A SURVEY OF MSPnet USERS

Key Findings

Mark St. John
Judy Hirabayashi

Fall 2011
Inverness Research

A SURVEY OF MSPnet USERS
Key Findings

EXECUTIVE SUMMARY

Inverness Research (www.inverness-research.org) conducted a survey of MSPnet users in Fall 2011 in order to gauge their perceptions of the quality and value of MSPnet's weekly online newsletter, *MSPnews* and website, www.mspnet.org. The newsletter provides information about MSP-related events and broader STEM research; the website comprises multiple resources and tools for MSP projects' use. This study was not conceived as a comprehensive evaluation of MSPnet. Rather, it emphasizes the contributions of MSPnet to its users, more broadly to the NSF MSP program, and to the STEM education field at large.

Survey Findings

MSPnet users are a diverse group and well positioned to use different aspects of MSPnet as well as share what they learn from this resource with others. Many are also well positioned to contribute to MSPnet. Most users have been involved with one or more MSPs, but there is also considerable usage by people working in the STEM education field who are not directly involved with MSPs.

To summarize upfront, MSPnet is seen as a valuable source of information and a vehicle for communication for MSP-related work as well as for other STEM-related efforts.

MSPnet has many different functions and features; all features have at least some users (usage ranges between 24% and 37% of survey respondents per feature), and, not surprisingly, users rate the specific features they actually use on mspnet.org as helpful. There is also considerable interest in a new MSPnet resource, the webinar series that was launched in fall 2011.

In general, all types of users gave similar ratings, suggesting MSPnet is consistent in the degree to which it meets the needs of its core audiences. Most users say they will continue to use MSPnet after their MSP project ends; most of those whose projects have already ended also currently use MSPnet.

We include in our report a lengthy sampling of user comments to help convey the diversity of the MSPnet's online community and the wide array of uses to which its resources are put by NSF MSP projects and beyond. We also provide user suggestions for improvement to MSPnet. Complete results were provided to MSPnet staff.

MSPnet as an investment in infrastructure

MSPnet is a good example of an investment in an educational improvement infrastructure which adds value to and enhances existing STEM improvement efforts – those funded under the MSP banner as well as others. Thus, MSPnet empowers those university faculty

and K-12 teachers who seek to develop projects and programs that target the improvement of the teaching and learning of mathematics and science.

We see the survey results as confirming the value of the NSF investment in MSPnet. And like all good investments in infrastructure, to be of optimal value the funding for that infrastructure must be continuous, steady and promoting of cumulative growth over time. For these reasons we see the continuing investment in MSPnet, and its continuing growth and evolution, as a logical and profitable next phase of developing an improvement infrastructure that can support a wide range of educational improvement efforts into the future.

OVERVIEW OF THIS STUDY

Background

In September 2011 Technical Education Research Centers (TERC) contracted with Inverness Research (www.inverness-research.org) to conduct and analyze a survey of its MSPnet website "members" and "guests". The purposes of the survey were to document how MSP educators and others use MSPnet resources, to gauge users' perceptions of the quality and value of MSPnet resources, and to assess the broader contributions of MSPnet to the MSP community as well as to the larger STEM education field. User suggestions for the refinement of the MSPnet website were collected as well.

This report provides a brief summary of the findings of that survey. It is not meant to be a comprehensive evaluation of the MSPnet. Rather, it a snapshot in time of the activities and perceptions of its users, with an emphasis on portraying the contributions of MSPnet.

Survey administration and response rate

MSPnet staff provided Inverness Research an email list of its 9,241 members and guests, along with selected information that the project has collected about its individual members. To reduce the burden on respondents, Inverness developed two survey forms that shared some items in common. One form was directed specifically to those MSP project members who were known to be users of MSPnet online resources for MSP projects; the other form was appropriate for all users.[1] The survey was administered online, with a drawing for five iPads as inducement to respond.

After several follow-up requests, a total of 1,734 MSPnet users responded, for a response rate of 21% of the 8,316 users we were able to reach via email. While lower than we originally hoped, this response rate is high in our experience for a "cold-call" survey about an ancillary, optional-use resource such as MSPnet.

We were able to match survey responses with MSPnet-provided background information for 1,672 respondents. The following table illustrates that MSP project members and some other user groups who comprise the core audiences served by MSPnet responded at a slightly high rate than other MSPnet users[2].

---

[1] The survey forms are provided as Appendix A of this report.

[2] For example, MSPnet members comprise 74% of the project's mailing list, but 85% of the responses we received were from members. Similarly, 43% of the site's members have logged in since 2009, but 74% of the survey respondents are members who have logged in since that time.

Figure 1. Response rate by type of MSPnet user*

	SURVEY INVITEES (who link to MSPnet-provided prof. role and usage data (N=9,241)		RESPONDENTS (who link to this MSPnet-provided information (N=1,672)	
	% of all user invitees	% of all members	% of all user invitees who responded	% of members who responded
MSPnet Member	74%	NA	85%	NA
MSPnet Guest	26%	NA	15%	NA
PI or Co-PI (NSF or other MSP)	5%	6%	8%	10%
Logged in since 2009 website re-launch	32%	43%	63%	74%
Posted since 2009 website re-launch	15%	20%	33%	39%
One of 500 highest frequency users	5%	7%	16%	19%
Member of currently funded project	26%	36%	34%	40%
Member of project using its project Member of project using MSPnet space	59%	80%	70%	82%

After bounces and survey opt outs, we were able to reach 95% of members (6,282) and 88% of guests (2,034) for whom MSPnet-provided information could be linked.

SURVEY FINDINGS

This report

The body of this report is meant to provide the reader with a brief summary of survey findings as well as some interpretation as to their significance. Full results were provided to MSPnet staff.

The findings from the survey are divided into six sections:

I.   The Community of Users
II. Major Findings about the Value of MSPnet
III. Usefulness of MSPnet Features
IV. Dissemination, Access and Barriers
V.   Specific Examples Of Value And Usage
VI. Summary Thoughts

I. The Community of Users

<u>Who responded to the survey</u>?

Survey findings about MSPnet represent the perspectives of STEM educators at all levels in the education system.

Twenty-six percent of respondents are MSP PIs or Co-PIs in their primary or other professional role(s), 46% are higher education faculty, 37% engage in research and/or evaluation, 37% teach at the K-12 level, and 30% are program or project coordinators. Smaller numbers are K-12 administrators (14%), policy makers (3%), MSP state coordinators (2%) and NSF Program Officers (1%).

Figure 2. Professional roles of MSPnet survey respondents

	% respondents in this primary professional role	% respondents who have this as a secondary role	Total % respondents engaged in this work
MSP PI	3%	8%	11%
MSP Co-PI	4%	11%	15%
Higher education faculty	20%	26%	46%
Researcher or evaluator	13%	25%	37%
K-12 teacher	28%	9%	37%
Program or project coordinator	11%	20%	30%
K-12 administrator	9%	6%	14%
Policy maker	0%	3%	3%
MSP state coordinator	2%	1%	2%
NSF Program Officer	0%	1%	1%

Most MSPnet users are/have been involved with one or more MSPs.

