



[Grogan Enterprise Services](#)
411 SW 350th Pl.
Federal Way, WA 98023

Phone 253 838 3917
Mobil 206 790 5206
Fax 253 838 3917

Infrastructure Technology Support for Education

An Exploration of Opportunities and
Requirements for Successful Introduction of
Microsoft's Sharepoint Learning Kit (SLK)

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Infrastructure Technology Support for Education

An Exploration of Opportunities and Requirements for Successful Introduction of Microsoft's Sharepoint Learning Kit (SLK)

Introduction

This report presents results from independent research and interviews with education community stakeholders conducted on behalf of a non-profit foundation to discover:

- 1) How modern computing and communications (Internet) technologies might be used to improve education outcomes for students
- 2) How appropriate use of technology would enhance administration effectiveness
- 3) The resources necessary to successfully deploy Microsoft's Sharepoint Learning Kit

The author wishes to acknowledge the time and contributions provided for this study made by administration staff, parents of students, the foundation education team and students.

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Improving Educational Outcomes with Technology

Educational success depends on positive, productive relationships between teachers and students, parents and students, parents and teachers, administrators and school boards, school boards and communities...you get the idea.

Computers cannot replace teachers. Computers operate with the intellect of light switches. Successful introduction and use of desktop computing and electronic networks can enhance learning by supporting social relationships and enabling rapid, accurate communication of stakeholder issues and needs.

Information represented by bits of data can be delivered, removed, changed and stored precisely and economically using programs created for the purpose. When accompanied by organized social interaction data manipulation can add value to the educational experience.

Microsoft's Sharepoint technology supports organized social interaction.

Potential for Increased Administrative Effectiveness

School administrators advance educational objectives by following policies from school boards, responding to events requiring attention and providing resources and direction to capable educators and staff.

Accessible interpersonal communication combined with timely presentation of clearly processed information enables administrators to respond decisively and act quickly to insure appropriate and optimum use of school resources.

Technology supports administration with facilities for rapid communication, data reflecting student achievement and tools for processing vast amounts of information to enable wise decisions.

To gain maximum benefit, use of technology must stem from a precisely designed and managed foundation environment. Individuals need to be trained in its use and provided with a roadmap toward success. Students in traditional educational settings thrive when teachers' creativity raises their experience beyond simple pedagogy into truly experiential learning environments. Introduction of technology must support this transition--not interfere with it.

Microsoft's Sharepoint and the Sharepoint Learning Kit

As a vendor of technology, Microsoft offers an array of products and services potentially valuable to the educational marketplace. Microsoft's products do not include the Sharepoint Learning Kit (SLK). The SLK is not a Microsoft product. Microsoft distributes and administers releases of the SLK but does not provide direct support or sell it as with other products. Microsoft does intend to replace its Class Server product with the SLK in cooperation with its educational industry partners.

The SLK is distributed from Microsoft's publicly accessible servers without cost through provisions of an Open Source license. Development and support for the SLK depends on the user community, persons interested in advancing educational technology and Microsoft partners who are focused and committed to the educational industry.

Use of the SLK requires several supportive technologies and facilities:

1. Microsoft Windows Server
2. Microsoft Sharepoint Services
3. Browser enabled client computers
4. Robust network communications

Because the SLK is installed to use Sharepoint Services, Microsoft's SQL server must also be used.

In addition to the list above, Sharepoint integrates features of Microsoft Office software to enable exchange of information among students, teachers, administrators and parents.

SLK based curricula must be specifically developed to be delivered using the SLK. Both teachers and third party providers require training and guidance to effectively develop SLK curricula. The curriculum team should also include a technologist to address facility related issues.

Deployment of the SLK in its present form should be viewed as a laboratory rather than as a well established formula for classroom success. Stakeholder expectations should be managed accordingly.

