components starting in September 2008 or from the component launch date if it occurred between September 2008 and February 2009. Webmetrics included in this evaluation report were collected between December 2008 and April 2009. These data demonstrate changes in webmetrics for the listed components that may be attributable to linking them to the MSP2 portal.

Data available from the webmetrics reports include the number of visits to the site, how visitors are finding the website (traffic sources), how long each visitor remains on the website, and how many times a Really Simple Syndication (RSS) feed⁶ is requested. These data are described for each component including the Ning.

MSP2 Ning

Webmetrics data have been collected for the MSP2 Ning since the launch date on February 1, 2009. Between February and April, the number of new visits increased by 795%. Direct traffic⁷ to the website decreased from February to April (71% to 42% of visitors).⁸ Visitors from referring sites changed very little between February (21%), March (22%), and April (26%). However, visits from search engines increased significantly (8% to 32%) during that time. Currently, 75 members have joined the MSP2 Ning community.

Connecting News with National Science Education Standards Blog

The first topic was posted to the Connecting News to the *National Science Education Standards Blog* (<http://expertvoices.nsdl.org/connectingnews>) on September 5, 2007. The blog was created for the first NSDL Middle School Portal project as a vehicle to disseminate and discuss information related to current events as teaching opportunities. Since September 1, 2008, the MSP2 project has hosted the Connecting News blog and has posted new topics weekly. Topics include current events and connections to Grades 5 through 8 National Science Education Standards as well as suggestions for creating inquiry lessons for the middle school classroom based upon posted current science news and events.

Visitors to the *Connecting News with National Science Education Standards Blog* spent an average of 1 minute 33 seconds on a webpage between December 2008 and April 2009. During February, March, and April, the top referring websites (search engines not included) determined by the number of clickthroughs⁹ were <http://www.msteacher.org>; <http://nsdl.org>; and <http://MSPortal-2.ning.com> (the MSP2 Ning). The top two referring sites were responsible for nearly 200 clickthroughs each while the MSP2 Ning website provided only 19 clickthroughs. The top referring search engine was <http://images.google.com> with a total of 416 clickthroughs. Thirteen requests for an RSS feed from this blog were received. Figure 1 shows a steady increase in the number of new visitors to the *Connecting News Blog Website* between December 2008 and April 2009.

⁶ An RSS feed is a format for delivering periodically changing or updated web-based information such as news and blogs. (Whatissrss.com, n.d.)

⁷ Direct traffic refers to website visits that are a result of going straight to the URL as opposed to being linked to the website through another website or search engine.

⁸ When considering direct traffic data, it should be noted that project staff visit the website in this manner.

⁹ A clickthrough, typically used for online marketing, is defined as the selection of an ad or link on a Web page that is counted as part of an effectiveness rating for the link or ad. (Marketingterms.com, n.d.)

Exemplary Resources for Middle School Math and Science Blog

Similar to the *Connecting News Blog*, the *Exemplary Resources for Middle School Math and Science Blog* (<http://expertvoices.nsdl.org/middle-school-math-science>) originally launched as a part of the NSDL Middle School Portal project. The first blog post occurred on February 28, 2008. The *Exemplary Resources for Middle School Math and Science Blog* has been hosted by the MSP2 project since September 1, 2008 to help middle school mathematics and science teachers find online resources for use in the classroom.

Visitors to the *Exemplary Resources for Middle School Math and Science Blog* spent an average of 1 minute 41 seconds on a webpage between December 2008 and April 2009. During February, March, and April, the top referring websites (search engines not included) determined by the number of clickthroughs were <http://www.msteacher.org>; <http://nsdl.org>; and <http://www.springfield.k12.il.us>. The NSDL Middle School Portal (www.msteacher.org) website provided 678 clickthroughs for this blog. The National Science Digital Library (NSDL) website provided over 100 clickthroughs, while the Springfield School District website provided nearly 60. The MSP2 Ning accounted for 36 clickthroughs. Google (<http://www.google.com>) was the top referring search engine with 116 clickthroughs. Three requests for an RSS feed from this blog were received. Figure 1 shows a steady increase in the number of new visitors to the Exemplary Resources for Middle School Math and Science Blog Website between December 2008 and March 2009 with a drop in April.

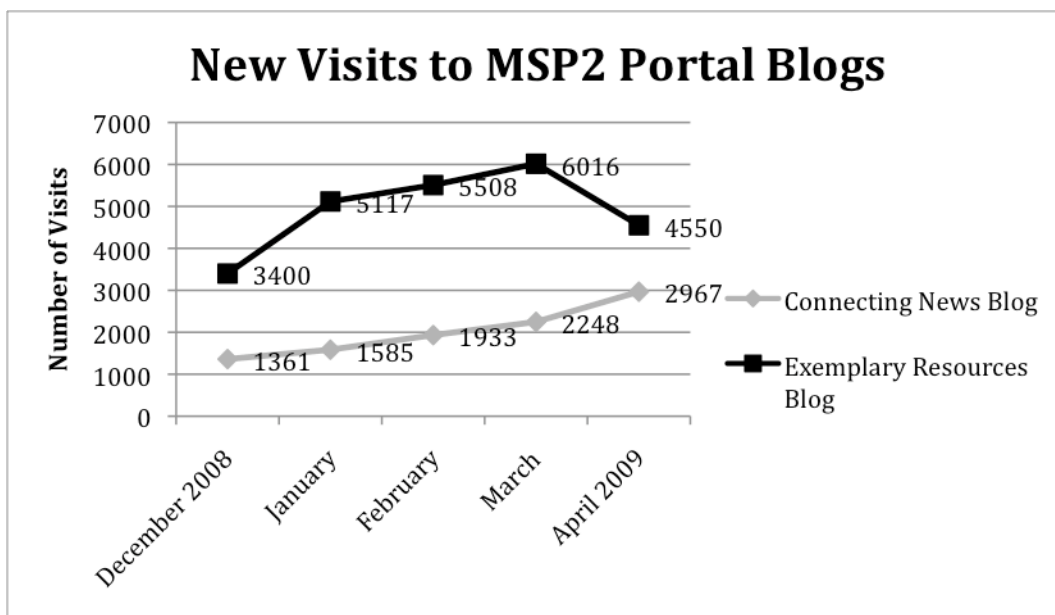


Figure 1. Unique Visits to MSP2 Portal Blogs.

MSP2 Wiki Pages

As a part of the MSP2 project, science and mathematics content created for the NSDL Middle School Portal project, originally available online in static form, was migrated to a wiki and linked to the MSP2 Ning. This component allows members of the MSP2 portal to create and modify resources from the NSDL website. The MSP2 wikis were launched January 1, 2009. Webmetrics collected since this date show a dramatic increase in unique visits from February (41) to April (397). While direct traffic decreased by more than 50% from February to March, visits from

referring sites increased significantly. A small number of visitors found these wiki pages through search engines. Page visit details are displayed in Table 2.

Table 2. *MSP2 Wiki page visits from February to April 2009*

	February	March	April
Total Visits	52	69	537
Unique Visits	41	27	397
% of Visits from Direct Traffic	60%	22%	58%
% of Visits from Referring Sites	31%	78%	42%
% of Visits from Search Engines	10%	0%	0%

Evaluation of Dissemination Activities

MSP2 Project Team members have disseminated project information at conferences, meetings, and electronic events, including National Middle School Association (NMSA), National Science Digital Library (NSDL) web seminar (webinar), and Tapped In events.

National Science Digital Library Brown Bag Series: Web Seminar Evaluations

Co-Principal Investigators Kimberly Lightle and Mary Henton presented a webinar session on December 11, 2008 as part of the NSDL Brown Bag Webinar Series. NSDL provided a common online questionnaire to evaluate the session and presenters. The questionnaire included one item on a scale ranging from *poor* (1) to *excellent* (5) and four open-response items. The evaluation was summarized by NSDL staff and provided to each presenter. A synopsis of the NSDL summary follows with the full version included in Appendix E.

Middle School - What Do We Know: December 11, 2008

Thirty-one participants attended the *Middle School – What Do We Know* webinar presented by Co-PIs of the MSP2 project, Kimberly Lightle from Ohio State University and Mary Henton from the National Middle School Association. Fourteen of the 31 participants completed the online questionnaire. Overall, session content was rated by respondents as either *good* or *excellent* ($\bar{x} = 4.5$). Reasons given for attending the session included a) two respondents that were interested in learning more about the MSP2 project, b) one community college educator interested in learning about STEM changes in secondary education, and c) one middle-level science methods educator interested in learning about resources available to teacher candidates. Three respondents cited that they liked the format and presentation of the session, stating that it was well-organized and delivered, and convenient. One respondent was appreciative of the responsiveness of the presenters to questions and thoughts, while another liked the information about resources and contacts. Two respondents expressed concern regarding technical difficulties with login and registration. Another respondent suggested that being able to see questions posed during the session would have been helpful. Two respondents appreciated the research element of the presentation while two others identified resources as the biggest benefit of participating in the session. One respondent expressed appreciation for being introduced to NSDL, MSP2, and webinars in general.

National Middle School Association Web Seminar Evaluations

The National Middle School Association (NMSA) hosted four webinar events that showcased the MSP2 project. Participants at these webinars answered a 13-item online questionnaire regarding

the presentation, the speaker, and the platform. This online questionnaire was developed by Project Team members and administered to webinar attendees by an emailed link following each webinar session. Responses were on a 5-point Likert-type scale with responses ranging from *strongly disagree* (1) to *strongly agree* (5). Average scores for each of the MSP2 webinar evaluations are displayed in Table 3. A copy of the online questionnaire can be found in Appendix F.

Table 3. *Average Item Ratings, NMSA Webinars 1, 2, 3 and 4*

Item	Webinar 1 Average (n = 15)	Webinar 2 Average (n = 17)	Webinar 3 Average (n = 6)	Webinar 4 Average (n = 5)
Processes of registration and log-in were easy: Registration Process	4.53	4.35	4.60	4.75
Processes of registration and log-in were easy: Login Process	4.54	4.00	4.00	4.75
Webinar software was easy to use.	3.67	3.94	3.33	4.54
I encountered few difficulties.	2.07	3.41	2.67	3.80
The length of time allowed for the Webinar was appropriate.	3.57	3.53	4.17	4.25
The audio quality of the presentation was good.	2.60	3.35	1.60	3.75
The visual quality of the Webinar was good.	2.33	3.29	3.20	4.50
The host moderated the session in an effective manner.	3.87	3.94	3.80	4.50
The presentation was well-organized.	4.13	4.12	4.00	4.75
The presenter was knowledgeable.	4.60	4.76	4.80	4.75
The presenter was well-prepared.	4.20	4.65	4.80	4.75
I will use the information from the Webinar in my classroom or school.	4.80	4.41	3.75	4.00
Overall, the Webinar met my professional needs.	4.20	4.12	3.33	4.25

Webinar 1: Online Math Resources -- for the Offline Classroom!

The first MSP2 webinar session was presented by Project Team member Teresa Herrera on February 24, 2009 and was titled *Online Math Resources -- for the Offline Classroom!* The webinar session was advertised via announcements posted on websites, including the NMSA homepage, the NMSA magazine *Middle Ground: The Magazine of Middle Level Education*, Facebook, the EDC homepage, and the NSDL homepage. Email announcements of the webinar event were sent to 10,054 teachers and principals.