Seventy-seven percent of survey respondents whose responses we could link to the MSPnet database report that they have been involved with an NSF- and/or EdMSP (state MSPs). Some have both current and former involvements, and some are involved with both NSF and EdMSP (state MSPs). Thirty-eight percent are currently involved with an NSF MSP and 49% have been involved with an NSF MSP in the past[3].

---

[3] A small percentage of survey respondents were unclear about whether they have been involved with the MSP program. We used the MSPnet email list and close reading of their surveys to make our best guess at their status.

Figure 3. MSP affiliations of survey respondents*

Current NSF-funded MSP(s) involvement	38%
Former NSF-funded MSP(s) involvement	49%
Current ED MSP(s) (state MSPs) involvement	20%
Former ED MSP(s) (state MSPs) involvement	25%

Respondents could check all that apply.

MSPnet users have widely varying roles in their MSP projects.

MSPnet participants are well positioned to use different aspects of MSPnet as well as share what they learn with others. Many are also well positioned to contribute to MSPnet.

Figure 4. MSP project responsibilities and roles of survey respondents

I am (or was) a key leader/designer of the MSP	27%
Designing and/or providing professional development	42%
Designing and/or helping implement innovative curriculum, assessments and/or technologies	33%
Supporting the implementation of MSP activities/workshops and/or administering the MSP	47%
Conducting project evaluation and/or research related to the MSP	29%
Helping conduct outreach and/or dissemination for the MSP	22%
Other MSP role	5%

In addition, 31% of the survey respondents have been recipients of professional development provided by the MSP(s).

MSPnet has considerable usage by people working in the STEM education field who are not directly involved with MSPs.

About a quarter of MSPnet users who responded to the survey (23%) are not involved with MSPs but comprise other educators, professional developers, policy makers, researchers and evaluators, etc. in the STEM education field who nonetheless look to MSPnet for resources and information.

II. Major Findings about the Value of MSPnet

What is the overall value of MSPnet to the MSP community?

Users value MSPnet as a community resource.

Eighty-nine percent of all users say MSPnet is a *moderately important* to *very important* resource to the MSP community.

Figure 5. Ratings of the importance of MSPnet to the MSP community

Unimportant	Slightly important	Moderately important	Very important	Extremely important
2%	9%	28%	43%	18%

A large majority (71%) also says that MSPnet has provided an online learning community for the NSF MSP program.

MSPnet is a valuable source of information for MSP-related work as well as for other STEM-related efforts.

A substantial majority of users (83%) *agree* or *agree strongly* that MSPnet has been valuable in providing up-to-date, relevant research, reports, news and resources related to STEM education.
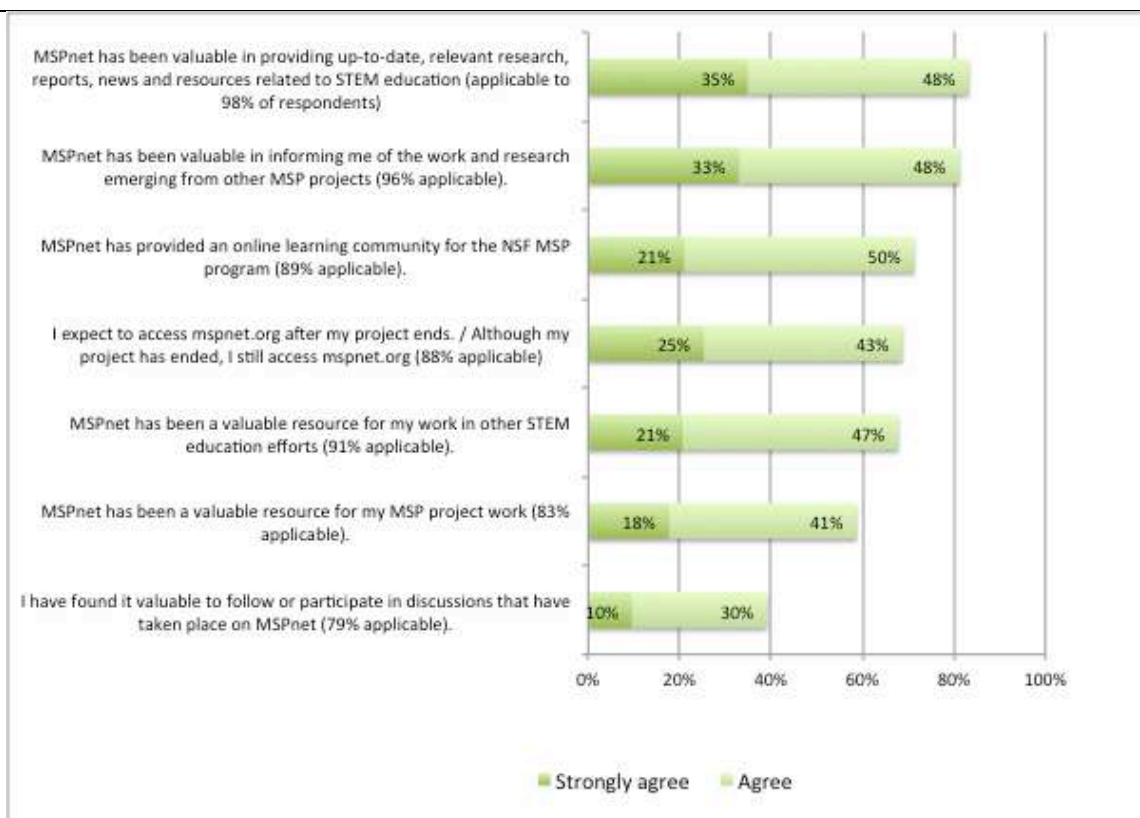
 Eighty-one percent of respondents *agree* or *agree strongly* that MSPnet has been valuable in informing them of the work and research emerging from MSP projects

Ninety-one percent of respondents say that they do other work related to STEM education in addition to their MSP-related efforts.

Sixty-nine percent *agree* or *agree strongly* that they will access MSPnet after their project ends, or are currently accessing it even though their project has already ended.

Forty percent *agree* o *agree strongly* that it has been of value to follow or participate in discussions that have taken place on MSPnet.

Figure 6. Percentage of survey respondents who *agree* or *agree strongly* with specific statements about MSPnet's overall value

Respondents had the option to check "not applicable" for each statement. Percentages represent responses of those respondents who left "not applicable" blank (i.e., those for whom the statement was "applicable").

III. Usefulness of MSPnet Features

MSPnet is a multi-faceted resource. Different users find different facets to be of particular value.

