SUSTAINABILITY STANDING COMMITTEE (SSC)
http://sustain.comm.nsdl.org/

Sustainability Workshop

a. Workshop presenters
    Project Sustainability
    - DLESE (Mary Marlino)
    - Core Integration (Kaye Howe)
    - MERLOT (Flora McMartin)
    - Questions provided by the presenters:
        o What pitfalls await those who establish digital-library collections?
        o How does a project identify, motivate, and sustain creative contributors and reviewers?
        o What contribution can / should NSDL make to sustaining projects?
        o If a project captures a revenue stream outside of NSF, should this be redistributed to NSDL? Who decides whether and how much?

    User-Community Sustainability
    - WGBH – Teachers Domain (Deb Burns)
    - Eisenhower National Clearinghouse (Kim Lightle)
    - AP Digital Library (Siva Kumari)
    - Questions provided by the presenters:

        o Who are / should be users of NSDL?
        o How can NSDL or individual projects identify and serve a user community?
        o Who are NSDL's competitors?
        o How can NSDL and/or projects increase market share?
        o How can NSDL and/or projects communicate with users to increase use and improve quality?
        o What role can / should conventional libraries play?

    Program Sustainability
    - Core Integration (Carol Minton Morris)
    - NSF (Dave McArthur)
    - Questions provided by the presenters:
        o If NSDL captures a revenue stream outside of NSF, should this be redistributed to projects? If so, what criteria should be used? How many projects?
        o What contribution can / should projects make to sustaining NSDL?
        o What roles do / should branding and advertising play?
        o How does NSDL differ from Google? How will NSDL compete with or make use of Google?
        o Can / Should NSDL count on government funding? If so how can ongoing, diversified funding be obtained?
        o How can NSDL find and maintain corporate and foundation support?

    Technical Sustainability

- Core Integration (Bill Arms)
- University of Wisconsin - (Jon Holmes)
- Questions provided by the presenters:
    - How can NSDL help to alleviate doubts over rights and permissions that may hinder the dissemination and reuse of materials?
    - How can NSDL encourage and foster the use of established, proven formats and digital preservation processes without stifling innovation?
    - How can NSDL help service projects to produce scalable, interoperable, and long-term utilities that remain viable within the broadening NSDL context?
    - Should NSDL recommend that developers adopt a particular set of interoperability standards and guidelines? If so, which ones?
    - Should all NSDL technology be Open Source?
    - What are the special needs of education?

b. Kaye Howe comments
    i. Think in terms of public good (things are funded for the public good that are not sustainable)
    ii. Core activities will be funded by NSF for limited period of time
    iii. Pilot projects through pathways projects is strategic approach
    iv. CI will work very hard in the next year to raise visibility of NSDL
        - Meet with congressional people thru briefings
        - Other federal agencies approached to show benefit of NSDL to them
        - Partnerships with major organizations and corporations
        - Correlation with state education standards (ECS WWW site)
        - Convince powers that be to include NSDL in what federal government does for STEM education
        - Produce business models for digital libraries (Dan Greenstein, keynote speaker)
    v. Relevance involves linking materials to national standards
    vi. Outreach to organizations
    vii. Sharing of revenues

c. Dave McArthur comments
    i. There will be another round of pathway proposals
        - Reflects and NSDL commitment through the end of the decade
    ii. Progress of programs at NSF may be related to advocacy
        - Working individually and collectively
    iii. Issue of facilities
        - What are the criteria for designating facilities?
        - What is the decision-making process, chain-of-command for designating facilities
        - 10-year line items
        - Could Core Integration operate without continuing support from NSF?
        - NSF funded facility (e.g. linear accelerator, supercomputer installations, earthquake simulation network)
        - Set deadline to demonstrate sustainability; swallow the bitter pill now (Dan Greenstein.)
    iv. Core Integration has creating memorandum of understanding with the pathways projects

      v. Role of NSF in NSDL into the future
- Transition plan
- NSF would want to be part of future NSDL
    - o Necessary to separate operations (maintenance) from education (creative)

     vi. Need for ongoing coordination and communication

d. Mary Marlino comments
      i. Relevance
- Get closer to user community
- Stay close to your audience
- Engage with research community
- Understanding broader context of who you want to be
- High quality
- Dissolve barriers that foster isolation
- Be relevant to state standards for science

     ii. Understanding broader landscape
    iii. Management
    iv. DLESE stays close to the user community whereas NSDL stay close to the developer community
     v. DLESE benefits from NSDL (e.g., advocacy)
   viii. Landscape has changed
- Recognition that everything is connected to everything else
- Dissolving barriers to sustainability
- "No Child Left Behind" Act (law through 2015)

    ix. Sustainability is management or organization independent
- UNIDATA is a facility
    - o 57 universities
    - o self-sustaining

e. Flora McMartin comments
      i. Multimedia Educational Resource for Learning and Online Teaching (MERLOT - http://www.merlot.org)
     ii. Market driven
    iii. Direct communication into companies
    iv. Gained funding from California State University
     v. Grew out of grassroots
    vi. Institutional arrangements
- Contributions from partners
- Nexus for large volunteers base
- Cash and in-kind contributions

   vii. Issue of accountability
- Partners evaluated annually

f. Siva Kumari comments
     ii. Advanced Placement Digital Library (http://apdl.rice.edu/DesktopDefault.asp)
    iii. Networking
    iv. Outreach
     v. Engagement
    vi. Identify "watering holes" where individuals gather

    vii. How do you get individuals to recognize that you have a valuable resource?