Although 92 people registered for the webinar, only 31 attended. The webinar was recorded and made available for download on the National Middle School Association's (NMSA) professional development webpage (<http://www.nmsa.org/ProfessionalDevelopment/Webinars/tabid/1011/Default.aspx?PageContentID=284>). Sixty-nine people downloaded the recorded version of the webinar. Of the 31 participants, 15 responded to the online questionnaire. For data analysis, the Likert-scale responses *strongly disagree* and *disagree* were combined, and the responses *strongly agree* and *agree* were combined.

Twelve of 15 respondents disagreed with the statement *I encountered few technical problems*. Respondent comments included "I couldn't get any sound, but was able to read along and follow the power point" and "The audio kept cutting in and out in and out." Ten of 15 respondents also disagreed with the statement *the visual quality of the Webinar was good*. Responses to the open-response items clarified this issue with comments such as "enlarge the screen size to the viewers," "eliminate blue screen issues," and "trying to read fonts on single computer was difficult." Two respondents did not participate in the entire webinar due to technical difficulties, with one stating, "... I finally gave up." Thirteen respondents agreed with the statement *the presenter was knowledgeable* and twelve agreed that they would *use the information from the Webinar in my classroom or school*. Respondents provided additional feedback and suggestions in the two open-response items. Suggestions included splitting the webinar into two sessions and improving the transitions between slides. Table 4 displays the response frequencies for the first online webinar questionnaire.

Table 4. *NMSA Webinar 1 Response Frequencies*

Item	<i>n</i>	Strongly Disagree & Disagree	Neutral	Strongly Agree & Agree
Processes of registration and log-in were easy: Registration Process	15	1	0	14
Processes of registration and log-in were easy: Login Process	13	1	0	12
Webinar software was easy to use.	15	3	3	9
I encountered few difficulties.	15	12	1	2
The length of time allowed for the Webinar was appropriate.	14	3	1	10
The audio quality of the presentation was good.	15	8	3	4
The visual quality of the Webinar was good.	15	10	2	3
The host moderated the session in an effective manner.	15	1	4	9
The presentation was well-organized.	15	0	3	11
The presenter was knowledgeable.	15	0	1	13
The presenter was well-prepared.	15	1	3	10

I will use the information from the Webinar in my classroom or school.	15	0	0	12
Overall, the Webinar met my professional needs.	15	2	2	9

Webinar 2: FunWorks: Inspiring Students to Pursue Math and Science Careers!

The second MSP2 webinar session was held March 31, 2009 and was titled *Funworks: Inspiring Students to Pursue Math and Science Careers!* Project Co-PI, Sarita Pillai of the EDC presented the session. The webinar session was advertised via announcements posted on websites, including the NMSA homepage, the NMSA magazine *Middle Ground: The Magazine of Middle Level Education*, Facebook, the EDC homepage, and the NSDL homepage. Email announcements of the session were sent to 10,054 teachers and principals.

Although 95 people registered for the webinar, only 34 attended. The webinar was recorded and made available for download on the NMSA professional development webpage. Thirty-three people downloaded the recorded version of the webinar. Of the 34 participants, 17 responded to the online questionnaire. The Likert-scale responses *strongly disagree* and *disagree* were combined, and the responses *strongly agree* and *agree* were combined for data analysis.

Respondents indicated that they encountered some difficulties with nearly half (47%) selecting *strongly disagree*, *disagree* or *neutral* to *I encountered few difficulties*. One respondent stated, "technical problems were distracting." Visual quality was most commented on in open-response items with statements such as "It would be great if the font and power point slides could be enlarged" and "Font size could be improved in the chat window." Some of the participants disagreed that *the audio quality of the presentation was good* (5) and *the visual quality of the Webinar was good* (6). Fifteen of the 17 respondents agreed *the host moderated the session in an effective manner*, *the presentation was well-organized*, *the presenter was knowledgeable*, and *the presenter was well-prepared*. Table 5 displays response frequencies for the second online webinar questionnaire.

Table 5. *NMSA Webinar 2 Response Frequencies*

Item	<i>n</i>	Strongly Disagree & Disagree	Neutral	Strongly Agree & Agree
Processes of registration and log-in were easy: Registration Process	17	1	0	16
Processes of registration and log-in were easy: Login Process	15	3	0	12
Webinar software was easy to use.	16	2	2	12
I encountered few difficulties.	14	4	4	9
The length of time allowed for the Webinar was appropriate.	17	2	3	12
The audio quality of the presentation was good.	16	5	1	10
The visual quality of the Webinar was good.	17	6	1	10

The host moderated the session in an effective manner.	17	2	0	15
The presentation was well-organized.	17	2	0	15
The presenter was knowledgeable.	16	0	1	15
The presenter was well-prepared.	16	1	0	15
I will use the information from the Webinar in my classroom or school.	14	0	2	12
Overall, the Webinar met my professional needs.	15	1	2	12

Webinar 3: Getting to the Good Stuff: Online Resources for Middle School Math and Science

The third MSP2 webinar session was held April 7, 2009 and was titled *Getting to the Good Stuff: Online Resources for Middle School Math and Science*. MSP2 Project PI, Kimberly Lightle, and Project Team member, Robert Payo, of the NSDL, co-presented the session. The webinar session was advertised via announcements posted on websites, including the NMSA homepage, the NMSA magazine *Middle Ground: The Magazine of Middle Level Education*, Facebook, the EDC homepage, and the NSDL homepage. Email announcements were sent to 10,054 teachers and principals.

Sixty people registered for the webinar and 23 attended. The webinar was recorded and made available for download on the NMSA professional development webpage. Forty-one people downloaded the recorded version of the webinar. Of the 23 participants, 6 responded to the online questionnaire. The Likert scale responses *strongly disagree* and *disagree* were combined, and the responses *strongly agree* and *agree* were combined for data analysis.

Technical difficulties comprised the majority of respondent comments. One participant commented "There were lags in the audio and video and overlap audio at times. I had a very hard time following anything from the last half of the presentation." Another participant made a similar comment: "Because the audio kept dropping out and then when it came back, it overlapped resulting in a garbled mess and no longer in sync with the power point, I found it hard to follow the presentation." Five respondents disagreed with the statement *the audio quality of the presentation was good*. Four of six respondents also disagreed with *I encountered few difficulties*. Four respondents agreed that *the presentation was well-organized* and five respondents agreed *the presenter was knowledgeable* and *the presenter was well prepared*. Table 6 displays the response frequencies for the third online webinar questionnaire.

Table 6. *NMSA Webinar 3 Response Frequencies*

Item	<i>n</i>	Strongly Disagree & Disagree	Neutral	Strongly Agree & Agree
Processes of registration and log-in were easy: Registration Process	5	0	0	5
Processes of registration and log-in were easy: Login Process	5	0	2	3
Webinar software was easy to use.	6	1	2	3
I encountered few difficulties.	6	4	1	1
The length of time allowed for the Webinar was appropriate.	6	0	1	5
The audio quality of the presentation was good.	5	5	0	0
The visual quality of the Webinar was good.	5	2	0	3
The host moderated the session in an effective manner.	5	0	2	3
The presentation was well-organized.	5	0	1	4
The presenter was knowledgeable.	5	0	0	5
The presenter was well-prepared.	5	0	0	5
I will use the information from the Webinar in my classroom or school.	4	0	2	2
Overall, the Webinar met my professional needs.	6	2	1	3

Webinar 4: Global Warming and the Polar Regions

The fourth MSP2 webinar session was held April 28, 2009 and was titled *Global Warming and the Polar Regions*. Project Team member, Jessica Fries-Gaither, and Project PI, Kimberly Lightle, presented the session. The session was advertised via announcements posted on websites, including the NMSA homepage, Facebook, the EDC homepage, Middle Ground, and the NSDL homepage. Email announcements were sent to 10,054 teachers and principals.

Thirty-five people registered for the webinar and 9 attended. The webinar was recorded and made available for download on the NMSA professional development webpage. Thirteen people downloaded the recorded version of the webinar. Of the nine participants, five responded to the online questionnaire. For data analysis, the Likert-scale responses *strongly disagree* and *disagree* were combined, and the responses *strongly agree* and *agree* were combined.

Two respondents commented on technical difficulties with the webinar. One respondent commented, "The sound was cutting out a little bit, but the presenter's cursor was continuing in

real time. As a result, I could see the presenter pointing to images and the voices to accompany the pointing did not match.” Another respondent made a similar comment:

I had very poor audio reception so I missed most of what was being said. It was not easy to follow the PowerPoint because it was too small. The combination of those two factors made this a less than compelling workshop.

Two of the five respondents disagreed with the statement *the audio quality of the presentation was good*. All respondents agreed with statements noting the effectiveness of the host, the organization of the presentation, and the knowledge and preparedness of the presenters. Table 7 displays the response frequencies for the fourth online Webinar questionnaire.

Table 7. *NMSA Webinar 4 Response Frequencies*

Item	<i>n</i>	Strongly Disagree & Disagree	Neutral	Strongly Agree & Agree
Processes of registration and log-in were easy: Registration Process	4	0	0	4
Processes of registration and log-in were easy: Login Process	4	0	0	4
Webinar software was easy to use.	4	0	0	4
I encountered few difficulties.	5	1	0	4
The length of time allowed for the Webinar was appropriate.	5	0	0	5
The audio quality of the presentation was good.	5	2	1	2
The visual quality of the Webinar was good.	5	1	0	4
The host moderated the session in an effective manner.	5	0	0	5
The presentation was well-organized.	5	0	0	5
The presenter was knowledgeable.	5	0	0	5
The presenter was well-prepared.	5	0	0	5
I will use the information from the Webinar in my classroom or school.	5	1	1	3
Overall, the Webinar met my professional needs.	5	1	0	4

Tapped In Events

MSP2 Project PI, Kimberly Lightle, hosted 7 monthly chats with interested participants utilizing the online meeting space Tapped In (www.tappedin.org). Chats take place the second Monday of each month and have included 55 participants.

Evaluation of Collaboration Activities

Evaluation of MSP2 Advisory Board Meeting

Advisory Board members were invited to participate in the MSP2 project in order to provide insight into developing, sustaining, and disseminating the MSP2 web portal. The Project Team scheduled one face-to-face Advisory Board meeting for February 4 and 5, 2009. The meeting was held at the Center of Science and Industry (COSI) in Columbus, Ohio and The Blackwell Conference Center on the campus of The Ohio State University. Advisory board members traveled from North Carolina, South Carolina, Pennsylvania, Colorado, California, Florida, New York, and Massachusetts to attend the meeting. Of the 18 members on the Advisory Board, 13 were in attendance; 3 participants sent representatives. A list of meeting participants along with the meeting agenda are included in the Facilitator's Advisory Board Meeting Report (Appendix C). Gay Gordon, an independent consultant and former facilitator of the Science and Mathematics Education Policy Advisory Council (SAMEPAC), facilitated the meeting. Advisory board meeting goals were provided to the participants during the meeting and included:

1. Provide the Advisory Board with overview of MSP2, NSDL, and digital tools.
2. Facilitate professional development for board members and provide an opportunity for them to get to know one another and to coalesce as a team.
3. Gain input from Advisory Board members on four issues critical to project success: sustainability, building online communities, content knowledge, and dissemination.
4. Elicit commitment from board members for ongoing support of the project.