Ninety-six percent of the survey respondents report that the specific features they use on mspnet.org are *moderately helpful* to *extremely helpful*. Most (54%) say they are *very helpful*, 34% say they are *moderately helpful*, and 8% say they are *extremely helpful*.

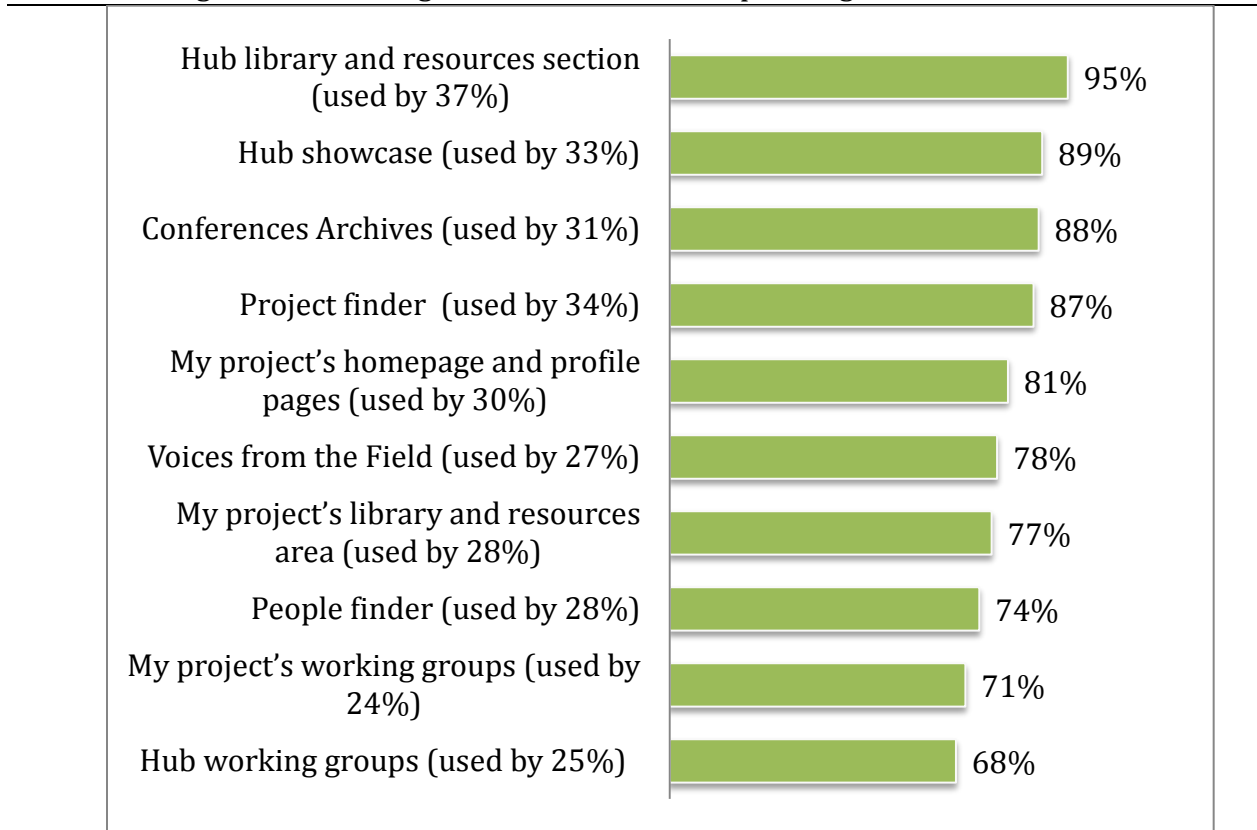**Many MSP members find the MSPnet's features useful.**

Each particular mspnet.org feature is used by someone (usage ranges between 24% and 37% of survey respondents per feature) and rated as *moderately*, *very*, or *extremely valuable* by 71% to 95% of those who use them.

The Hub library and resources section is the most widely used and highest rated resource. Thirty-seven percent of the respondents use it and 95% rate it as *moderately* to *extremely valuable*, including 30% who rate it as *extremely valuable*. Nearly 9 in 10 respondents who

use them also rated highly the Hub showcase (rated at least *moderately valuable* by 89% of users), conference archives (88%), and Project Finder (87%). All other resources were rated nearly as high.

Website features that projects can use internally are rated as useful by about 3 in 4 respondents who use them: the project homepage and profile page (81% say they are useful), the project's library and resources (77%), and project working groups (71%).

Figure 7. Percentage of users who rate mspnet.org features as useful

Feature	Percentage
Hub library and resources section (used by 37%)	95%
Hub showcase (used by 33%)	89%
Conferences Archives (used by 31%)	88%
Project finder (used by 34%)	87%
My project's homepage and profile pages (used by 30%)	81%
Voices from the Field (used by 27%)	78%
My project's library and resources area (used by 28%)	77%
People finder (used by 28%)	74%
My project's working groups (used by 24%)	71%
Hub working groups (used by 25%)	68%

Respondents had the option to indicate that they "used" each resource. This graph reports responses of those respondents who have used each resource. Percentages represent ratings of 3, 4, or 5 on a 5-point scale where 1=not useful, 3=moderately useful, and 5=extremely useful.

There is interest in the MSPnet Academy.

