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The Middle School Portal 2: Math and Science Pathways, National Science Digital Library: The Challenges of Sustaining a Project as the End of a Grant Approaches

Case Study Update 2011

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The original case study, 'The Middle School Portal 2 (MSP2): Math and Science Pathways, National Science Digital Library: Early Sustainability Planning for a Grant-Funded Digital Library', profiled a new grant-supported initiative: a portal devoted to collecting high-quality teaching resources for use by middle-school educators. The resource was part of the National Science Foundation's National Science Digital Library (NSDL) programme, a collection of online resources for educators in STEM disciplines (science, technology, engineering, and mathematics). In the first year of their three-year grant, the MSP2 project team focused on developing and launching the new social media enabled site, and tied the ultimate success and sustainability of the resource to their ability to create a robust community of users. In August 2011 the initial grant will draw to a close, leaving MSP2 with the challenge of finding new sources of funding. One possible avenue would have been to apply for another grant from the same funder, but in early 2011 the National Science Foundation announced the close of the NSDL programme, removing one source of future funding and setting up a series of difficult questions about the next steps for the initiative.

Since 2000, the National Science Foundation (NSF) has sponsored the National Science Digital Library (NSDL), a constellation of online collections, services, and tools for teachers at all levels of maths and science education.[1] In an effort to make these collections more accessible, the NSDL created portals – called 'Pathways' – which were meant to guide users to teaching resources in specific subject areas

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or for specific age ranges. The Middle School Portal 2: Math and Science Pathway (MSP2) aims to provide middle-school teachers with easy access to selected digital educational resources along with teaching tips and guidance.

> *'An important feature of the project is the participation of three partner organisations…'*

MSP2 was created both as an aggregation of teaching resources and as a social networking site for maths and science teachers to share teaching resources and techniques. An important feature of the project is the participation of three partner organisations – the Ohio State University College of Education and Human Ecology, the Education Development Center (EDC), and the National

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1   Kate Wittenberg and Nancy L. Maron, 'The Middle School Portal 2: Math and Science Pathways, National Science Digital Library: Early Sustainability Planning for a Grant-Funded Digital Library' (New York: Ithaka S+R, 2009), **www.ithaka.org/ithaka-s-r/research/ithaka-case-studies-in-sustainability/case-studies/SCA_BMS_CaseStudy_NSDL.pdf**.

In 2009, Ithaka S+R published twelve detailed case studies of online digital resources, exploring the strategies project leaders were using to sustain those projects for the long term. All of the case studies have been updated in 2011, to revisit the original sustainability models and see how they have fared over the past two years. To read the original case studies, please visit: **www.ithaka.org/ithaka-s-r/research/ithaka-case-studies-in-sustainability**

Middle School Association (now known as the Association for Middle Level Education), each of which budgeted some proportion of staff time to the development of MSP2. In addition, MSP2 budgeted funds in the grant for a cohort of 'Teacher Leaders' to help curate the resources in the Pathway, and also to perform outreach for MSP2.

When we first interviewed the project leader, Dr. Kim Lightle of The Ohio State University's College of Education and Human Ecology, in March 2009, the new MSP2 site had just gone live. As of May 2011, MSP2 had 1,608 registered members – a modest slice of the overall potential audience of middle-school maths and science teachers, but still a large increase from the project's early days.

Original sustainability model (2009)

MSP2 was funded for the period 2008–2011 through an NSF grant of approximately $2.3 million. Our original case study was written while MSP2 was still in a start-up phase, and although the project leaders did not have a fully developed sustainability plan at that time, they intended to apply to NSF (and possibly to other sources) for additional grants and to explore e-commerce and sponsorship opportunities. They further thought that the project could be sustained if three conditions were met:

- If a robust community of teachers continued to contribute content.

- If the MSP2 site could remain on the central NSDL platform.

- If the project leaders could identify partners willing to provide long-term solutions for content development and hosting.

The project has reached a critical point in its life cycle, as the grant is set to expire in August 2011, yet Lightle says the project leaders have been so focused on 'tasks' that they 'haven't been able to focus the necessary effort on sustainability.' According to Lightle, the project has enough

Picture of the day from www.msteacher2.org © Science 360 / Ken Bondy

remaining grant funds to function through December 2011, which she feels will give the project team sufficient time to make plans to apply for additional grants.

'As a project that depends solely on grant funding at present, MSP2 faces a serious challenge.'

How the model has fared

As a project that depends solely on grant funding at present, MSP2 faces a serious challenge. One of the main assumptions underlying MSP2's sustainability strategy was that it would be possible to receive additional NSDL funding through the NSF's 'Pathways II' grant programme. The NSF, however, announced in February 2011 that this programme was being closed, shutting off what was a likely source of short-term additional funding for the project.

Beyond that, MSP2 has had limited success in meeting the three conditions that the project leaders felt would be needed to sustain the project. First, although the project has attracted over 1,600 registered users, it remains to be seen whether the community will grow and continue to attract content and commentary, as the project will have no funding for active marketing once the grant ends. Second, the central NSDL platform, which has been hosting some parts of the MSP2 site, including its blog wiki, is now at risk as a result of the closing of the overall NSDL programme; the platform, which was operated at Cornell University by the NSDL Technical Services group, has in recent years been funded through a 15% 'tax' (or service fee) on all NSDL grants, and so the future of that services group is also in question now.[2]

Third, the project leaders may have to search beyond their home institutions for a partnership that can sustain the project. Creating a partnership of three institutions was instrumental for receiving a Pathways grant; the expectation was that each partner would be responsible for some element of the project's overall strategy. This arrangement has presented some challenges, however: in 2009, the National Middle School Association experienced significant budget cutbacks, sharply reducing the resources that the organisation could devote to MSP2. As a result, some planned initiatives – including an exploration of opportunities for e-commerce via the site, which the MSP2 leaders felt was one possible post-grant sustainability strategy – have not moved forward. With the current set of partnerships in doubt, the MSP2 may need to seek other partner institutions in order to secure long-term hosting.