Observations

There were 24 meeting participants, including project PIs and Project Team members along with COSI representatives. Participant comments and participation in meeting activities indicated a genuine interest in the project. Participants expressed concern regarding (a) obstacles to teacher and student participation in project activities, including use and accessibility issues; (b) the level of interactivity of the virtual learning experiences (VLEs) and virtual professional learning communities (VPLCs); (c) expectations for behavior of the online community members; and (d) identification of the target audience, groups and subgroups. Participants discussed their experiences with different technology tools and shared knowledge with others interested in these tools. Participants also were willing to share their personal perspectives based on their positions and experiences. Participants appeared to take ownership of the project. They used statements such as "We should ..." and "Our goal ..." demonstrating a personal connection to the project. Infrequently, one person dominated the conversation. Generally, each participant actively participated in each activity during the meeting.

The Advisory Board meeting was facilitated in a way that allowed for mutual learning, gathering feedback and input, and socializing. Participants were introduced to new information and given multiple opportunities to discuss and contextualize the information. Team-building exercises and opportunities to socialize informally facilitated participant camaraderie. Members of the Advisory Board represented all stakeholder groups pertinent to the work of the project with the notable exception of those with specific mathematics and science content expertise. Small and large

group discussions maintained an effective balance between big-picture issues and detail-oriented concerns.

A report on the Advisory Board meeting prepared by E & A Center staff attending the meeting can be found in Appendix B along with a facilitator's report of the event in Appendix C.

Feedback

Following the meeting, Advisory Board meeting participants were invited to complete an online questionnaire, developed by the evaluation team, based upon the goals of the meeting. The online questionnaire consisted of 12 Likert-type items with responses ranging from *strongly disagree* (1) to *strongly agree* (5) and 3 open-response items. For data analysis, the Likert-scale items *strongly disagree* and *disagree*, and the responses *strongly agree* and *agree* were combined. Response frequencies and item means are displayed in Table 8. Of 13 Advisory Board meeting participants, 7 responded to the online questionnaire. A copy of the questionnaire can be found in Appendix G.

Table 8. *Advisory Board Meeting Evaluation, Frequencies and Mean Item Scores*

The MSP2 Advisory Board Meeting...	Strongly Disagree & Disagree	Neutral	Strongly Agree & Agree	Mean
Enhanced my understanding of the MSP2 project and its goals.	0	0	7	4.57
Enhanced my understanding of the NSDL and its role in this project.	0	2	5	3.86
Enhanced my understanding of digital tools that may be used in the MSP2 project.	0	0	7	4.29
Increased my understanding of sustainability as an issue critical to project success.	0	2	5	4.14
Increased my understanding of dissemination as an issue critical to project success.	1	0	6	4.14
Increased my understanding of issues involved in building online Professional Learning Communities.	0	1	5	4.17
Increased my understanding of issues involved in developing student content for virtual learning experiences.	0	3	4	3.71
Provided me the opportunity to become acquainted with other members of the MSP2 Advisory Board.	0	0	7	4.71
Provided me the opportunity to become acquainted with the MSP2 Project Team.	0	0	7	4.71
Enhanced my understanding of the role of the MSP2 Advisory Board.	1	0	6	4.14

Enhanced my commitment to the MSP2 project.	0	1	6	4.43
Provided me the opportunity to contribute to the MSP2 project in meaningful ways.	0	1	6	4.29

Responses to the first open-response item indicated meeting activities that respondents found valuable. Four respondents stated that they found the small group discussions the most valuable, with one respondent stating "I found it to be an interesting group with a diverse set of experiences and opinions." Three respondents identified an activity that they found least valuable to them but each indicated a different activity. Two participants indicated that they could not identify an activity that was least useful. Additional thoughts regarding the impact of the meeting included four respondents who indicated appreciation for the sharing of ideas and opinions among the group. One of these individuals stated, "It was great to share ideas and learn from the other wonderful people in the room. Everyone was very open to new ideas and willing to offer different perspectives." One participant indicated that more time for group discussion would have been useful, stating "Too much so-called fun stuff -- gifts, touring around, etc. This is a lively enough group that such things were timewasters. Time would have been better spent in talking to each other or continuing project discussion." One respondent's comment summarized the goals of the meeting, "The determination of the team to produce a quality product was evident. Seeking information from the Advisory Board was welcomed."

Data from observations of the Advisory Board meeting and post-meeting evaluation suggest that meeting goals were met:

1. The Advisory Board members were effectively provided with an overview of MSP2 digital tools and, to a lesser extent, NSDL.
2. Advisory Board members were given ample time to get to know one another and coalesce as a team. Survey data confirm that this time was used effectively.
3. Three of the four critical issues were covered in detail during the meeting. Mathematics and science content knowledge was not a priority for this meeting.
4. Board members demonstrated a personal connection and indicated commitment to the MSP2 project.

Evaluation of Project Impact

Impact and educational use of the portal will be evaluated in Years 2 and 3 of the project. In order to develop deliverables that will effectively impact educators and students, focus groups were held by the Education Development Center (EDC) to determine current and potential use of web 2.0 tools in educational settings and for entertainment purposes. Based upon this information and survey data to be collected, virtual learning experiences (VLEs) will be developed for middle school-aged youth. The EDC, along with a Design Team made up of recruited middle school-aged youth, will develop these VLEs.

Design Team

Ten students between the ages of 11 and 14 years old were selected to participate on the MSP2 Virtual Learning Experience (VLE) Design Team. These students will meet with the EDC Project Team twice weekly until June 2009. These youth were recruited from the Community Technology Center in Boston.

Educator Focus Group

An educator focus group was held March 20, 2009 to determine the need for and current uses of web 2.0 tools by middle school mathematics and science teachers. Focus group participants also were introduced to the MSP2 portal to assess their initial impressions. Project Team members from the Educational Development Center (EDC) conducted this focus group. There were 6 participants (5 female and 1 male) from Ohio, Illinois, Michigan, Indiana, and Florida. A summary of the focus group transcript can be found in Appendix H.

Themes that emerged during the conversation regarding technology in the classroom included current uses and obstacles to effective use.

Focus group participants reported on their current uses of educational technology, including:

- Information source for students,
- Communication with parents and students using classroom management software,
- Lesson enhancement using videos and websites, and
- Topic clarification before and during classroom activities.

Obstacles reported by participants included:

- School district blocking of many sites, especially social networks and video;
- Difficulty finding good sources of information; and
- Lack of effective training for new types of classroom technology.

Focus group participants were introduced to the MSP2 Ning and provided group facilitators with relevant and informative feedback, including suggestions for enhancing the website to be more user-friendly and appealing to educators and students.

Focus group participants suggested that the following would be helpful for educators:

- Add a homepage mission statement to indicate the website purpose.
- Clarify how to use the site as a resource.
- Add a search function to make searching the website more efficient.
- Add video and text-based tutorials to assist those less familiar with technology in using the website.

Participants further noted that the following would make the website more appealing to students:

- Include information on middle-school science content for research projects.
- Include animations and interactive features.
- Add a search function.

Youth Focus Group

On April 22, 2009, a youth focus group was held to determine what internet tools students use for fun and in coordination with their academic responsibilities. The Education Development Center (EDC) is primarily responsible for developing the virtual learning experiences (VLEs) for youth on the MSP2 website. Five thirteen-year-olds (3 females and 2 males) participated in the focus group held by the EDC. A summary of the focus group transcript can be found in Appendix I.

Student participants were asked how they use the Internet for entertainment and educational purposes. They also were asked for feedback regarding various educational websites. The following themes emerged from the conversation.

Focus group students noted features of their preferred websites, including:

- The social aspects of websites (such as Facebook),
- An easy to use search function,
- The ability to customize and personalize pages, and
- Minimal advertising.

Focus group students expressed the following regarding the use of video-based websites:

- YouTube and other video-based websites were not often used.
- YouTube and other video-based websites do not have effective search functions.
- Video-based websites are used most frequently for entertainment but sometimes are used, as directed by teachers, for educational purposes.
- Video instructions can be easier to follow than written or oral instructions.

Focus group students also provided feedback on websites used for educational purposes. Their preferred sites included the following features:

- Provide many related websites with short descriptions as search results (e.g., Google),
- Give more direct answers to queries (e.g., Ask.com),
- Have a good mixture of text and images, and
- Have effective search engines (e.g., Dictionary.com).

Overall, students preferred educational and entertainment sites that were:

- Organized with a balance of text and images,
- Grade-level specific,
- Equipped with an effective search function, and
- Organized in easy to navigate sections.

Continuing Activities

Ohio State University project personnel will continue to develop, modify and catalogue quality learning resources for the MSP2 project. Usage statistics for the portal components will be collected monthly and posted to the project wiki for continuous, formative evaluation of the project.

The National Middle School Association (NMSA) will continue to host monthly webinars that promote the MSP2 project. Reports, including registration and survey data, will be posted to the wiki for team member and evaluator review.

The Education Development Center (EDC) will finalize and disseminate surveys that further investigate the needs and preferences for educator virtual professional learning communities (VPLCs) and youth virtual learning experiences (VLEs). The EDC also will work closely with the recruited Design Team to develop VLEs for middle school students.

The next step in the evaluation process for the E & A Center is to investigate the quantity and quality of participation in the social network of the MSP2 Ning. Teacher Leader interviews will be conducted to gain an internal perspective on the Ning. Continuous review of the MSP2 project wiki will be conducted to follow progress toward project goals. The E & A Center will create and administer a web-tools survey to collect data on educator use of novel technology. Expert reviews of learning resources available via the MSP2 portal will be conducted.

Summary

Upon review of current project data, formative findings for the Middle School Portal 2: Math & Science Pathways (MSP2) Project are as follows:

Process and Progress

- Progress toward project goals is slightly behind schedule. Most Year 1 activities are underway but benchmarks for project Year 1 are not met at this time. It should be noted that this evaluation report is being submitted 8 months after project funding, yet is reporting on Year 1 goals.
- Project and evaluation team members are continually and thoroughly updated on project tasks and progress using the MSP2 project wiki, monthly conference calls, and frequent email contact.

Portal

- Membership of the MSP2 portal is steadily increasing since its launch.
- Webmetrics show an increase in new visitors to some of the portal components.

Dissemination

- Monthly webinars effectively disseminate MSP2 project information and have been well-received by the target audience.

Collaboration

- MSP2 Project Team has successfully established a productive working relationship with Advisory Board Members.
- Collaboration and communication among project partners is efficient and effective through use of the MSP2 project wiki, monthly conference calls and occasional face-to-face meetings.

Impact

- Focus groups have established a baseline for the analysis of technology needs and preferences of middle school educators and students.
- The Design Team has been recruited to begin development of the youth VLEs.