There is considerable interest in a new MSPnet resource – the webinar series launched in fall 2011. Several webinars had been held by the time survey takers responded, and 9% of the respondents had already participated. Nine in ten who had participated found them interesting. Twelve percent definitely expected to attend, and another 38% thought they sounded interesting. A third (36%) were pretty sure they were not interested. A number of those not interested commented about time constraints rather than real lack of interest being their major constraint.
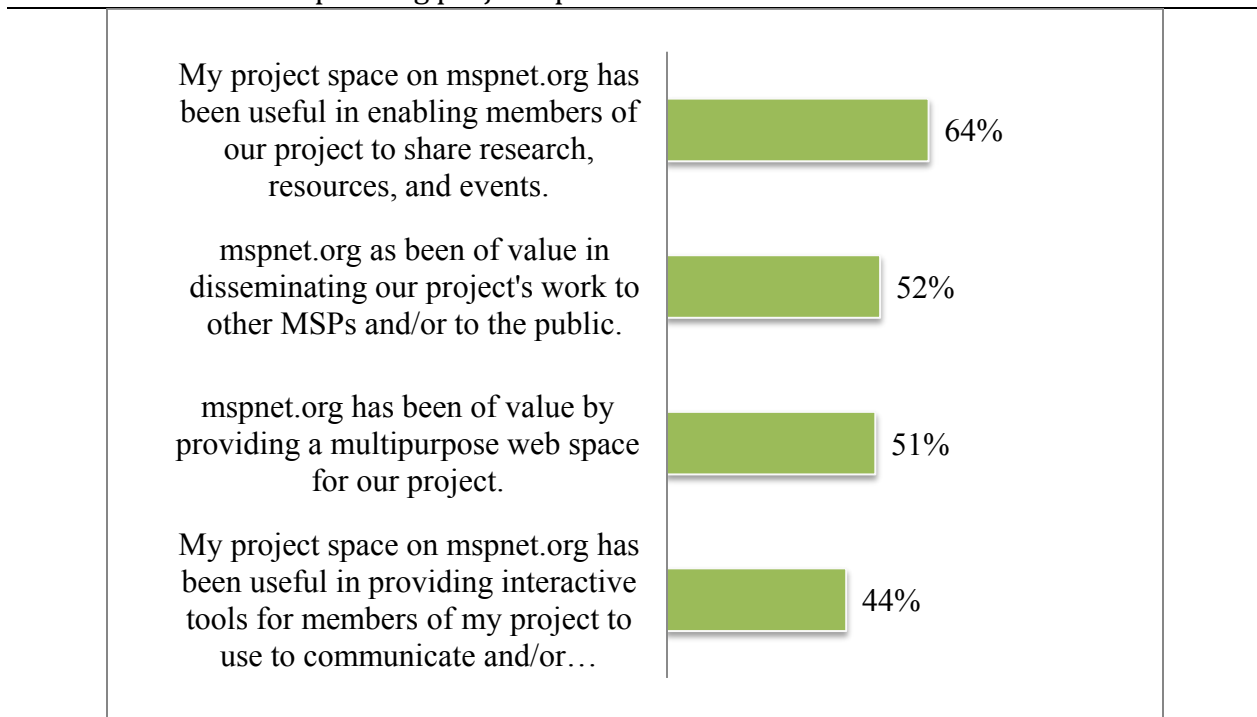
The usefulness of Project Spaces varies.

Projects vary in their use of their individual project spaces on MSPnet. One major factor is that many participants are affiliated with projects that are no longer funded and their project space is not being actively used. These participants rely on information posted in the MSPnet Hub and in the newsletter.

Eleven percent of respondents report using their project space on MSPnet as their primary website instead of creating their own website, and an additional 29% use their project space as a useful complement to their own website.

We asked respondents who were affiliated with an NSF-funded MSP about specific ways in which their project space has been useful to their project. Sixty-four percent agree that it has been useful in enabling members of their project to share research, resources, etc. About half (51%) say it has been of valuable by providing a multipurpose web space for their project and 52% say it has been of value in disseminating their project's work. Forty-four percent say that their project space has been useful in providing interactive tools for members of their project to use to communicate or collaborate.

Figure 8. Percentage of users affiliated with an NSF-funded MSP who report that their mspnet.org project space has been useful or valuable

Do different types of users rate MSPnet differently?

We compared responses of four core user groups: NSF MSP users, MSP PIs and co-PIs, the 500 users who use the website most frequently, and users whose projects use their

dedicated project space on the site. In general, all types of users gave similar ratings, suggesting the MSP is consistent in the degree to which it meets needs of its core audiences.

We also compared responses of members and guests. Here we did see differences. A high percentage of guests who responded to the survey have STEM education leadership roles (57% vs. 21% for members), and they were notably enthusiastic about MSPnet. MSPnet appears to fill an information gap for them that no other resource does. An overwhelming percentage of guests (91%) *agree* or *agree strongly* that MSPnet has been valuable in providing up-to-date, relevant research, reports, news and resources related to STEM education – a rating that is higher than that for MSP members (82% of whom give similar positive ratings). Eight-six percent would miss MSPnet at least somewhat if it did not exist. These findings suggest that well-positioned guests are likely to be good publicists for MSPnet and conduits to the broader STEM community of the knowledge and resources of the MSP community.

IV. MSPnet Dissemination, Access, and Barriers

How familiar are survey respondents with MSPnet resources?

The MSP Newsletter: About three quarters of the survey respondents find MSPnet News, the MSPnet weekly email newsletter, valuable. Ninety percent of the respondents were familiar enough with the newsletter to rate it; 77% who were familiar with it rated it as *moderately* to *very valuable*, including 41% who said it was *very* to *extremely valuable*.

A large majority of users who responded to the survey (84%) open MSPnet News at least *sometimes*, including 38% who *usually* open it and 13% who *always* do.

Accessing MSPnet.org: While the most typical MSPnet user comes to the website via the weekly newsletter, other access options are also used by its users. About half of mspnet.org users (48%) generally access the website via MSPnet News. Another 30% *sometimes* access it via a browser or bookmark. A minority (12%) *always* access it through a browser or bookmark. About one in ten respondents who received the survey form with this question indicate that they receive the newsletter but never access the website itself.

Only about half of the survey respondents (47%) ever log in when they use the website, including only 33% who always do. Thirty-two percent are sure that they never log in, 12% are not sure, and 9% who received the survey form with this question do not believe they have ever accessed the website.

Barriers to Use

A quarter of survey respondents report that there are no barriers to their use of the newsletter or website. "Lack of time" – their own unwillingness or inability to spend much time reading the newsletter or using mspnet.org – limits usage for many respondents (60%).

Other possible barriers to usage limit only small minorities of users: forgetting about MSPnet (10%), lack of familiarity with mspnet.org (10%), insufficient interest or relevance of online discussions (10%), and lack of relevance to own work (9%). Only 3% find the website design confusing, overwhelming or difficult, and the same small percentage say the information is redundant to other sources of information and forums for discussion.

V. Specific Examples Of Value And Usage

Many users accepted our invitations to explain how MSPnet is useful to them. We include a lengthy sampling of user comments in this section to help convey the diversity of the MSPnet's online community and the wide array of uses to which its resources are put.

MSPnet users are able to describe a wide range of ways in which they have used and benefited from MSPnet.

In response to open-ended questions about how MSPnet has been useful to their MSP and other STEM education work, NSF MSP users cite examples related to everything from logistics and program management, to staying current with and contributing to cutting edge research and methodology used by the projects, to networking with others doing similar work within the MSP program.

> *As an MSP participant in professional development, MSPnet provided an effective platform for sharing developed products (interventions) and stimulating ideas. As an MSP program provider, MSPnet has been important for fostering communications among members of active community, and a great source of information through white papers and webinars.*

> *MSPnet has allowed our math teachers to collaborate online before, during, and after professional development. Much of what they have done has been in conjunction with PRISM.*

> *One of the uses: Our project sends out a monthly newsletter in which we frequently include results from recent research in STEM education. The MSP newsletter provides research information that we cite in our newsletter.*

> *It is a valuable tool for communicating between our project sites and [for] developing products.*

> *Many of the articles were used as catalyst for instructional changes in the way we taught mathematics. We used the articles for text-based reading, [to] implement change, and [to] conduct professional discussions. Some of us used the articles as reference in graduate courses.*

> *MSPnet has provided many individuals and projects with access to the resources we provide, specifically our public MOSART tests.*

> *The [webinar] discussion the past week related to the Next Generation Science Standards will have an effect upon the science MSP that we are preparing.*

> *The MSPnet has been helpful in identifying for us better ways to evaluate our Math and Science program with assessments like the LMT and MOSART.*

Many MSP-involved users also specified how MSPnet helps them in their other roles and responsibilities beyond their work in their own MSP.