2   In the early days of NSDL the NSF established a Technical Services group to provide central technology functions to the NSDL projects and to identify gaps in the content and functionality of the overall NSDL collection. Without the predictable income stream provided by the 15% service fee, the Technical Services group's functions, including the provision of a central platform and the preservation of NSDL metadata, will be at risk.

Sustainability dashboard

	2009 Case Study	2011 Update	What's Changed?
Content	Curated collection of links to maths and science teaching resources; social networking for educators	Built SMARTR, a companion science website for students, and linked it to MSP2; conducted webinars and other outreach to users	Increased number of links and registered users
Functionality	Built and launched the MSP2 site	Same as 2009	No significant changes, per workplan in the grant
Sustainability Model	■ Grant ■ Host institution support	■ Grant ■ Host institution support	No change in model
Costs	$1,171,765 (first year of a three-year grant)	$475,982 (third year of a three-year grant)	$2.3-million grant has been nearly spent down
Revenues	Costs paid by the project's three-year, $2.3-million grant	Same as 2009 – no new support	Funder has closed this funding stream
Impact	(Figures collected in March 2009, shortly after launch): ■ 873 visits ■ 3,501 page views ■ Few registered users	(Figures are cumulative from March 2009 launch): ■ 75,000 visits ■ 206,000 page views ■ 1,608 registered users	Usage has grown steadily since the launch of the site
Sustainability Bottom Line	Grant-funded until 2011, and exploring potential earned strategies for earning revenue	With the project's final grant expiring at the end of 2011, MSP2 is facing an uncertain future, though they continue to pursue grant funding	

New directions and initiatives

Recognising the challenges facing MSP2 in the post-grant period, the project team has taken steps to explore relationships with one or more host institutions that might play a role in sustaining the costs of the resource.

Seeking closer integration with a host institution. The Ohio State University provides overall leadership for MSP2, and the project's advisory board has encouraged the project leaders to approach University administrators about the institution's role in sustaining the project. The state of the economy presents a formidable hurdle to this solution, however, since the University expects to see a sharp decrease in funding in the new state budget.[3] One possibility that the project leaders have explored is that the University's College of Education and Human Ecology could integrate MSP2's resources into a series of professional development courses for educators in some way, and the College could justify sustaining the costs associated with MSP2 as a result.

Exploring new partnerships. Beyond pursuing an ongoing commitment from The Ohio State University, Lightle is in discussion with a number of potential partners (whom she prefers not to name at this stage), including a federal agency and two other online education websites, which might either use the MSP2 project to facilitate online professional development services for educators, or simply agree to host the project's existing content and social networking site.

Sustainability outlook

Today, MSP2 is facing an uncertain future. The project team has built the resource they originally set out to create, but they do not yet have a confirmed plan for continuing operations once funds run out at the end of 2011. The struggle of balancing the completion of tasks with long-term planning is an issue that many organisations – both commercial and not-for-profit – face, but with the grant period drawing to a close, this case study highlights the difficulties of drafting such a plan, and the risks of delaying the planning process.

'...budget cuts at one of the institutions have sharply curtailed staff time that was meant to be spent on sustainability planning.'

In particular, the partnership among the three organisations that participate in MSP2 has allowed the project to take advantage of different skill sets and strengths, but it has also provided a set of additional challenges: budget cuts at one

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3 Natalie Knoth, 'How hard will Kasich swing his higher-education budget axe?', *The Athens News* (Athens, Ohio), 11 November 2010; available at www.athensnews.com/ohio/article-32572-how-hard-will-kasich-swing-his-higher-education-budget-axe.html

of the institutions have sharply curtailed staff time that was meant to be spent on sustainability planning. In a slightly different vein, the project depended partially on a separate, grant-funded technology infrastructure to host its blog and wiki site – but that infrastructure was funded by the same now-closed NSF programme as MSP2, so the project leaders may need to find a back-up hosting and access platform for that content. MSP2 will need to act quickly to identify those parts of the project that need to be sustained and to secure the resources (possibly from a host institution) needed to ensure the continuation of those aspects of the resource in the future.

Lessons learnt over the past two years

- Planning for post-grant sustainability should happen as early as possible

- All resources need to develop a deep understanding of their potential audience, but just as important is having a strong plan for how to effectively reach them and provide incentives for participation

- Partnerships can offer a strategic advantage, but there must be 1) clearly defined goals and expectations for each partner; and 2) a contingency plan, so that a project's content and community can carry on even if a strategic relationship ends

Interviewees

Kimberly Lightle, Principal Investigator and Director, MSP2, and Director of Digital Library Projects, School of Teaching and Learning at the College of Education and Human Ecology, The Ohio State University, 18 February 2011

Sarita Pillai, Co-Principal Investigator, MSP2 Grant, and Senior Project Director, Education Development Center, Inc., email of 8 March 2011

This case study update was researched and written by Matthew Loy as part of the Ithaka Case Studies in Sustainability project.