The following observations are made based upon evidence of MSP2 project progress toward goals:

- Learning resources have been developed, selected and modified, organized and contextualized into the MSP2 Ning. The resources are available to visitors and members via the MSP2 Ning through components of the Ning such as blogs, wikis, and resource links. Though the development of new content for the Ning has not met the goal for Year 1, numerous resources have been revised and migrated from static sources. Resource lists, blog posts and wiki pages appear to be effective means for contextualizing learning resources for middle school educators. Experts in the fields of science, mathematics, 21st century skills, STEM careers or middle-level education have not yet reviewed the learning resources . **(Goal 1)**

- The MSP2 Ning, or portal, was launched on February 1, 2009 and provides access to content and interactive opportunities through blogs, wikis, discussion forums, and resource links. Virtual support for educators is being provided through the Ning by Teacher Leaders. As of May 2009, there are 75 Ning community members and three Teacher Leaders. The quality and quantity of virtual interactions will be evaluated during Years 2 and 3. While the VLE Design Team has begun work on the task of developing content and interactive experiences for students, the Ning does not offer activities for youths at this time.

(Goal 2)

- Resource discovery and usage have been promoted through MSP2 dissemination activities, including five webinar presentations. Search engine data, monitored through webmetrics, shows that the MSP2 Ning and components are being located by users. It is unclear whether MSP2 has reached the target audience or if teachers who would most benefit from the MSP2 resources have found and are utilizing the site. **(Goal 3)**
- An Advisory Board Meeting, held to discuss project tasks and goals, effectively introduced participants and engaged them in the MSP2 project. Collaboration and cooperation are strong components of this project as a result of open and continuous communication through wiki posts, monthly conference calls, and occasional face-to-face meetings. The MSP2 Project Team has solicited ideas related to marketing, branding, and sustainability from Advisory Board members and project partners. Project partners have been thoughtfully and purposefully selected for the variety of expertise and insight they bring to project work. This assemblage of professionals is a tremendous and noteworthy strength of this project which should contribute significantly to project success and sustainability. **(Goal 4)**
- Project evaluation efforts are in the beginning stages. Focus group data from educators and youth have been obtained and used to design virtual learning experiences (VPLCs and VLEs) for their use. Questionnaires and interview protocol are being developed to collect impact data from teachers and students. Impact data also will be collected by monitoring the VPLCs to assess the quantity and quality of virtual interactions among users. **(Goal 5)**

Recommendations

Based on Year 1 data, evaluation team members have the following recommendations for the Middle School Portal 2: Math & Science Pathways (MSP2) Project Team:

Process and Progress

- Continue to work toward goals aligned with proposed tasks on the project timeline. Review and revise benchmarks, as appropriate, based on accomplishments to date.

Portal

- Continue to follow webmetric trends and, if possible, identify avenues to reach potential users of MSP2 resources who are not yet accessing materials.

Dissemination

- Reassess webinar format (NMSA) to address the technical difficulties experienced by participants.
- Use dissemination efforts to target and recruit participant teachers to measure the impact of the deliverables on middle-level educators and their students.
- Follow webinar attendance to determine a reason for the drop in registration and attendance and differences between the number of registrants and the number of attendees.

Collaboration

- Keep lines of communication open with Advisory Board members and continue to seek input on specific tasks in their areas of expertise.
- Continue to update project and evaluation team members through the project wiki, monthly conference calls, and occasional face-to-face meetings.

Impact

- Begin to collect survey data regarding the technology-based educational needs of middle school educators and youth to further refine data on needs and preferences of the target audiences.

References

- Diigo.com (n.d.). *About diigo*. Retrieved May 1, 2009 from: <http://www.diigo.com/help/about>
- Economist.com (2006). *It's the links, stupid*. Retrieved May 1, 2009 from: http://www.economist.com/surveys/displaystory.cfm?story_id=6794172
- Economist.com (2007). *Social graph-iti*. Retrieved May 1, 2009 from: http://www.economist.com/business/displaystory.cfm?story_id=9990635
- Encyclopedia Britannica (n.d.). *Wiki*. Retrieved May 1, 2009 from: <http://www.britannica.com/EBchecked/topic/1192819/wiki>
- Fox Development: Small Business Technology Solutions (n.d.). *Web design glossary*. Retrieved May 1, 2009, from: <http://www.foxdevel.com/WebServices/Support/WebDesignGlossary/tabid/105/Default.aspx>
- Marketing.com (n.d.). *Click-through*. Retrieved May 1, 2009 from: <http://www.marketingterms.com/dictionary/clickthrough/>
- Whatisrss.com (n.d.). *What is RSS? RSS explained*. Retrieved May 1, 2009 from: <http://www.whatisrss.com/>

Appendices

Appendix A. MSP2 Matrix	28
Appendix B. E & A Center Advisory Board Meeting Report	29
Appendix C. Facilitator’s Advisory Board Meeting Report.....	33
Appendix D. Teacher Leader Overview	47
Appendix E. NSDL Web Seminar Evaluation: Middle School: What do we know?.....	49
Appendix F. NMSA Web Seminar Questionnaire	53
Appendix G. Advisory Board Questionnaire	56
Appendix H. Educator Focus Group Transcript Summary.....	57
Appendix I. Youth Focus Group Transcript Summary	58

Ohio's Evaluation & Assessment Center for Mathematics and Science Education

Math and Science Portal 2: Middle School Pathways (MSP2)

Evaluation Matrix

GOAL 1 (AND ASSOCIATED TASKS)	INSTRUMENTS AND ANALYSES	DESIRED OUTCOMES
<ul style="list-style-type: none"> Select, organize, develop, and contextualize quality learning resources in the areas of science and mathematics, 21st century skills, STEM careers, and middle level education. 	<ul style="list-style-type: none"> Expert review of quality learning resources (Jodi Chase—TERC; James Lehman—Purdue University). Pre/post questionnaires for teachers and students in selected schools and/or VPLCs. 	<ul style="list-style-type: none"> Increased science/math content knowledge. Greater understanding of STEM careers. Highly developed 21st century skills. Greater awareness of middle level needs and appropriate pedagogy.
GOAL 2 (AND ASSOCIATED TASKS)	INSTRUMENTS AND ANALYSES	DESIRED OUTCOMES
<ul style="list-style-type: none"> Design a portal that provides access to content, interactive opportunities, and virtual support for educators and students and facilitates the creation of virtual professional learning communities (VPLC) of middle level math and science educators. 	<ul style="list-style-type: none"> Usage statistics for portal as a whole and individual components. Participation rates for VPLCs, virtual learning experiences, and 21st Century Middle Grades Teacher Leaders. Focus groups, interviews, and/or online surveys. 	<ul style="list-style-type: none"> Increased interaction with MSP2 content. Participation in individual and collaborative professional development. Knowledge sharing among virtual community. Increased leadership opportunity for teachers.
GOAL 3 (AND ASSOCIATED TASKS)	INSTRUMENTS AND ANALYSES	DESIRED OUTCOMES
<ul style="list-style-type: none"> Promote resource discovery and usage through search engine optimization, trainings and workshops, and dissemination. 	<ul style="list-style-type: none"> Usage statistics for blogs, resources, and portal. Google search return lists. Feedback from trainings and workshops. Amount of dissemination (booth traffic, workshop attendance, etc). Feedburner and RSS subscriptions. Focus groups, interviews, and/or online surveys. 	<ul style="list-style-type: none"> Efficient discovery of MSP2 content. Increased use of content by teachers and youth. Identification and use of youth and teacher spaces on the web.
GOAL 4 (AND ASSOCIATED TASKS)	INSTRUMENTS AND ANALYSES	DESIRED OUTCOMES
<ul style="list-style-type: none"> Collaborate with multiple organizations to sustain project resources and continue to meet the needs of the middle level math and science community after funding ends. 	<ul style="list-style-type: none"> Focus groups, interviews, and/or online surveys to determine best use of for-fee, sponsorship, and self-supporting models. 	<ul style="list-style-type: none"> A stable, sustainable e-commerce model for selected resources and tools. Commercial sponsorship. Self-supporting workshops.
GOAL 5 (AND ASSOCIATED TASKS)	INSTRUMENTS AND ANALYSES	DESIRED OUTCOMES
<ul style="list-style-type: none"> Evaluate project impact and determine how developers of digital resources and collections can best support the educational use of Web 2.0 tools and services. 	<ul style="list-style-type: none"> See Goals 1-3 (above). Focus groups, interviews, and/or online surveys. Usage statistics for Web 2.0 tools and project components. Pre/post questionnaires for teachers and students in selected schools and/or VPLCs. 	<ul style="list-style-type: none"> Greater understanding of Web 2.0 tools and their role in teaching and learning. Effective use of technology in teaching and learning. Identification and use of youth and teacher spaces on the web.

(MSP)²

Advisory Board Meeting

COSI, Columbus

Advisory Board members were invited to be a part of the (MSP)² project. Project team scheduled one face-to-face advisory board meeting for Wednesday, February 4th and Thursday, February 5th. The meeting was held at Center of Science and Industry (COSI) in Columbus, OH. Advisory board members traveled from such places as North Carolina, South Carolina, Pennsylvania, Colorado, California, Florida, New York, and Massachusetts to attend this meeting. Of the 18 members on the Advisory Board, 13 were in attendance and three sent representatives. A list of meeting participants is included in Appendix A. Gay Gordon, former coordinator for the Science and Mathematics Education Policy Advisory Council (SAMEPAC) and now a consultant, facilitated the meeting. The meeting was scheduled from 8:30am-5:30pm on February 4th and 8:30am-12pm on February 5th. The full agenda is included in Appendix B. The meeting goals, description and evaluator observations are recorded below.

Meeting Goals

1. Provide the advisory board with overview of (MSP)², NSDL, and digital tools.
2. Facilitate professional development for board members and opportunity to get to know one another and to coalesce as a team.
3. Gain input from advisory board members on 4 issues critical to project success: sustainability, building online communities, content knowledge, and dissemination.
4. Elicit commitment from board members for ongoing support of the project.

February 4, 2009, 8:30am-5:30pm

Participants present: 24

Meeting Description

During breakfast, participants were invited to socialize and were introduced to the project PIs. The participants were told to consider the PIs fellow participants unless they wore their PI hats. The project PIs literally had hats that they displayed to the group. The first activity was a meet-and-greet activity in which all participants received a playing card. Participants with matching playing cards were instructed to get to know each other. After a few minutes, pairs with matching card suits were told to gather as a group of six and to introduce their partner. The facilitator then asked the groups to discuss and answer the question: *“What makes a learning community valuable and compelling to teachers and students?”* Answers that were elicited included engagement, direction, marketing of knowledge, meaning and outcome, universal accessibility, supports and scaffolds, security, safe expression of ideas, quality of content, customization, relationship building, conversation nurturing, sustainability, learning beyond classrooms, and applications of learning outcomes. Project PI, Kim Lightle, stated that she was surprised to have not heard

“fun” as an answer. Fun was added, as well as thinking outside of the box and student feedback.

The participants then took a tour of the digital media lab located in the Ohio State University public broadcast station, WOSU, section of the COSI building. The tour guide discussed the cooperation between COSI and WOSU, including an opportunity for students to use broadcast media tools as a hands-on experience.