At the broadest level, this resource serves as a model for other online communities in education. More concretely, it supports work at the K-12 classroom, school, district, and state levels and beyond. A number of users find it relevant to their higher education reform efforts as well. Many users say that it keeps them up-to-date about issues, opportunities, research, and potential collaborators in the STEM field. Many are in positions to share what they gain from MSPnet with others.

> *It provides a template for how build a cyber community of like-minded educators.*

> *MSPnet has modeled effective use of emerging technology that I otherwise may not have had the time to explore or grasp its potential value. The announcements of potential funding sources and various reports have supported our movement toward sustainability of our partnership.*

> *The idea of any implementation of complex programs can use what the MSPnet teaches us. The continual support via online tools is not meant to replace physical institutes or programs but to both front load the event and engage beyond the initial conference, program etc. This is the capability of network systems and how they can work to ensure that professional development is systemic. We are working on how to better provide the system at the grassroots level with the same support over extended time.*

> *I had my 8th grade students compete in a MSOE liquid fluid project. As I read through MSPnet, I was able to find different activities/resources that helped me facilitate this learning.*

> *As a district science coordinator the resources and information have been very useful in my work with teachers in the district. The MSPnet is one primary source that I use to stay abreast of the research, studies, and current practices in my field and I then share these resources with others in my district.*

> *At the district level, we are in the process of evaluating our science curriculum and instruction. MSPnet has been valuable to me to lead conversations.*

> *I currently support a Title II D STEM grant with a rural school district. The resources I have been able to access through MSPnet has allowed me to give teachers ideas about effectively teaching STEM while still teaching their state standards for content areas.*

I remember following the series of e-mails surrounding quantitative reasoning, specifically math needed for scientific literacy. It ended up being an idea I pitched to our state science educator network.

Since I am a PD provider at the state level, I look at the MSPnet information concerning PD and PD delivery to help me with decisions on how best to design upcoming training.

Related to the STEM work, it has been very helpful to find out that everyone else is running into the same difficulties with the task of expanding STEM opportunities and creating a statewide infrastructure. So, seeing the varieties of ways in which groups are accomplishing work in STEM education and in STEM fields is a great encouragement. It also provides practical avenues to explore with our Math, Science, Technology, and Engineering Coalition.

Because the projects are so different there is a lot content covered on MSPnet.

I have been able to find other projects in neighboring states that are doing the same curricular work as my curriculum team. Therefore, we have been able to collaborate.

MSPnet has helped me keep abreast of innovative projects across the nation. For example, I was able to bring Effective STEM Education Strategies for Diverse and Underserved Learners by Okhee Lee to the SEA with which I collaborate. We were able to draw from this document to formulate strategies to address this issue within the state.

Outside of our MSP, our group does related work that requires knowledge of national and state trends. For example, it was valuable to participate in the Next Generation Science Standards webinar.

It has garnered a very robust library of research articles and findings that I download and distribute to a large science professional development network in CA. The papers and presentations from the various MSP national conferences are used to enable the work of the various sites of the network. They provide an incredible resource to science PD developers and communities.

Guests who are not involved with an MSP provided similar examples of the usefulness of MSPnet to their STEM work in various contexts.

MSPnet is a quick, efficient way to separate the relevant wheat from the chaff in STEM education programs, research, and evaluation.

MSPnet is a rich resource and one of the best examples of how a learning community can use online resources to create ongoing engagement and dialogue. I consistently cite MSPnet as a prime example of use of the Internet when I'm consulting with formal-informal projects.

Part of my "beat" at my journal is to follow issues related to STEM ed, so simply by browsing MSP emails, I can learn about upcoming reports and events.

MSP has kept me informed on the latest information regarding the new national science standards. As an administrator, I wish I had more time to spend time on MSPnet because what I have seen helps to inform me about what is going on in STEM education.

Reading about other MSP projects has clarified why our proposal was rejected. Also, I find the research interesting to read and at times applicable to my doctoral studies.

Research related to science education at the elementary level has been very useful in making sure all stakeholders in my K-12 District support structures for supporting elementary science. This is critical in that elementary science is in danger of losing support.

The MSPnet has allowed me to discuss the same issue with different interest groups – researchers, IHEs, policy makers – in ways that as a K-12 science specialist, I have not been provided the opportunity and/or platform [otherwise]. It has informed my decisions by making me aware of different perspectives.

I am a college professor in Biological Anthropology; I teach human genetics/evolution to many non-science students. I always peruse MSP postings (received via email) to find out what issues are being discussed in teaching science concepts.

I discovered a math and science [database] that allowed me to construct science tests based on the curriculum being taught as a pre & post measure for grades 9, 10, 11 since those grades are not part of the California science testing regime.

I serve as editor of a STEM newsletter that serves over 6000 educators, and as such, I'm constantly on the look for news to share more broadly. MSPnet has been a useful source of information: clearly written, informative, current.

The reports and articles have been the main asset for my work. I am a NSF STEP 2 PI and the research that is provided by MSPnet has been a wonderful resource. I also use the resources in my teaching.

MSPnet users say that they will use MSPnet after their MSP expires.

In open-ended responses to a question about whether they would continue to use MSPnet after their project ends, users explained that they would continue to use it because it keeps them informed of developments in the field, allows them to continue work with colleagues post-MSP grant, and keeps them connected to a network of educators committed to improvement of STEM education.

As already stated, MSPnet does an excellent job of relaying reports of broader relevance to the STEM education field, and these reports are an important source of ongoing information for me. I also value the option to reach out to specific people and projects which are sufficiently detailed on MSPnet for me to figure out that they are likely to be of use or share an interest in my work.

I am interested in seeing where the things our MSP project developed go in the future. And, I wish to stay plugged in and perhaps contribute to further discussions about STEM innovation.

As an archive, this project will be quite valuable to showcase a concrete example of implementation of an MSP grant.

Teachers still need information, ideas, and resources to strive toward quality teaching; MSPnet provides all three.

MSPnet continues to be a credible portal that aggregates current information and resources. The announcements section of the newsletter is a good way to keep up with what's going on.

Provides up to date information, papers, [and] and reports pertinent to STEM-related activities not associated with MSP.

The community still exists after projects are completed.