Because of the wide range of technologies required to support use of the SLK, individuals responsible for its success need to address the following technical administrative roles:

1. Internet Information Services (IIS)
2. SQL Server Databases
3. Sharepoint Configuration
4. SLK Configuration
5. Quality of Service Requirements
6. IP Communications
7. School District Coordination

Introduction of the SLK should be managed as a project using recognized techniques and methods. The project should be formally sponsored, announced and delivered within negotiated constraints of scope, schedule, budget and quality. The project team should include representatives from all stakeholder communities including students, parents, teachers and administrators as well as technologists.

Conclusion and Recommendations

A foundation can successfully deploy the Sharepoint Learning Kit. Formal planning and discussion of the elements necessary will smooth the bumps and deliver an environment consistent with the needs of stakeholders.

Through a deployment plan the foundation should deliver modest successes upon which to build grander results. The deployment team will learn much about how to achieve success through the initial phases of delivery.

Specifically, the deployment plan should describe tasks, milestones, schedules and deliverables that:

1. Provide for installation, administration and operation of the SLK Sharepoint server in a commercial hosting facility

2. Detail quality of service parameters and means for periodic assessment of achieved levels
3. Develops a template to facilitate setup and administration of communications among facilities.
4. Supports conduct of formal Business Analysis and Strategic planning that addresses technology implementation and use
5. Encourages transition from casual to disciplined creation, storage, modification and archiving of data artifacts
6. Identifies specific individuals to fulfill roles necessary for successful use of technology and insure availability of sufficient resources, skills and training
7. Presents a clear vision of future operations with a roadmap that incorporates established and leading technologies

The future of education must include technology. All of the Earth's citizens need to learn and at an ever increasing pace. When knowledge overpowers ignorance we all gain.

Appendix I: References

This appendix provides references to related resources.

Microsoft SharePoint Learning Kit [SharePoint Learning Kit](#)

Hopes, Fears, & Reality: A Balanced Look at American Charter Schools in 2006
http://www.ncsrp.org/cs/csr/view/csr_pubs/8

Microsoft Education Lesson plans, tutorials & education resources
<http://www.microsoft.com/education>

Microsoft Learning Gateway <http://social.msdn.microsoft.com/Forums/en-US/sharepointdevelopment/thread/a769aeb2-4c17-4a8e-9e4f-01ad48ccdd66/>

Microsoft Class Server ([pdf](#))

Philadelphia's School of the Future [Microsoft ref](#)

Utah State Center for the School of the Future <http://www.csf.usu.edu>

DOD's Advanced Distributed Learning Lab <http://www.adlnet.gov>

DOD ADL SCORM <http://www.adlnet.gov/capabilities/scorm/scorm-certification> (SLK Certified SCORM Compliant)

Appendix II: Summary of Interviews

Appendix II summarizes the results developed from interviews with the foundation stakeholders regarding introduction and use of next generation collaboration technology including Microsoft's Sharepoint and Sharepoint Learning Kit (SLK) offerings.

The stakeholder community includes:

- Executive Administration
- Educational Administration
- Educators
- Parents of Students
- Students
- Alumni
- Providers of technology based products and services

Each community perspective describes current needs to be addressed moving forward and potential support available using the technologies listed.

Executive Administration

The Executive team needs:

- Convenient access to demographic data to support business development
- Robust communications for operational management
- Orderly repositories for storing, maintaining, securing and retrieving documents and data

To gain maximum benefit from Sharepoint technologies, current practices should be augmented with formal analysis of business needs and identification of related artifacts generated during daily activities. Although Microsoft's SLK does not provide specific support for this agenda, implementation of Sharepoint will provide substantial benefit if appropriately planned and managed.

Educational Administration

Education administrators need:

- Support for enrolling students and tracking attendance
- Current contact information for students, parents and alumni
- Ability to contact students and parents with minimal effort
- Non-interfering means to observe and evaluate teacher effectiveness

A centrally located Sharepoint facility combined with the SLK will support most of the needs listed above if supported with robust IP communications, sufficient training, enforced usage discipline and procedures sufficient to insure reliable, quality information. As the SLK community becomes more established, additional capabilities should become readily available to address features not currently included.