Upon returning to the conference room, David Hayward, Instructional Technology Consultant from ITSCO, gave a presentation on Web 2.0 tools and the progression of technology, especially as it pertains to education. Participants engaged in a discussion regarding Bloom’s Taxonomy and how web 2.0 technologies change the way teachers can look at Bloom’s original outline. The participants were provided with a document entitled *Bloom’s Digital Taxonomy* (Appendix C). The group then discussed where different Web 2.0 tools fit into the layers of this modern version of Bloom’s Taxonomy. Mr. Hayward discussed personal learning networks and how they can be used successfully. He gave the example of a Hurricane Gustav wiki in which many people joined forces to provide links and support for victims of the storm. This wiki was created days before the storm actually hit land. A follow up discussion and question/answer session focused on the obstacles that teachers and education professionals face when attempting to use Web 2.0 tools. Specific obstacles mentioned include time, district website blocking parameters, and the lack of computers in classrooms. The group was given the task of answering the question, *“If Web 2.0 is great as long as there’s a community, how do we get teachers past these obstacles?”*

After a short break, the Co-PIs put on their hats and briefly described the (MSP)² project. PIs Kim Lightle (OSU), Mary Henton (National Middle School Association, NMSA), and Sarita Pillai (Educational Development Center, EDC) along with Carol Minton Morris (National Science Digital Library, NSDL), and Eileen McIlvain (NSDL) each presented on different aspects of the project. Carol Minton Morris is the Communications Director for NSDL Technical and Network Services. She described the different tools and technologies that NSDL will provide to the new (MSP)² network. Eileen McIlvain, the Communications Manager and Pathways Liaison for the NSDL Resource Center, described the function of the resources including Pathways through NSDL. Next, Kim Lightle, Project PI and Director of Digital Libraries at OSU, introduced the group to the (MSP)² site. She discussed the different sections of the site including active blogs, wiki pages for mathematics and science publications, catalogued resources, diigo book lists, podcasting and member discussion threads. She described what the goal was for each of these sections. The site Mary Henton, Director of Media Services at NMSA, explained the roles and responsibilities of the 21st Century Teacher Leaders (TL) (see Appendix D). She stated that the first year TLs would be hand picked; an application process would be used for following years. Finally, Sarita Pillai, Director of the Gender and Diversities Institute at the EDC, discussed the process of research and design for the Virtual Learning Experiences (VLE) for students. She described a process that included

student focus groups, surveys and a team of student co-designers. This process was used for a previous web-based product, Funworks.com, which she showcased. A short question/answer session followed in which participants inquired about the success (webmetrics) of Funworks and the ultimate goal for the (MSP)² site.

After lunch the group reconvened. Four large poster papers were posted at four corners of the room. Each included a statement that represented reasons the participants were members of the Advisory Board. Participants self-selected based on these statements which resulted in four subgroups. Four subgroup tasks were assigned around the following themes: *Sustainability Plan*, *Dissemination Plan*, *Professional Community around Exemplary Mathematics and Science Content*, and *Virtual Learning Experiences for Youth*. The participants received an (MSP)² *Advisory Board Meeting Projects* document (Appendix E) that explained all four projects and provided questions to guide the group to a final group product. These groups worked for nearly two hours on their projects before the next break.

During an hour break, participants were encouraged to explore the COSI facilities. Some participants attended the “Wild Ocean” Imax film while others explored exhibits and activities in the Center.

Upon return to the project meeting, the four groups were condensed into two. Sustainability and dissemination group members gathered in the conference room while the professional learning communities and virtual learning experiences groups met in the digital media lab. These groups worked until 5:30pm. The participants were given a *Communication Questionnaire* (appendix F) that they were instructed to return to Ms. Gordon at the beginning of day two. The questionnaire contains five items through which the project staff can determine the best ways in which to keep advisory board members involved with the (MSP)² project. The groups were informed that they would have an additional hour during breakfast to finish up their projects after which they would present to the larger group. At 5:30pm, the meeting adjourned.

Observations

There were 24 total participants, including project team PIs and members along with COSI representatives.

Participant comments and participation in activities showed a genuine interest in the project. Participants expressed concern regarding obstacles to teacher and student participation in project activities. Participants discussed their experiences with different technological tools and were willing to share knowledge and tips with others who were interested in these tools. Participants were very willing to give their personal perspective given their individual positions and experiences. Participants appeared to take ownership of the project. They used statements that started with “We should...” and “Our goal...” demonstrating a personal connection. Infrequently, one person dominated the conversation. Each group member was an active participant in each group activity.

Summary

Day one of the Advisory Board meeting focused on goals 1 and 2 of the desired meeting goals. Participants were provided with an overview of (MSP)² and NSDL through project PIs and team member presentations. These presentations as well as Mr. Hayward's presentation on Web 2.0 tools introduced board members with digital tools that may be used with the project. Day one was facilitated in a way that allowed for both mutual learning and socializing. Participants were introduced to new information and were given opportunities to discuss and solidify the information through newly formed relationships. Team building exercises and opportunities to socialize informally allowed for participant coalescence.

Draft Advisory Board Report

(MSP)2 Advisory Board Meeting Center for Science and Industry Columbus, Ohio, February 4 – 5, 2009

Final Report

The (MSP)2 Advisory Board met on February 4 – 5, 2009, at the Center for Science and Industry (COSI) in Columbus, Ohio. The Pls identified four goals for the meeting:

1. Provide the advisory board with background information about (MSP)2, NSDL, and Web 2.0 digital tools.
2. Facilitate professional development for board members and provide an opportunity for them to get to know one another and to coalesce as a team.
3. Gain input from advisory board members on four issues critical to project success: sustainability, building online communities for students and teachers, content knowledge, and dissemination.
4. Elicit commitment from board members for ongoing support of the project.

Wednesday, February 4 – Day 1

Twenty advisory board members and nine project staff attended the meeting (Attachment A) hosted by the Center of Science and Industry. Beginning at 8:30 in the morning, Consultant Gay Gordon facilitated the meeting, giving project leadership and staff the opportunity to fully participate in the discussion. The agenda for the meeting (Attachment B) included several opportunities for board members to become acquainted, beginning with an activity to encourage members to meet one another and to discuss the question, What makes an online learning community for teachers and students valuable and compelling? The group suggested several important features of a valuable and compelling site.

- Provides an opportunity to make connections with both similar and diverse people
- Provides support through universally designed tools
- Provides a secure environment where it is safe to express ideas
- Offers quality content
- Offers the ability to customize the site
- Offers an environment that nurtures conversation
- Provides an opportunity for students to be creative
- Provides an opportunity for learning beyond the classroom
- Provides an opportunity to apply classroom learning
- Is a fun site to visit and use

After this opening discussion, a member of the COSI staff took the participants to see the location of the WOSU@COSI digital media lab. The lab was used later in the day for break-out group work. David Hayward, a board member from Instructional Technologies Service of Central Ohio (ITSCO), discussed Web 2.0 technology tools. He compared previous communication and information tools, such as the telephone, encyclopedias, maps, and libraries with the Web 2.0 version of these. He noted that the original Bloom's Taxonomy has been revised to create a Bloom's digital taxonomy using the key terms: Remembering, Understanding, Applying, Analyzing, Evaluating, and Creating. Hayward pointed out that research tools have changed, but skills remain the same. Researchers

used to be concerned with finding information. Now, they must sift through the material they find and contribute knowledge in return. Internet users are called on to be knowledge contributors as well as knowledge consumers.

Hayward asked the group to suggest Web 2.0 tools that correspond to each of the key terms in the digital taxonomy. He showed several examples, including a web site that documented Hurricane Gustav using non-professional journalists and such tools as blogs, ning, twitter, flicker, and diigo. Too illustrate the advantage of the tools, he spent some time showing demonstrating the use of diigo to organize bookmarks.

Hayward acknowledged that while the tools are very powerful, teachers at all levels face several obstacles, including time, filters that prevent them from using the tools at school, and computer availability. He noted that Web 2.0 technologies require that teachers be treated differently in terms of professional development. To minimize frustration with rapid change in the new tools available, Hayward suggested that the focus of professional development should be on skills rather than the tools themselves.

After Hayward's presentation, a panel provided an overview of National Science Digital Libraries (NSDL) and the (MSP)2 project. Carol Minton Morris, NSDL Communications Director, and Eileen McIlvain, NSDL Communications Manager and Pathways Liaison, described NSDL and where the current project fits into the larger aims of the NSF-funded program. Morris said that NSF has spent \$150 million to create a collection of STEM resources and basic tools and services, with about three million learning objects currently available in the repository. NSDL provides tools and access that people need when beginning a research project or establishing a digital collection, including server access, search and discovery tools, and cyberinfrastructure. She said that NSDL plans on bundling and leasing software search, collection, and management tools in the near future. McIlvain explained that the resource center with which she is involved gathers and synthesizes information about issues surrounding technology. The center serves end-users, including educators and students, through outreach, communications, information dissemination, and collaborative work. They are concerned with how people are using technologies and the issues surrounding their use. She demonstrated the science literacy maps that the center is making available online.

Kimberly Lightle, Sarita Pillai, and Mary Henton, co-PIs for (MSP)2, described the proposal and their plans for the project. Lightle, Director of Digital Libraries for (MSP)2, explained that (MSP)2 has been funded to create a social network for middle school teachers and showed the ning that she has created. She told participants that the ning can be changed, but the decision has been made to use it as a starting point for the work. She asked board members to keep the ning framework in mind while discussing their advice for an online community. Henton, Director of Media Services for the National Middle School Association, described the 21st Century Leaders project. The project will support the virtual professional learning communities that are part of (MSP)2 through facilitating and contributing content, skills, and resources. Finally, Pillai described her work with Virtual Learning Experiences for students. She hopes to create ways for students to explore STEM content through active online communities and experiences.

Following the presentations about (MSP)2, board members asked a variety of questions, including what is the end goal for (MSP)2 site and how will the impact be evaluated? Board members suggested that project leaders partner with a school and look closely at how teachers use the site and the content. They also suggested that leaders should build a framework for the site that allows

for conversation without constraint. Lightle, Henton, and Pillai said that they will listen carefully to the Board's advice during the meeting to understand how best to build the site. Following lunch, the meeting participants were shown four statements and asked to choose which statement they believed was most important to the success of the project.

- Building and sustaining a viable professional community for educators and offering exemplary math and science content on the site
- Designing interactive and highly engaging virtual learning experiences for students
- Disseminating information about (MSP)2 effectively
- Establishing a means of sustaining the (MSP)2 project

Most participants selected the learning community/content statement. Then they were given a project handout asking for specific advice (Attachment C) in each area and asked which of the four areas they could best contribute to in terms of their expertise. Several participants changed their choice of which group to join to work on the project. Seven chose sustainability, six virtual learning experiences, six dissemination, and ten professional community. Each group was given a place to work for the afternoon and asked to come up with suggestions to present to the group as a whole on Thursday morning. They also were told that sustainability and dissemination would meet and share their thinking after the afternoon break, as would virtual learning experiences and professional community.

Groups worked together throughout the afternoon. When the groups paired off and met together, the dissemination and sustainability groups decided to merge and to continue to work together and present as one group.

At 5:30, before the groups adjourned to the Blackwell Hotel on the Ohio State University campus for dinner, they were asked to fill out a brief questionnaire regarding their continued involvement in the (MSP)2 project (Attachment D).

After dinner, board member Steve Hargadon, Director of Education at Educause, conducted an online interview with Carol Broos, an attendee at Secretary of Education Arne Duncan's first official meeting. Hargadon was able to do the interview with Carol in the room where dinner was held using Illuminate software and a web cam. Advisory board members had the opportunity to watch the interview and observe the technology in use as well as to ask Broos questions.