I would continue to use MSPnet to identify projects/people that may be good partners for other work – possibly future MSP work, or other kinds of projects.

I am not ending my interest in STEM simply because my project is ending

MSPnet users would miss MSPnet were it not to exist.

Many users commented that they would miss most the information of various kinds the site brings together, their own project workspaces, and/or the weekly emails. Some explicitly acknowledged that MSPnet is a learning network whose absence they would miss.

It provides such a useful and effective way to stay in touch with the newest developments in STEM education.

The emails that allow me to quickly decide whether there is anything new and relevant.

Weekly briefs. It helps me to have one concise place to find current research without having to search all primary sources myself.

Staying connected to the larger community. I'd miss the research updates and policy briefs. I like knowing it's there as a resource. It's the first place I look if I need to back up some claims I'm making for my own statewide policy work.

Access to survey instruments and information about results from on-going MSP work. Not many of the results from these studies make it into the published education literature so MSP provides valuable access to data and information I otherwise wouldn't have access to.

It has been a VERY helpful place for our team to archive working documents. I'm glad that we can access this after our MSP is complete.

A place for our project to organize itself.

The connection to others across this nation who are focused and committed to improving mathematics instruction. Whenever I need this resource it is there!

I would mostly miss the updates and current ideas others are implementing. I see it as a learning professional community network.

Suggestions for refinement and improvement of MSPnet

About 5% of the survey respondents had suggestions for improvement of MSPnet. Many asked for additional resources relevant to the respondent's own situation (e.g., more examples of data collection instruments, content for students/lessons, more content related to mathematics, more pertaining to state level work). A number also commented on the website design, suggesting that it should be more attractive, and easier to use, with fewer clicks needed. A few suggested streamlining the MSPnet News format or sending it less often. A handful asked for access to the site without signing in or were unsure how to submit materials.

Inverness Research provided all suggestions to MSPnet staff for consideration.

VI. Summary Thoughts

One way to think about the MSPnet is to see it as an investment in infrastructure. At Inverness Research we have spent years conceptualizing the nature and role of the improvement infrastructure in education. Doug Englebart was the original formulator of the concept and pointed out how any enterprise needs an improvement infrastructure in order to "get better at getting better."

MSPnet, in our viewpoint, is a good example of an investment in an educational improvement infrastructure. MSPnet does not directly teach students math and science. It does not even directly improve the teaching of math and science. Rather it is an infrastructure that adds value to and enhances existing STEM improvement efforts – those funded under the MSP banner as well as others. Thus, MSPnet empowers those who seek to develop projects and programs that themselves improve the teaching and learning of mathematics and science.

One interesting aspect of infrastructure is that its role is to empower and support a wide range of activities. Electrical power makes possible electrical lighting, power tools, water pump systems, computers etc. In the same way it is interesting to note that the respondents to our survey point out and illustrate the multiple ways in which the MSPnet empowers and enhances a wide range of their improvement work and activities. The newsletter, webinars, and project spaces are all examples of features that provide different services, resources and other forms of support. Different people may well use the same feature in different ways; and many different people value different features for different reasons. To paraphrase a familiar quote: "not all features please all the people all the time; but some features please some people some of the time." Hence, the multi-faceted nature of MSPnet is essential to its value as an infrastructure that supports the complex effort to improve STEM education.

Another key aspect of infrastructure is trust and long-term reliability. MSPnet is clearly trusted by its users. Additionally, over time its usage has increased and become more diverse – all key aspects of good infrastructure. MSPnet is used by thousands of people involved in the work of improving STEM education on a voluntary basis because it is seen as adding value to and enhancing their work.

MSPnet is an infrastructure that is clearly capable of serving more than the MSP community. If a highway meets the needs of travelers, it is not necessary to construct another parallel one when new travelers come along. STEM educators – MSP affiliated or not – who are involved in improvement efforts beyond the MSPs see MSPnet as a "go to" resource. It appears that MSPnet is a robust enough infrastructure that it is reduces the need for redundant efforts to support the field.

Respondents to the survey point out how they plan to use MSPnet over the long term, and they say they would miss it if it were gone. Infrastructure is often invisible to people; it is, however, truly missed when it is no longer functioning (think of electrical power failure or

the collapse of the Bay Bridge after the Loma Prieta earthquake). MSPnet, as all good infrastructure, becomes woven into the patterns of daily living and work.

For all these reasons we see the survey results described above as confirming the value of the NSF investment in MSPnet. Like all good investments in infrastructure, to be of optimal value the funding for that infrastructure must be continuous, steady and promoting of cumulative growth over time. For these reasons we see the continuing investment in MSPnet, and its continuing growth and evolution, as a logical and profitable next phase of developing an improvement infrastructure that can support a wide range of educational improvement efforts into the future.

Appendix A.

Survey Forms

A. Form for MSP project members who were known to be users of MSPnet online resources for MSP projects

B. Form appropriate for all MSPnet users

MSPnet User Survey

Thank you for taking this survey on your use of and opinions about MSPnet. It should take just 5 - 10 minutes, depending on your use of MSPnet. Be assured that all responses will be summarized and reported anonymously to MSPnet.

Be sure to provide contact information on the last page if you want to enter the iPad drawing.

USEFULNESS AND VALUE OF MSPnet

To what extent do you agree or disagree with each of the following statements about MSPnet?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	NA
MSPnet has been valuable in providing up-to-date, relevant research, reports, news and resources related to STEM education.	○	○	○	○	○	○
MSPnet has been a valuable resource for my MSP project work.	○	○	○	○	○	○
MSPnet has been a valuable resource for my work in other STEM education efforts.	○	○	○	○	○	○
MSPnet has been valuable in informing me of the work and research emerging from other MSP projects.	○	○	○	○	○	○
I have found it valuable to follow or participate in discussions that have taken place on MSPnet.	○	○	○	○	○	○
MSPnet has provided an online learning community for the NSF MSP program.	○	○	○	○	○	○
I expect to access mspnet.org after my project ends. / Although my project has ended, I still access mspnet.org.	○	○	○	○	○	○

Overall, how would you rate the importance of MSPnet as a resource to the MSP community?

○ Unimportant

○ Slightly important

○ Moderately important

○ Very important

○ Extremely important

○ Can't say

YOUR PROFESSIONAL ROLES AND RESPONSIBILITIES

Check the ONE that best describes your PRIMARY professional role:

○ K-12 teacher

○ K-12 administrator

○ Higher education faculty

○ MSP PI

○ MSP Co-PI

○ MSP state coordinator

○ Program or project coordinator

○ Researcher or evaluator

○ Policy maker

○ NSF Program Officer

○ Other (please specify)

☐

Other professional role(s), if any: (check all that apply)

☐ K-12 teacher

☐ K-12 administrator

☐ Higher education faculty

☐ MSP PI

☐ MSP Co-PI

☐ MSP state coordinator

☐ Program or project coordinator

☐ Researcher or evaluator

☐ Policy maker

☐ NSF Program Officer

☐ Other (please specify)

☐

✱Have you ever been affiliated with a Math and Science Partnership (NSF-funded and/or ED (state) MSP)?