Educators

Educators need:

- Training to use new technology effectively
- Opportunities for collaboration to discuss specific to use of technology
- Time and support to engage continuous learning related to use of the technology
- Routine feedback reflecting successes and areas needing attention

Use of Microsoft's SLK requires departure from exclusive use of traditional classroom methods in both preparation and implementation. While offering advantages in efficiency and convenience, casual introduction of technology without acknowledging student needs for creative interaction will detract from greater potential.

Parents of Students

Parents of students:

- Formal introduction to teaching and communication methods that employ new technologies
- Understanding of the benefits that come to their children from involvement with the foundation and modern communications technology
- Involvement with the foundation through Internet technologies
- Involvement with the foundation without relying on technology

Parents want their children to succeed and also must operate within their own constraints. Foundation students can succeed with minimal support from parents by demonstrating independence and responsibility for their educational experience. Foundation students will not succeed if their parents actively discourage participation or deny access to required time and resources.

The foundation needs parents and parents need the foundation. The relationship should be one of partners investing in the future of children. Parents also can benefit from access to home computers and by learning about their student's education through SLK communications. Interaction between foundation educators and parents should be welcome and frequent. Sharepoint and Internet technologies combined with emerging Mobile devices and capabilities support both.

Students

Foundation Students need:

- A reason to embrace new methods
- Sufficient *WOW* and *Entertainment* content to overcome *Whatever* attitudes
- Encouragement to view technology as helpful and achievable
- Motivation to help students make wise choices regarding learning experiences
- Support through challenges presented by destructive influences that distract from their education
- Motivated educators who have the resources and the will to bring students to success

Today's children must learn at a frenetic pace to become prepared for life after graduation. With ready access to attention grabbing media and opportunities for immediate gratification, maintaining focus on long term goals and the path to reach them present daunting challenges. Today's educational system too often fails its students and does not deliver on public education promises made long ago by our nation's founders.

Foundation students typically engage new technology before either their parents or teachers. Home computing, the Internet, cell phones and MP3 players offer easy, economical access to friends and neighbors. Some school districts currently consider banning personal electronic devices from classrooms—a move completely contrary to embracing use of technology. The foundation should not only employ technology effectively on behalf of education but also advocate responsible use of technology by encouraging students to learn appropriate behavior with it.

Alumni

Foundation Alumni need:

- To remain involved with foundation after completion of formal attendance
- To become active as ambassadors for foundation and students who follow
- Opportunities to interact with current students and build on their foundation experiences while moving forward in their careers

As graduates move forward prepared for a highly complex and ever evolving society and workplace, they will increasingly realize the richness gained from involvement with the foundation. The foundation should work actively to maintain contact with alumni using technologies such as WIKI's, Blogs, Pod casts, RSS feeds and web sites so that future support for the foundation and foundation students can continue to build on current experiences. The world outside of the foundation needs to recognize and celebrate the Foundation's successes to maximize ultimate value and potential available from following the Foundation's lead.

Providers of Technologies

Providers of technologies need:

- To offer economically accessible products and services relevant to the foundation's mission
- Support from graduates of technology based learning to maintain competitive advantages in their marketplace.
- To recognize the value of providing direct support to educational endeavors in their local communities
- To learn from regular interaction with educators about what works well and what needs improvement
- To provide robust support to the educational community after sale and delivery

Microsoft supports Sharepoint with fee-based professional consulting offering technical depth available only from the creator of such a facility. Because the Sharepoint Learning Kit has been made available through an *Open Source* license, Microsoft does not support the SLK directly choosing to rely on its educational partners for such support.

In addition to potential for confusion when technical difficulties arise, the Open Source nature of SLK components raises concerns for ongoing support of technology that may require attention after it has become deeply integrated with operations.

Implementation of technology cannot be successfully employed without providing adequate staff and resources to insure correct operation and resolve problems. Technology professionals should be included early in strategic discussions and throughout deployment and operation of technology based facilities to maximize successful use.