Thursday, February 5 - Day 2

Returning to COSI in the morning, groups met briefly to finalize their presentations. Each group was required to put a summary of their discussion and ideas on poster paper for review by the entire board. The following reports were made by the three groups.

Sustainability/Dissemination Report

The key to sustainability is considering the hearts of users and the minds of funders

The site should make three promises to teachers

- This is a place that you can make your own
- This is your kind of place, a place where you can be successful
- This is a place where you can go further

Create a set of rubrics for identifying group formation, use, and engagement

Translate the value of the user experience into the marketing strategy

Develop strategic messaging in three areas:

- content
- administration (institutional support)
- funders

Make use of trusted sources, such as math and science state organizations that have members associated with teaching profession, ASCD (Smart Brief), NMSA, NSDC

Building Professional Community Around Exemplary Math and Science Content Report

- What Is the Goal:

- Transform teacher practice in order to better meet needs of students (through math/science content and use of digital tools in classroom)
- Increasing exposure and use of content
- Get feedback on content and community services

- What We Learned:

- Elevate content: balance content and community
- Holding events would be a good way to involve, engage members
- Link to other sites and resources
- Proactive moderating is critical
- Identify, invite, and acknowledge hosts
- Good search and tagging capabilities
- Involve users early and often to shape site and services

Questions:

- Access to the Ning - Make sure all schools can get in
- Should content to be edited? Use of Wiki
- Comments modification is valuable.
- How should impact be measured?

- Challenges:

- Access to web 2.0 tools
- Accessibility considerations (multiple representations, product formats, etc.)
- Resource allocation – Assessment; finding existing content

Other thoughts:

- Connect teachers/students and scientists
- Blog postings: own and MSP
- Communicate with other professional groups
- Monthly partner focus—blog, etc.
- Utilize expertise in gaming and VLEs
- Lists of possible funders

- Designing Interactive and Highly Engaging Virtual Learning Experiences (VLEs) for Students.

Goal:

- Enrich math/science knowledge
- Engage students
- Excite students - spark interest, keep them coming back

Audience :

- Middle-school aged youth (11-14 years)

- Educators

Organization:

- Math/Science Concepts and Driving Questions
- Life-cycle approach
- Scaffolded approach
- Project-based/issue oriented (youth input)

Elements:

- Young scientists (youth as experts)
- Ask a scientist (real-time)
- Simulations
- Video, podcasts
- Games
- Contribute new content, questions, ideas

After the presentations, participants were given six red dots and six green dots and asked to circulate through the room and post green dots next to the ideas they particularly liked and red dots by the ideas about which they had concerns. They also wrote comments on a separate sheet posted next to each of the presentation posters. After this activity, Gordon reviewed the results with the group to understand the thinking behind the dots that were posted and the comments made.

The ideas that garnered the most favorable reactions from the participants included:

Sustainability/Dissemination:

- Three promises to teachers
- Translating the value of the user experience into a marketing strategy
- Hearts of users and minds of funders as the key to sustainability

Building Professional Community:

- Transforming teacher practice as the goal of the site
- Elevating content and providing balance between content and community
- Involving users early and often in site development

Designing Interactive VLEs:

- Project-based and issue-oriented organization
- Ask-a-scientist element
- Goal of enriching math/science content knowledge

Only one item drew significant negative comments. Under the questions posed by the professional community group, editing the content of postings by users garnered several red dots. Most participants felt this was a bad idea. On the positive side, participants pointed out that fun, mentioned earlier in the discussion of compelling web sites, should be an important element of the site.

Separate comments included:

- Recognize funders with awards
- See e-pals method of building content by moderated discussion
- Provide options for teachers to access the content (scaffolds, supports, multimedia,

accessibility)

- Devote staff time to community-building - it's necessary for fanning the flames!
- The community must be a "living" thing—how will it grow?
- Don't sacrifice rigorous content for the sake of engagement
- Celebrate success!!
- Acknowledge students
- Assessment should look at more qualitative type of measures.

Finally, the group reviewed the results from the questionnaire handed out the previous evening. The results indicated that they preferred to be notified of project updates as milestones were achieved or monthly; they preferred to be contacted by email or listserv, and they preferred to take part in specific tasks, rather than making general comments. They offered the following suggestions for specific tasks they would be willing to undertake.

- Review content
- Coordinate/design focus groups and usability testing
- Disseminate information about the site, including short and long messages, logo, and the url
- Share information within their networks
- Connect with other organizations

The meeting adjourned at noon.

ATTACHMENT A

(MSP)2 Advisory Board Participant List

Name	Title	Organization	Email
Mindy Johnson	Instructional Designer and Research Associate	Center for Applied Special Technology (CAST)	mjohnson@cast.org
Tracy Crow	<i>Journal of Staff Development</i> and Web Editor	National Staff Development Council (NSDC)	tracy.crow@nsdc.org
Juan Rodriguez	Principal	Fuller Middle School, Framingham, MA	jrodrigu@framingham.k12.ma.us
Marcia Mardis	Professor, School Libraries and Media	Florida State University, Tallahassee, FL	mmardis@fsu.edu
Kathleen Koch	Advanced Studies Specialist	Charlotte-Mecklenburg Schools, Charlotte, NC	kathleen.koch@cms.k12.nc.us
Doug Darfus	Algebra Instructor, Department Chair	Jones Middle School, Upper Arlington School District, Upper Arlington, OH	ddarfus@uaschools.org
Cherlyn Anderson	iCoach and Science Specialist	South Carolina Department of Education, Columbia, SC	canderson@scetv.org
Melissa Rasberry	Policy Associate, Teacher Leaders Network	Center for Teaching Quality, Hillsborough, NC	mrasberry@teachingquality.org
Stephen Krak	Director, Ohio STEM Learning Network	Battelle, Columbus, OH	krak@BATTELLE.ORG
Rita Oates	Vice President, Education Markets	ePals	roates@corp.epals.com
Steve Hargadon	Director of Education	Educause	steve@hargadon.com
Anne Schreiber	Chief Academic Officer	Curriki	aschreiber@curriki.org
Stacy Lewis	Consultant		stacydlewis@gmail.com

Josh Sarver	Associate Exhibition Producer	COSI, Columbus, OH	jsarver@mail.cosi.org
Ed Hill	Director, Matrix Learning	Ohio Board of Regents, Columbus, OH	ehill@regents.state.oh.us
David Hayward	Instructional Technology Consultant	ISTCO, Columbus, OH	david@itsco.org
June Mark	Senior Project Director	Education Development Center (EDC), Newton, MA	jmark@edc.org
Michele Masucci	Associate Professor, Director of ITSRG	Temple University, Philadelphia, PA	michele.masucci@gmail.com
Eileen McIlvain	NSDL Resource Center Communications and Pathways Liaison	National Science Digital Library (NSDL) Resource Center, Boulder, CO	eileen@ucar.edu
Judy Spicer	Mathematics Resource Specialist	Ohio Resource Center, Ohio State University	jspicer@ohiorc.org
Carol Minton Morris	Communications Director and Director of Strategic Development for NSDL Technical and Network Services	National Science Digital Library (NSDL) Technical and Network Services, Cornell University, Ithaca, NY	clt6@cornell.edu
Sarah Woodruff	Project Evaluator	Evaluation and Assessment Center, Miami University, Oxford, OH	woodrusb@muohio.edu
Kristen Morio	Research Associate	Evaluation and Assessment Center, Miami University, Oxford, OH	moriokl@muohio.edu
Sarita Pillai	Director, co-PI	Gender and Diversities Institute, Education Development Center (EDC), Newton, MA	spillai@edc.org

Mary Henton	Director of Integrated Media Services, co-PI	National Middle School Association, Columbus, OH	mhenton@nmsa.org
April Tibbles	Director of Publications	National Middle School Association, Columbus, OH	atibbles@nmsa.org
Laura Cheng	Digital Library Content Manager	National Middle School Association, Columbus, OH	lcheng@nmsa.org
Carolyn Hamilton,	Web Editor	Ohio State University, Columbus, OH	chamilton@msteacher.org
Jessica Fries-Gaither	Science Resource Specialist	Ohio State University, Columbus, OH	Jfriesgaither@msteacher.org
David Hayward	Project Manager, Multimedia	ITSCO, Columbus, OH	david@itsco.org
Kimberly Lightle	Director of Digital Libraries, PI	Ohio State University, Columbus, OH	klightle@msteacher.org
Gay Gordon	Facilitator Extraordinaire	Columbus, OH	gay.gordon@gmail.com

ATTACHMENT B

Agenda

**(MSP)² Advisory Board Meeting
Center for Science and Industry (COSI)
Columbus, Ohio, February 4 – 5, 2009**

Meeting Goals:

1. Provide the advisory board with overview of (MSP)², NSDL, and digital tools.
2. Facilitate professional development for board members and opportunity to get to know one another and to coalesce as a team.
3. Gain input from advisory board members on 4 issues critical to project success: sustainability, building online communities, content knowledge, and dissemination.
4. Elicit commitment from board members for ongoing support of the project.

February 4 – Day 1

8:30 – 9:15 – Welcome and introductions (full breakfast)

9:15 – 9:30 – [WOSU@COSI](#) digital media lab tour

9:30 – 10:30 – The digital world for students and teachers

Presentation by David Hayward – ITSCO

10:30 – 11:30 - Overview of NSDL and (MSP)²

Carol Minton Morris, Eileen McIlvain, Kim Lightle, Mary Henton, and Sarita Nair

11:30 – 12:15 – Lunch

12:15 - 1:00 – Advisory Board projects – definition and selection

1:00 – 2:50 – Project work period

2:50 – 4:00 – Visit COSI – IMAX movie or explore the exhibits

4:00 – 5:30 – Project work period

5:30 – Travel to OSU

6:30 – 9:00 – Dinner, project discussion, and webcast – Pfahl Hall 230

February 5 - Day 2

8:00 - Shuttle pick up at Blackwell Inn

8:30 – 9:15 – Finalize group projects (full breakfast)

9:15 – 10:15 – Group presentations

10:15 – 11:15 – Project feedback and discussion

11:15 – 12:00 – What's next?

12:00 – Adjourn and box lunch

ATTACHMENT C

Advisory Board Projects

Project 1: Sustainability Plan

- Develop **three scenarios** for sustaining (MSP)²
 - **Minimal**
What would it take (money, staff, institutional support, other resources) to keep the web site running without new content?
 - **Medium**
What would it take to make ongoing additions to content on the web site?
 - **High-end**
What would it take to maintain a fully functional online community and enhance it with new content and new functionality?
Please include ideas about who has been successful in sustaining such a project and what have they done?
- What are possible sources of **continued funding** and how do you position the project now to tap into them?
- Develop a **timeline** and 4 – 5 **action steps**

Project 2: Dissemination Plan

- Who is the **audience** for (MSP)²?
- What is the **best way** to disseminate information to that audience?
- **Messaging** - how do we talk about the project *now* while it is still a work in progress - to our audiences, partners, funders, other stakeholders, etc?
- How would you determine the **success** of the dissemination?
- Develop **three scenarios** based on cost (low, medium, high) for disseminating to the audience. *Include the means of dissemination, how much it would cost, how many people each would reach, and its effectiveness.*
- Develop a **timeline** and 4 – 5 **action steps**.

