

Evolution of NSDL as a Cyberlearning Platform

from proposal *Repositioning NSDL for the Next Generation of Cyberlearning*

	NSDL 1.0 (c. 2000-2005)	NSDL 2.0 (c. 2005-2011)	Transition (Current Proposal)	NSDL 3.0
Technical Infrastructure	<p>Metadata Repository</p> <p>Basic database with focus on metadata repository. Intended to handle highly structured metadata sharing between repositories.</p>	<p>Semantic Data</p> <p>“Resource centric” Fedora-based repository. Intended to encourage mapping relationships between resources.</p>	<p>Streamlining</p> <p>Streamlining operations by moving infrastructure from Cornell to UCAR and cloud computing services, with the goal of achieving economies of scale, lowering maintenance costs, and positioning for increased flexibility of future options.</p>	<p>Flexible Collaboration Infrastructure</p> <p>Open source code, tools, standards, metadata, and paradata as the basis of an agile and extensible structure that can respond to changing practices and technologies, allow for observation of user behaviors via automated data collection, and support NSDL’s future sustainability.</p>
Collections	<p>Aggregation</p> <p>Enterprise vision of digital libraries as mass aggregators and “one stop shops” focused on largely static reference materials and digitized text coming from other aggregators, academia, and commercial publishers.</p>	<p>Curation</p> <p>Shifting emphasis from quantity to quality and the importance of curation. NSDL initiates Pathways as curators for differentiated learning communities and begins to create contextualized collections. Metadata quality analysis leads to deaccessioning a significant part of the original library.</p>	<p>Contextualization</p> <p>Collections refinement driven by concepts of pedagogic utility over abstract quality definitions, and the demand-side of evolving user needs.</p> <p>Convergence of new contextualization models: Learning Application Readiness (LAR), association of resources to educational standards, and <i>paradata</i> as a construct for contextualization generated through the networked use of resources.</p>	<p>Responsiveness</p> <p>Creation and management of resources that are easy to discover, use, reuse, implement in local contexts, and metabolize in networked learning environments. Flexibility for open content to be used in digital textbooks, mobile devices, learning management systems, and state-level portals.</p> <p>Supporting expanding paradigms around the value of teacher and student-created content and teacher and student generated contextualization.</p>
Community Network	<p>Centralized Library</p> <p>The launch of NSDL served as a proof of concept for digital library research and as a unique convener of information technology researchers and scientists with an interest in education at all levels.</p>	<p>Distributed Hubs</p> <p>The centralized technical and community services offered through Core Integration created a lively, but distributed model with CI as a hub for Pathways and other projects, and Pathways as hubs for cross-community activities.</p> <p>Increased interconnections create a robust cyberlearning platform that is the community itself.</p>	<p>Networked Platform</p> <p>NSDL projects report high value for the collaboration ethos and opportunity brokering that has emerged from positioning NSDL at the nexus of digital content and education reform.</p> <p>Capitalizing upon that position by conjoining NSDL with online networks of educational practitioners through initiatives such as the STEM Exchange, Learning Registry, and Curriculum Customization Service.</p>	<p>Innovation Architecture</p> <p>NSDL as a substrate that engenders opportunities for spontaneous collaborations, multiscale connections, high-volume data exchanges, and multidisciplinary tool/idea sharing that can nurture innovation.</p> <p>NSDL 3.0 will leverage this richness to promote the implementation of digital content and services as significant elements of educational reform that supports teachers as learners and students as constructors of knowledge.</p>