   viii. Engagement gets the users to come back

    ix. Concentrate on users activities so that they become spokespeople

     x. Use stake holders feedback to create resource and build collection

    xi. Keep collection reliable, updated, and connected to users everyday life

    xii. Show how collection is useful to students and raises their performance

   xiii. Show how collection changes how teachers teach on daily basis

g. Kim Lightle comments

    xiv. Eisenhower National Clearinghouse (http://www.enc.org/)

    xv. [Kim was taking notes for the workshop]

h. Deb Burns

    xvi. WGBH – Teachers' Domain (http://www.teachersdomain.org/)

   xvii. Develop product using grant

  xviii. Professional development
- Generate revenues
  - Cycle into new products for the future
- Continuing education
  - Funds for marketing and development, not product development

    iv. Branding

     v. Partnership and networking

    vi. Board of Cooperative Educational Services (BOCES)

i. Bill Arms / John Holmes comments

     i. About $100M spent on the NSDL
- half largely spend on artifacts
- What can be done to enhance the value?

    ii. Value
- Use
- Building blocks for other things
- Long life span

   iii. Technology
- Face of the NSDL
- Question of persistence of objects

    iv. Branding
- Leg up with partners who are highly regarded

     v. Dissemination
- Natural language of practitioners
- Data dictionary
  - to include metadata

    vi. Additional materials not presented in the discussion:
- **Rights and Permissions**: *How can NSDL help to alleviate doubts over rights and permissions that may hinder the reuse of materials?* Reuse of materials may be hindered by doubts over rights and permissions. What can be done? Should we urge every project to incorporate a standard license (see http://creativecommons.org/? Do we accept the philosophy of MIT's OpenCourseWare, that

educational organizations should share course materials (http://ocw.mit.edu/)?

- **Formats.** *How can NSDL encourage and foster the use of established, proven formats and digital preservation processes without stifling innovation?* What characteristics of file formats and data representation lend themselves to sustainability, reuse, and preservation? A Library of Congress study has recently identified seven factors: disclosure, adoption, transparency, self-documentation, external dependencies, impact of patents, and t e c h n i c a l   p r o t e c t i o n   m e c h a n i s m s (http://www.digitalpreservation.gov/formats/). Do we find this a useful division?

- **Technical currency of services** *How can NSDL help service projects to produce scalable, interoperable, and long-term utilities that remain viable within the broadening NSDL context?* NSDL service projects are generally demonstrated and proven within a constrained context over a modest body of content. To be ultimately valuable to NSDL these services must scale well and must be interoperable with other NSDL services and over a broad range of content. Does NSDL need to identify targets, benchmarks, and/or other measures to help service projects better assess their scalability, interoperability potential, and long-term utility in NSDL context?

- **Interoperability standards and recommendations for developers** *Should NSDL recommend that developers adopt a particular set of interoperability standards and guidelines? If so, which ones?.* The NSDL Reusable Learning project (http://www.reusablelearning.org/) has created sets of guidelines for developers as have other NSDL units. Much of the emphasis is on interoperability standards, such as SCORM, and technical metadata. How can NSDL be more proactive in broadening the applicability and utility of the essential standards it adopts and facilitating their future evolution and forward compatibility?

- ***Open Source NSDL:*** *Should all NSDL technology be Open Source?.* Making NSDL technology Open Source will enable developers of other digital library projects to unite their development efforts with NSDL in a public forum.

- ***Special characteristics of educational materials:*** *What are the special needs of education?* Are there different considerations with materials that are designed as complete courses, or smaller units? is the distinction between adoption and adaptation of materials valuable?

- ***Conclusions:*** NSDL is an investment by taxpayers on the future of education in the digital world in which we now live. Libraries have historically been a center piece of educational institutions and the digital world has not changed this, perhaps it more emphasizes the need for services libraries provide. How do we protect the taxpayers' investment? Sustainability is the key. Technology presents the face

of NSDL. It produces the concrete deliverable that everyone sees and uses. It is important that the technology that produces the face of NSDL be sustained and enhanced. Enhancement is provided by innovation. Yet innovation hinders preservation and reuse. Guidelines must be established so that proven, open formats which are scalable, reusable, and interoperable are encouraged. Emphasis should be on extending established formats over developing entirely new ones. Reuse of items in the library is greatly hindered by doubts over rights and permissions. Dissemination also is hindered by the same concern. Clear, concise, and understandable statements of usage rights must be developed, made easy to find, and applied to items in the projects and NSDL.

j. Carol Minton Morris comments
   xix. How is it we as a library begin to generate revenue?
   xx. Establish not-for-profit for purpose of branding
      i. To be able to act in nimble manner
         • What models exist for this purpose?
            o Such as the Federation of Earth Science Information Partners (ESIP - http://www.esipfed.org/)

k. Sarah Giersch noted:
   i. 1st Sustainability Workshop
      • Publishers Workshop
      • What is the NSDL?
   ii. 2nd Sustainability Workshop
      • Business Models Workshop
      • What is the product of the NSDL?
   iii. 3rd Sustainability Workshop
      • Could be proposed for 2005
      • Address: What is the value of the NSDL?

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