◯ Yes

◯ No

◯ Not sure

MSPnet's USEFULNESS TO YOUR MSP-RELATED AND OTHER WORK

How are/were you involved in the MSP(s)? (check all that apply)

☐ I am (or was) a key leader/designer of the MSP

☐ Designing and/or providing professional development

☐ Designing and/or helping implement innovative curriculum, assessments and/or technologies

☐ Supporting the implementation of MSP activities/workshops and/or administering the MSP

☐ Conducting project evaluation and/or research related to the MSP

☐ Helping conduct outreach and/or dissemination for the MSP

☐ Recipient of professional development provided by the MSP

☐ Other (please specify)

If MSPnet has been valuable to you in your MSP-related work, please give a specific example of how it has been useful:

If MSPnet has been valuable to your other STEM education-related work, please give a specific example of how it has been useful:

MSPnet's USEFULNESS TO YOUR WORK

If MSPnet has been valuable to your work, please give a specific example of how it has been useful:

MSP News, THE MSPnet WEEKLY EMAIL NEWSLETTER

How much do you value MSP News, the weekly email MSPnet newsletter?

○ Not at all valuable

○ Slightly valuable

○ Moderately valuable

○ Very valuable

○ Extremely valuable

○ Can't say / not familiar enough to rate

mspnet.org

*What generally prompts or motivates you to access mspnet.org (MSPnet's website)?

○ I click through from a link of interest in the online weekly MSPnet newsletter.

○ Sometimes I click through from a link of interest in the online weekly MSPnet newsletter, and sometimes I want to access information or a resource on mspnet.org so I access it via my browser or a bookmark.

○ I want to access information or a resource on mspnet.org, so I access it via my browser or a bookmark.

○ NA, I don't access mspnet.org

*How familiar are you with the features of mspnet.org (e.g., project and people finders, library and resources, pages for your project's use)

○ Not at all familiar

○ Slightly familiar

○ Moderately familiar

○ Very familiar

○ Extremely familiar

How much do you value each MSPnet feature that you have used? (check NA if you have not used a feature)

	Not at all valuable	Slightly valuable	Moderately valuable	Very valuable	Extremely valuable	NA - Have not used
Project finder (searches projects by project name, grade level, topic, MSP type, location)	○	○	○	○	○	○
People finder (searches for members affiliated with any MSP and allows you to send mail to individuals or groups)	○	○	○	○	○	○
Hub library and resources section	○	○	○	○	○	○
Hub showcase (showcases video, reports, press releases, and presentations from all the MSPs)	○	○	○	○	○	○
Hub working groups (Cross-project discussions and file sharing)	○	○	○	○	○	○
Voices from the Field (VIdeos and Webinars from leaders in the field)	○	○	○	○	○	○
Conferences (MSP conference video archives and proceedings, STEM calendar, RETA conference archives)	○	○	○	○	○	○
My project's homepage and profile pages (description of project, links to project members, and project contributions)	○	○	○	○	○	○
My project's library and resources area	○	○	○	○	○	○
My project's working groups (includes threaded discussion tools, file manager, web conferencing, survey tool, and calendar)	○	○	○	○	○	○

If you expect to access or use MSPnet after your project ends, or you still access it although your project has ended, please explain why briefly.

LIMITATIONS TO YOUR USE OF MSPnet

What are the main limitations to your use of MSPnet? (check all that apply)

☐ Time - I am unable or unwilling to spend much time reading the newsletter or using mspnet.org.

☐ The newsletter and mspnet.org are redundant to other sources of information and forums for discussion.

☐ Most of the newsletter content and content on mspnet.org is not very relevant to my work.

☐ I am not very familiar with the content and features of mspnet.org.

☐ I forget about mspnet.org and hence do not use it much.

☐ The online discussions are not interesting or relevant enough for me to participate.

☐ I find the website design confusing, overwhelming or difficult.

☐ There are no significant limitations to my use of MSPnet.

☐ Other (please explain)

[   ]

SUGGESTIONS FOR IMPROVING MSPnet

Suggestions for improving MSPnet (optional):

[   ]

If you have never been involved in an MSP project check here to skip the next three questions related to MSP project work.

○ I have never been involved with the MSP program.

Brief questions about your MSP(s)

Which MSP(s) are/were you involved with: (check all that apply)

☐ Current NSF-funded MSP(s)   ☐ Current ED MSP(s) (state MSPs)

☐ Former NSF-funded MSP(s)   ☐ Former ED MSP(s) (state MSPs)

Grade level focus of your current and former MSP(s): (check all that apply)

☐ Elementary only   ☐ Elementary-middle school

☐ Middle school only   ☐ Middle school-high school

☐ High school only   ☐ Elementary-middle school-high school (K-12)

Subject matter focus of your current and former MSP(s): (check all that apply)

☐ Math

☐ Science

☐ Engineering

☐ Other (please specify)

[ ]

THANK YOU!

If you would like to be entered in the iPad drawing, please provide your name and email below. **(Again, be assured that all results will be summarized and reported anonymously and that your contact information will not be used for any other purpose.)** Winners will be notified two weeks after the survey deadline.

Contact information for drawing:

First name [ ]

Last name [ ]

Email [ ]

If you would be willing to be contacted by a researcher to talk by phone about your use of and opinions about MSPnet, please be sure you provided contact information, and check below. An honorarium will be offered.

◯ I am willing to be contacted by a researcher.

MSPnet User Survey

Thank you for taking this survey on your use of and opinions about MSPnet. It should take just 5 - 10 minutes, depending on your use of MSPnet. Be assured that all responses will be summarized and reported anonymously to MSPnet.

Be sure to provide contact information on the last page if you want to enter the iPad drawing.

USEFULNESS AND VALUE OF MSPnet

To what extent do you agree or disagree with each of the following statements about MSPnet?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	NA
MSPnet has been valuable in providing up-to-date, relevant research, reports, news and resources related to STEM education.	○	○	○	○	○	○
MSPnet has been a valuable resource for my MSP project work.	○	○	○	○	○	○
MSPnet has been a valuable resource for my work in other STEM education efforts.	○	○	○	○	○	○
MSPnet has been valuable in informing me of the work and research emerging from other MSP projects.	○	○	○	○	○	○
I have found it valuable to follow or participate in discussions that have taken place on MSPnet.	○	○	○	○	○	○
MSPnet has provided an online learning community for the NSF MSP program.	○	○	○	○	○	○
I expect to access mspnet.org after my project ends. / Although my project has ended, I still access mspnet.org.	○	○	○	○	○	○

Overall, how would you rate the importance of MSPnet as a resource to the MSP community?