Project 3: Building Professional Community around Exemplary Math and Science Content

- Based on the initial social networking site shown earlier (msportal-2.ning.com), suggest:
 - Ways to enhance the site (digital tools, labels, visual appearance, etc)
 - Ways to encourage professional community participation (groups, discussion topics, etc)
 - Ways to deliver exemplary content*Consider the following: what does it look like, who are the users, what can users do at the site, is it moderated, and what content does it include? Also consider the wide*

range of content (topics, books, issues in education, pedagogy, sites) and digital tools (RSS, widgets) at our disposal. Which are most important? Where should we begin?

- List and prioritize the **content areas** that the site should cover.
- How would you **evaluate the success** of building the community?
- Suggest any **sites** that successfully accomplish this.
- Develop **prioritized action steps** for enhancing the site and building community.

Project 4: Virtual Learning Experiences for Youth

- Design the **ideal VLE** (and accompanying site) that would encourage students to use it:
 - Who are the users?
 - What does the VLE look like?
 - What content does it include?
 - What can users do with the VLEs (e.g., view them, create/contribute content, communicate with each other through them, etc)?
 - Is the site (where VLEs reside) moderated in any way?
- **List and prioritize** the content areas that the VLEs should cover and how they should be aligned with other content on (MSP)².
- Suggest any **sites** that successfully accomplish this.
- Develop a **timeline** and **action steps** for creating the ideal VLE.
- How would you **evaluate the success** of the VLEs?

ATTACHMENT D

(MSP)2 Advisory Board Questionnaire

How Can We Keep You Involved?

Although (MSP)² has funding for only one face-to-face advisory board meeting, we need your ongoing help and advice throughout project development. We know that you are busy people, so we're asking you to tell us the best way to seek your input and advice. Please answer the following questions and offer any comments. Use the back of this sheet if you need more space.

Name/Organization _____

How often would you like to get project updates?
_____ As milestones are reached

- ☐ Monthly
- ☐ Quarterly
- ☐ Other (please describe)

How would you like us to communicate with you? (Check all that apply)

- ☐ Email/Listserv
- ☐ Conference calls/online meetings
- ☐ Brief gatherings at professional conferences
- ☐ Wiki space
- ☐ Have our own group on the Middle School Portal NING
- ☐ Other (please describe)

Is there anything you would particularly be interested in learning when we communicate with you?

What would keep you involved with this project in an active way? (Check all that apply)

- ☐ Regular communication about the project
- ☐ Additional face-to-face meetings, possibly at professional conferences
- ☐ Requests for specific advisory board tasks, such as reviewing content
- ☐ Requests for feedback about specific project components
- ☐ Requests for general, open-ended feedback about the project
- ☐ Other (please describe)

What action steps are you committed to take for (MSP)2 after this meeting? (Check all that apply)

- ☐ Promote and support the project through my organization
- ☐ Participate in any ongoing advisory board activities
- ☐ Communicate regularly with project staff
- ☐ Disseminate information about the project to professionals and youth with whom I have contact
- ☐ Encourage active use of the (MSP)2 by educators and with the youth they work with
- ☐ Regularly visit the web site
- ☐ Post to project blogs
- ☐ Be an active member of the MSP social network
- ☐ Other (please describe)

Teacher Leader Overview

Wiki at 2:22 pm on Mar 31, 2009

The 21st Century Teacher Leaders are a cadre of 2nd stage, middle grades math and/or science teachers who make a 2-year commitment to seed and feed the virtual professional learning communities (VPLC) that are the living activity of MSP2. The 21st Century Teacher Leaders facilitate virtual learning communities/settings employed by MSP2 (e.g., TappedIn, Curriki, Ning). They contribute to MSP2 content on the various project sites. They facilitate informal and formal professional development to assist other teachers to develop facility with MSP2 content and resources and/or knowledge and skills in the use of technology for teaching and learning. The cohort is a diverse group that also represents a range of schools and school settings (i.e., school location, size, and profile).

As a cadre, the 21st Century Teacher Leaders is a professional learning community that supports, engages, encourages, coaches, and teaches each other.

Each Cohort member agrees to--

- Cultivate and facilitate at least one MSP2 virtual professional learning community through identified site (e.g., TappedIn, Curriki, Ning, Second Life)
- Actively recruit and engage new participants in the VPLC
- Contribute to development and refinement of MSP2 curriculum
- Participate in at least 2 professional development activities throughout the 2-year commitment (either through NMSA, OSU, EDC)
- Attend a one-day TL symposium at the NMSA Annual Conference (can be 1 of the 2 professional development activities noted above)
- Contribute to middle grades professional development in math and science by--
 - presenting or facilitating at least 1 live, online event, annually (e.g., TappedIn event, Webinar, NSDL brown bag event)
 - presenting or facilitating a face-to-face conference or meeting session, annually (e.g., NMSA Annual Conference, NSTA Annual Conference, NCTM Annual Conference) OR contributing to print or digital publication
- Assist in identifying and screening for next/secondary cohort
- Be responsive to other cohort members and the members of the VPLCs of which she or he is a member or facilitator
- Make a 2-year commitment to the project

Each 21st Century Teacher Leader--

- is a skilled classroom teacher in her/his content area
- has been in the classroom at least 5 years, but no more than 15 years (considered 2nd stage teacher)
- expects to continue honing her or his craft as a classroom teacher and instructional leader
- is a bold explorer of Web 2.0 tools for curriculum, instruction, and assessment
- has demonstrated effective leadership in her or his building and among peers

NMSA responsibilities

- Develop and implement plans and processes for identifying and selection TLs
- Provide organizational structure, communication, and support for the TLs (e.g., conference calls/online meetings, updates)
- Provide face-to-face meeting at annual conference
- Recognize/honor cohort members (e.g., special recognition at NMSA Annual Conference; page on Website; certificate/letter of participation)
- Provide free NMSA membership for the 2-year period
- Provide stipend (\$1000/year)
- Pay for registration at the NMSA Annual Conference
- Pay for one night's lodging at the NMSA Annual Conference

NSDL Brown Bag Report: December 2008

Date of Report: 12.13.08

Brown Bag Title: Middle School-What Do We Know?

Date: 12.11.08, 11am-12p Mountain

Moderator: Robert Payo

Presenters: Kim Lightle, Mary Henton

This webinar was developed in collaboration with the National Middle School Association (NSMA).

31 participants attended during the session and 14 of them completed the online feedback survey at the end of the session. 77% of participants stayed on the session for at least a 40-minute duration.

Participants may have learned about the seminar through email postings on Ready Talk by NSDL (NSDL-all, PI list, WBR list), the Association of Science and Technology Center listserv, NMSA, Ready Talk public calendar of conference events, and the Colorado Science Education Network (CSEN).

Brown Bag Overview

Mary Henton, Director of Integrated Media Initiatives for NMSA gave an overview of student and teacher challenges and needs at the middle school level. Addressing the needs of students at this age takes special consideration due to the various changes children go through emotionally, physically, developmentally, and socially at this age. Studies indicate that “teacher quality is the most important factor in student achievement.” This includes factors of teachers possessing strong content knowledge, personal knowledge of their individual students, and teacher skills in instruction and assessment. Statistically, however, a significantly small percentage of teachers have training and preparation specific to middle school level certification. According to a study by Mertens, Flowers, and Mulhall reported in 2002, fewer than 10% of teachers grades 6-8 are middle school certified.

Dr. Kim Lightle, Director of Digital Libraries at Ohio State University discussed how the Middle School Portal and its newest evolution as the Middle School Pathway presently addresses teacher and students needs and how it will develop in the future to continue to meet these needs. Expansion of the Explore in Depth (EID) publications will include information on core science concepts, current research, forums for participant discussion and professional development, and resources specifically for students. Through the use of 2.0 tools such as Diigo, Expert Voices, TappedIn and other tools, the Middle School Pathway will build a social network for middle school math and science teachers to discuss, support, and better utilize digital resources in their professional practice.

Survey Feedback Results

14 people filled out the post-session survey (45% response rate)

Rate the quality of session content (1-poor to 5-excellent)	4.5 avg
Rate the overall quality of the session (1-poor to 5-excellent)	4.07 avg

Participant comments: Please note that these are taken directly from survey responses with typing and grammatical errors intact.

What was the reason you attended this session?

- Topic was intriguing.
- To better understand what is changing in the STEM environment that produces the students I am receiving from secondary ed. (community college educator)
- As a member of another pathway project team, I was interested in what they had to say about the MSP2 project. I am also interested, from a personal point of view, in how to teach more effectively and I have recently started doing outreach activities to middle school students (to introduce them to computer science concepts).
- to learn more about the MSP2 program and how they are integrating social networking
- In preparation of an introductory course to Middle Level Education this Spring semester, I wanted to learn more about resources available to my teacher candidates and their teacher mentors. Also, I am completing my fourth year teaching a middle level science methods course (combined with elementary or secondary) and want to better prepare my candidates. [Nate Carnes—science teacher educator]

What did you like most about the session?

- It was very well organized & delivered.
- Best--new topics, interesting, short.
- Most--the responsiveness of the presenters to questions and thoughts.
- Most: identification of data relating specifically to this age.
- Information about resources, contacts.
- What I liked most was the convenience of being able to access the conference from my computer -I do not have time or money to travel to conferences!
- I liked listening to the presentation while viewing the slides online. Having two options to pose questions or make comments was attractive to me, also.

What did you like least about the session?

- Least--the last minute change in the registration and login caused me to miss the first 10 minutes.
- For this particular conference what I like least was that I had trouble accessing it in the first place due to technical difficulties so I missed about 15 minutes worth ;-(
- I wanted to see the questions that were being posed.

What was the biggest takeaway for you from this session?

- I appreciated the research findings.
- Excitement
- New approaches to middle school learning
- The links to the resources mentioned during the presentation, even though our district had some of them blocked.
- Information I can pass on through a regional consortium of school districts, museums, NASA, and community colleges.
- the discussion around teacher needs and responses
- That MSP2 is using a variety of interactive online tools, directly, as their digital library.
- Resources are being gathered that will help me avoid reinventing the wheel.
- New avenue for professional development.
- Information about research.
- Up to now, I haven't known much about webinars or what NSDL has to offer, much less (MSP)2. So, the information was informative in that regard. Information about the (MSP)2 website was very helpful to me; I plan to visit it

What other topics would like to see for these Brown Bags?

- Informal education: Maker/inventor/DIY mindset
- On-line resources and lessons/units.
- Ways to keep MS teachers energized.
- Ways teachers can help educate middle school parents navigate these years.
- I would like to see a Brown Bag that covers teaching science across the spectrum of various student needs and abilities. One participant also spoke of being able to pre-determine a student's ability to think in abstract versus concrete terms - a Brown Bag on that would be good too!
- I would like to hear more about educating middle level science and math teacher candidates. While I have knowledge and experiences to contribute, my mind is open for more insight and a deeper understanding. I have the same sentiments about Middle Level classroom management issues

Additional comments

- Thank you for offering this.
- Robert was helpful in facilitating the session. the speakers were generous and responsive. I was very disappointed in the inability to follow the entire slide presentation because of a technical problem at my end that kept logging me off. So, I am glad that the recorded session and slide presentation will be available to us. Thank you!

Recommendations

- At the last minute, moderator realized that creating two separate meetings with the same login and time (to single out the people on NMSA's list) prevented one group to join the Brown Bag. A message was sent an hour prior to the start of the

session to redirect the second group to the Brown Bag. Finding a way to parse out a group of people to track them through Ready Talk will be explored.

- A few people reported problems logging on and according to the record of logins, a few people had to log back into the session several times. Moderators will talk to Ready Talk to find out what can be done or who participants should call for tech support.
- Moderators will look at the chat feature and see if there is a way to post the entire chat for everyone to see during the session. (Presently, only the chairpersons see the entire chat.)
- Moderators will continue to refine the process for presenters in developing a presentation and using Ready Talk and the training needed.
- Ending presentation 5 minutes earlier to allow for more people to fill out survey before the hour is over.

Next Steps

- Establishing a blog and Diigo list specifically for Brown Bags
- Posting archives on NSDL.org on the professional development pages
- Moderators debriefing for continued refinement of process and planning
- Playing with Ready Talk to maximize its capabilities more
- Follow up with participants and registrants: survey, archive, resource list, and notice of future programs
- Working on spring schedule of presenters

Webinar
Evaluation:
Online Math
Resources -- for
the Offline
Classroom!



Thank you very much for participating the (MSP)² Webinar:
**Online Math Resources -- for the Offline Classroom by Terese
Herrera on February 24, 2009, 3:30pm-4:30pm EST.**

To help us improve, please answer the following questions. It will only
take a couple of minutes of your time.

1) Processes of registration and log-in were easy.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
Registration process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Login process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2) Webinar software was easy to use.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3) I encountered few technical difficulties.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4) The length of time allowed for the Webinar was appropriate.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<hr/>						
5) The audio quality of the presentation was good.						
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<hr/>						
6) The visual quality of the Webinar was good.						
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<hr/>						
7) The host moderated the session in an effective manner.						
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<hr/>						
8) The presentation was well organized.						
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<hr/>						
9) The presenter was....						
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
Knowledgeable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Well prepared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<hr/>						
10) I will use the information from the Webinar in my classroom or school.						
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A

	disagree					agree
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<hr/>						
11) Overall, the Webinar met my professional needs.						
	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	N/A
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<hr/>						
12) Comments or ideas for improving the (MSP) ² Webinars.						
<hr/>						
13) Suggestions for other topics or presenters.						
<hr/>						
<div>Finish Survey</div>						

Evaluation of MSP2 Advisory Board Meeting February 4 and 5, 2009

Your candid thoughts regarding the (MSP)2 Advisory Board meeting are greatly appreciated. Please complete this survey to provide valuable feedback to the project team and to the external evaluation team.

Part I.

Please reflect upon your experiences at the (MSP)2 Advisory Board meeting and indicate your level of agreement with the following statements.

The (MSP)2 Advisory Board meeting...

1. Enhanced my understanding of the (MSP)2 project and its goals.
2. Enhanced my understanding of the NSDL and its role in this project.
3. Enhanced my understanding of digital tools that may be used in the (MSP)2 project.
4. Increased my understanding of sustainability as an issue critical to project success.
5. Increased my understanding of dissemination as an issue critical to project success.
6. Increased my understanding of issues involved in building online Professional Learning Communities.
7. Increased my understanding of issues involved in developing student content for Virtual Learning Experiences.
8. Provided me the opportunity to become acquainted with other members of the (MSP)2 Advisory Board.
9. Provided me the opportunity to become acquainted with the (MSP)2 project team.
10. Enhanced my understanding of the role of the (MSP)2 Advisory Board.
11. Enhanced my commitment to the (MSP)2 project.
12. Provided me the opportunity to contribute to the (MSP)2 project in meaningful ways.

	Strongly Disagree				
	Disagree		Undecided		
			Agree		Strongly Agree
	SD	D	U	A	SA
1. Enhanced my understanding of the (MSP)2 project and its goals.	SD	D	U	A	SA
2. Enhanced my understanding of the NSDL and its role in this project.	SD	D	U	A	SA
3. Enhanced my understanding of digital tools that may be used in the (MSP)2 project.	SD	D	U	A	SA
4. Increased my understanding of sustainability as an issue critical to project success.	SD	D	U	A	SA
5. Increased my understanding of dissemination as an issue critical to project success.	SD	D	U	A	SA
6. Increased my understanding of issues involved in building online Professional Learning Communities.	SD	D	U	A	SA
7. Increased my understanding of issues involved in developing student content for Virtual Learning Experiences.	SD	D	U	A	SA
8. Provided me the opportunity to become acquainted with other members of the (MSP)2 Advisory Board.	SD	D	U	A	SA
9. Provided me the opportunity to become acquainted with the (MSP)2 project team.	SD	D	U	A	SA
10. Enhanced my understanding of the role of the (MSP)2 Advisory Board.	SD	D	U	A	SA
11. Enhanced my commitment to the (MSP)2 project.	SD	D	U	A	SA
12. Provided me the opportunity to contribute to the (MSP)2 project in meaningful ways.	SD	D	U	A	SA

Part II.

1. Please indicate which activity/presentation was most valuable to you.
2. Please indicate which activity/presentation was least valuable to you.
3. Please share any additional thoughts regarding the impact of this meeting on your professional learning.

Many thanks for your participation at this meeting and your input on this evaluation!!

Ohio's Evaluation & Assessment Center for Mathematics and Science Education
Middle School Portal 2: Math and Science Pathways (MSP2)

Educator Focus Group Summary

An educator focus group was held on March 20, 2009 to determine the need for and current uses of web 2.0 tools by middle school mathematics and science teachers. The focus group also was introduced to the MSP2 portal so as to assess their initial impressions. Project team members from the Educational Development Center (EDC) conducted this focus group. There were six participants (5 female, 1 male) from Ohio, Illinois, Michigan, Indiana, and Florida.

The participants in the focus group stated that they like to use technology in the classroom. Participants reported the most common way the Internet was utilized was as a resource for students to get more information about the topics covered in class. Some teachers also used the Internet as a form of communication so they could keep in touch with students and post assignments, grades, and newsletters where students and parents could access it. Some of the participants said that they use the Internet to enhance their lessons with videos and websites of the topic material. The participants also used the Internet to access information on subjects to make the material more accessible to students, to clear up the participants' own misconceptions about the subject material, or to help students answer questions raised during class that were not able to be covered due to time restraints.

Problems the participants encountered incorporating technology into their classrooms mostly were due to the school blocking Internet access to video clip and social networking websites. Participants also reported problems finding websites with sufficient information or video clips. Another complaint about incorporating technology into the classroom was the insufficient amount of training teachers received when being asked to implement technologies such as SMART boards into the classroom.

When the teachers were asked to look at the MSP2 website, they provided some feedback on how the website could be changed to better meet their needs. One of the participants suggested that a mission statement or information on what the site is trying to accomplish be posted on the homepage. She commented that her first impression was that the site was a current events blog and she would not spend much time on it because she could not immediately see how it could be used as a resource for her and her students.

Another participant said that the website looked like a good resource, but that he would not use it because it is not time effective. He suggested the addition of a search function so that teachers wouldn't have to look through all of the recently posted content to find useful information. He also recommended adding a date stamp identity when content was posted to get an idea as to their relevance.

Two participants also suggested the addition of a tutorial so that teachers who were not technology savvy could figure out how to operate the various features and set up preferences. The participants requested both a video tutorial and text instructions, which they could refer to should they forget how to use some of the features.

In order to make the MSP2 website more interesting to students, the participants recommended that information about scientific content be included on the website as students tend to use the Internet to research science concepts or topics. Animations demonstrating these concepts were recommended. One participant also thought the addition of interactive features would get students more involved on the website.

The participants also recommended a function on the MSP2 website that allows students to search for information by topic or question. The participants said that a search feature that would allow students to find answers to their questions would encourage them to search out more information on their own.

Youth Focus Group Summary

On April 22, 2009 a youth focus group was held to determine what internet tools students use for fun and in coordination with their academic responsibilities. The Education Development Center (EDC) is primarily responsible for developing the virtual learning experiences (VLE) for youth on the MSP2 website. Five (three females and two males) thirteen-year-olds participated in the focus group held by the EDC.

When asked about their favorite website, the majority of students in the MSP2 youth focus group responded that Facebook was their favorite site. The students liked the website because it allowed them to see what their friends were up to and to express themselves with the "What's on Your Mind" function. They also liked that Facebook gave them the ability to choose who could see the information and pictures they posted on it.

The students did report that there were a few drawbacks to Facebook. The biggest drawback was that some functions and sections of the website were not well-marked, causing some students to be unable to use parts of the website. The students also noted that the website's search function needed improvement (i.e. you need someone's full name in order to locate their Facebook page). Some of the students also suggested functions that would allow them to customize the color and layout of their Facebook page.

In spite of these concerns, most students preferred Facebook over MySpace because of the lack of advertising. When viewing a MySpace page during the course of the interview, the students noted that too much of MySpace was allocated to advertisements. The students said they preferred websites that didn't have advertising or which had only small advertisements which could be ignored easily.

When the students were asked how much they used video sites like You Tube, the students responded that they did not use YouTube much. They noted that You Tube needs a better search function to allow them to locate information they need more easily. They also said that they wanted the video clips to be of better quality and not limited to ten minutes.

Most of the students used YouTube to search for comedic video clips, but some of them did use it for educational purposes when directed to do so by a teacher. The students said that they found video clips to be better at informing them how to do things in some instances than written instructions, but YouTube's search function made it too hard to locate such videos.

When they used the Internet for educational purposes, students said they made frequent use of Google to search for websites about certain subjects. They liked to use Google because it brought up a large number of websites related to the topic search and contained a short abstract underneath each site that told students what the site contained. They reported that Google had some drawbacks like providing too many websites on a subject and that Google rarely supplied a direct answer. Despite these drawbacks, when asked to search for answers to focus group questions, the students used Google as their primary resource.

The participants also reported that they frequently used Ask.com when trying to find information about certain subjects. Students liked Ask.com because the website was useful in providing them more direct answers to their inquiries than Google. They also liked Ask.com because the website presented its information using a good balance of text and images.

Dictionary.com also was frequently used by students when completing English assignments. Students favored this website because the search function was easy to use and quickly presented them with the information they were looking for.

Ohio's Evaluation & Assessment Center for Mathematics and Science Education Middle School Portal 2: Math and Science Pathways (MSP2)

When it came to constructing an informational webpage, the student participants said that they wanted a website which presented the information using a good balance of text and images. They did not prefer to use websites with too much text. They also said that they liked websites with well-organized text and images.

The students did not mind using a website sectioned off by age ranges or target audiences. If a website were to be built for them, the students said that they would want the audience range to be identified by grade level so that they could find what they are looking for more easily. They also wanted the information to be presented on their level and said that they were turned off by websites that presented information for a much younger audience.

The search function was very important to students. Many of the student participants favored websites that allowed them to easily search for a topic. Students said they also would use a question search function if given the option.

Finally students said that the organization and functionality of a website were important when they searched for research. For example, when shown the math side of the middle school portal, the students responded that the website's format did not help them understand the subject or how the page could be used. When they searched the science page, they did not like the essay format and wish the subject material was broken down further into categories and terms they could more easily access. The students were unable to provide more clear direction on how the website could be better organized so that they would find it more interesting and relevant.