○ Unimportant

○ Slightly important

○ Moderately important

○ Very important

○ Extremely important

○ Can't say

YOUR PROFESSIONAL ROLES AND RESPONSIBILITIES

Check the ONE that best describes your PRIMARY professional role:

○ K-12 teacher

○ K-12 administrator

○ Higher education faculty

○ MSP PI

○ MSP Co-PI

○ MSP state coordinator

○ Program or project coordinator

○ Researcher or evaluator

○ Policy maker

○ NSF Program Officer

○ Other (please specify)

☐

Other professional role(s), if any: (check all that apply)

☐ K-12 teacher

☐ K-12 administrator

☐ Higher education faculty

☐ MSP PI

☐ MSP Co-PI

☐ MSP state coordinator

☐ Program or project coordinator

☐ Researcher or evaluator

☐ Policy maker

☐ NSF Program Officer

☐ Other (please specify)

☐

*Have you ever been affiliated with a Math and Science Partnership (NSF-funded and/or ED (state) MSP)?

○ Yes

○ No

○ Not sure

MSPnet's USEFULNESS TO YOUR MSP-RELATED AND OTHER WORK

How are/were you involved in the MSP(s)? (check all that apply)

☐ I am (or was) a key leader/designer of the MSP

☐ Designing and/or providing professional development

☐ Designing and/or helping implement innovative curriculum, assessments and/or technologies

☐ Supporting the implementation of MSP activities/workshops and/or administering the MSP

☐ Conducting project evaluation and/or research related to the MSP

☐ Helping conduct outreach and/or dissemination for the MSP

☐ Recipient of professional development provided by the MSP

☐ Other (please specify)

[   ]

If MSPnet has been valuable to you in your MSP-related work, please give one specific example of how it has been useful:

If MSPnet has been valuable to your other STEM education-related work, please give one specific example of how it has been useful:

MSPnet's USEFULNESS TO YOUR WORK

If MSPnet has been valuable to your work, please give one specific example of how it has been useful:

MSP News, THE MSPnet WEEKLY EMAIL NEWSLETTER

How often do you open and read (even briefly) the weekly email MSPnet newsletter?

- ◯ Never
- ◯ Rarely
- ◯ Sometimes
- ◯ Usually
- ◯ Always

mspnet.org

＊When you go to mspnet.org, how often do you log in? (*mspnet.org is accessed by clicking through a link in the MSP News, or through your browser or a bookmark*)

- ◯ I always log in / I checked "remember me"
- ◯ Sometimes I log in and sometimes I do not
- ◯ I always view it without logging in
- ◯ I don't know
- ◯ NA, I am not aware of accessing mspnet.org

*How familiar are you with the features of mspnet.org (e.g., project and people finders, library and resources, pages for your project's use)

◯ Not at all familiar

◯ Slightly familiar

◯ Moderately familiar

◯ Very familiar

◯ Extremely familiar

mspnet.org FEATURES

Overall, how helpful are the mspnet.org features you have used?

◯ Not helpful at all

◯ Slightly helpful

◯ Moderately helpful

◯ Very helpful

◯ Extremely helpful

◯ NA, have not used enough to give a rating

*Select the statement below which best applies to your current MSP project's use of project space on mspnet.org.

◯ We use our project space on mspnet.org instead of creating and maintaining our own website.

◯ Our project space on mspnet.org serves as a useful complement to our own website.

◯ Our project does not need a project space on mspnet.org

◯ I don't know if/how our project uses a project space on mspnet.org.

◯ NA, I don't have a current MSP project.

USE OF PROJECT SPACE PROVIDED ON MSPNET.ORG

Which of the following statements do you agree with regarding the value of mspnet.org to your MSP project(s) - past or present? (check all that apply)

☐ mspnet.org has been of value by providing a multipurpose web space for our project.

☐ mspnet.org as been of value in disseminating our project's work to other MSPs and/or to the public.

☐ My project space on mspnet.org has been useful in enabling members of our project to share research, resources, and events.

☐ My project space on mspnet.org has been useful in providing interactive tools (e.g., a file manager, discussion tools, event registration, webinar tools, email group) for members of my project to use to communicate and/or collaborate.

☐ I do not know enough about this to respond.

THE MSPnet ACADEMY

MSPnet is launching "The MSP Academy" this fall, in which leaders in the MSP community and beyond present webinars on STEM teaching and learning, policy, and professional development. Each webinar will include a Q & A session with attendees and will be followed with a two-week online discussion with the presenter.

Which of the following statements best reflects your familiarity with and interest in the MSPnet Academy webinars?

○ I participated in a webinar, and found it interesting.

○ I participated in a webinar, and did not find it very interesting.

○ I have heard of the MSPnet Academy and expect to attend.

○ I have heard of the MSPnet Academy and am not sure if I am interested.

○ I have heard of the MSPnet Academy and am not interested.

○ This is the first I have heard of the MSPnet Academy, but it sounds interesting.

○ This is the first that I have heard of the MSPnet Academy, but I don't think I am intererested.

○ Other (please explain)

[   ]

If MSPnet were to cease to exist, how much would you miss it?

○ I would not miss it at all

○ I would miss it a little

○ I would miss it some

○ I would miss it a lot

○ I would miss it a great deal

What would you most miss about it? (optional)

COMMENTS FOR MSPnet

Other comments on MSPnet (optional):

If you have never been involved in an MSP project check here to skip the next three questions related to MSP project work.

○ I have never been involved with the MSP program.

A FEW BRIEF QUESTIONS ABOUT YOUR MSP(s)

Which MSP(s) are/were you involved with: (check all that apply)

☐ Current NSF-funded MSP(s)   ☐ Current ED MSP(s) (state MSPs)

☐ Former NSF-funded MSP(s)   ☐ Former ED MSP(s) (state MSPs)

Grade level focus of your current and former MSP(s): (check all that apply)

☐ Elementary only   ☐ Elementary-middle school

☐ Middle school only   ☐ Middle school-high school

☐ High school only   ☐ Elementary-middle school-high school (K-12)

Subject matter focus of your current and former MSP(s): (check all that apply)

- ☐ Math
- ☐ Science
- ☐ Engineering
- ☐ Other (please specify)

  [   ]

THANK YOU!

If you would like to be entered in the iPad drawing, please provide your name and email below. **(Again, be assured that all results will be summarized and reported anonymously and that your contact information will not be used for any other purpose.)** Winners will be notified two weeks after the survey deadline.

Contact information for drawing:

First name [   ]

Last name [   ]

Email [   ]

If you would be willing to be contacted by a researcher to talk by phone about your use of and opinions about MSPnet, please be sure you provided contact information, and check below. An honorarium will be offered.

- ◯ I am willing to be contacted by a researcher.