

10 Things You Can Do To Improve Your Technology Program

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10. Help teachers see what the effective use of technology looks like.

- If some teachers are using technology well, provide opportunities for other teachers to observe their classes or to co-teach with them.
- Watch and discuss videos of technology being used for teaching.



10. Help teachers see what the effective use of technology looks like.

- Lead a team from your school to conferences where teachers share best practices.
- Lead a team to visit schools where technology is integral to teaching and learning.



Resources

- George Lucas Educational Foundation videos: www.edutopic.org
- www.videoclassroom.org
- NECC conference
- Florida Educational Technology Conference (FETC)



9. Help teachers discover ways technology can improve student learning.

- Most teachers are willing to try new strategies, including technology, if they believe the strategies will help students learn better.
- Form study groups to review research literature on teaching and learning with technology.



9. Help teachers discover ways technology can improve student learning.

- Use technology to differentiate instruction.
- Think beyond scores on standardized tests:
 - Quality of student work
 - Attendance
 - Discipline referrals
 - Drop out rate



Resources

- SEIR*TEC Professional Literature Links:
 - <http://www.seirtec.org/Literature.html>
 - <http://www.seirtec.org/Literature2.html>



8. Provide on-going, high quality professional development.

- Understand the linkages between professional development and student achievement.
 - Amount and quality of staff development
 - Content of professional development
 - Educators' acquisition of new knowledge and skills
 - Educators' use of new knowledge and skills
 - Student learning



8. Provide on-going, high quality professional development.

- The school needs a professional development plan that
 - Addresses the priorities of the school or district
 - Meets the identified needs and interests of educators.



8. Provide on-going, high quality professional development.

- Adopt an effective, on-site model for professional development:
 - Mentoring
 - Coaching
 - Action research
 - Study teams
 - Authentic tasks



Resources

- National Staff Development Council Web Site (www.nsd.org)
 - Standards for professional development
 - Publications
 - NSDC Conference
 - Guskey, T. – Professional Development and Student Achievement
 - Killion, J. – Evaluating Staff Development



7. Provide each school with a technology facilitator, media coordinator, and technician.

- Technology facilitators should be experienced teachers who know technology.
- The facilitator's job is to help teachers teach with technology, e.g., help teachers plan instruction, go into classrooms and demonstrate the use of technology, etc.



7. Provide each school with a technology facilitator, media coordinator, and technician.

- The technology facilitator and the media coordinator can't be the same person. You need both.
- The technology facilitator and the media coordinator working together with teachers will probably have a strong impact on teachers' use of technology.



7. Provide each school with a technology facilitator, media coordinator, and technician.

- You need a readily accessible technician, too.
- Fixing computers, networks, paper jams, etc. is the job of the technician, not the technology facilitator.



Resources

- NC Technology Facilitator Job Description
 - <http://tps.dpi.state.nc.us/scd/techpositions/TechnologyFacilitatorJob.html>



6. Provide opportunities for teachers and staff to work collaboratively.

- Collaborate for instructional planning, teaching, classroom management, assessment, professional growth...
- Models of collaboration:
 - Teachers, media specialist, technology facilitator
 - Teams from same grade level or subject area
 - Multi-disciplinary teams
 - Multi-grade level teams



Resources

- Information Power: Building Partnerships for Learning
 - <http://www.ala.org/aas/Template.cfm?Section=informationpowerbook>
- Leading edge: 'Collaboration lite' puts student achievement on a starvation diet
 - <http://www.nsdcc.org/library/publications/isd/dufour244.cfm>



5. Start with the curriculum, not the technology.

- The government has spent billions of dollars on instructional technology, yet according to the NCES, only about half of the nation's teachers use technology frequently for instruction



5. Start with the curriculum, not the technology.

- It's not enough to have workshops on PowerPoint and then tell teachers to integrate what they've learned into their lessons. It seldom happens.
- Teachers need lessons that incorporate technology as a way of helping students meet state standards.



Resources

- Marco Polo
 - www.marcopolo.org
- Great Resources for Integrating Technology into Schools
 - www.gritsonline.org
- Kaleidoscope
 - www.ncwiseowl.org/kscope/



4. Provide a supportive environment for change.

- Understand the change process.
- Remember that it takes an average of 3 to 5 years for teachers to reach the point where they use technology fluently.
- Ensure that everyone in your school understands what "technology integration" means.



4. Provide a supportive environment for change.

- Support teachers and staff as they try new teaching strategies and technologies.
- Provide incentives
 - for teachers to participate in professional development.
 - for teachers to use technology fluidly and frequently.



Resources

- Fullan, M., (2001). *Leading in a Culture of Change*.
- Hord, S. and Hall, G., *Schools of Change (Concerns Based Adoption Model)*.



3. Plan and conduct formative evaluation of technology programs.

- Develop and implement a plan for formative evaluation.
- Work with an external evaluator to review the formative evaluation and to conduct an external or summative evaluation.



Resources

- SEIR*TEC Formative Evaluation Framework
 - <http://www.seirtec.org/evaluation/inst/worksheets.html>

Planning For Evaluation

SEIR*TEC has developed a Formative Evaluation Framework, specifically intended to help local education agencies and individual schools increase their internal capacity to evaluate projects that integrate technology into teaching and learning. Although tailored particularly to projects funded by grants under the Educating Tomorrow Through Technology (ETTT) program, the strategies described in this framework may be easily adapted to the evaluation of other self-improvement projects or work.

The framework provides a step-by-step approach to help you establish a plan and implement it, and provides, wherever possible, a list of technology resources to help you in the process. The framework is designed to be a complete process for managing the process.

Planning the evaluation:

- Explaining how the project works
- Establishing project goals, objectives, and strategies
- Developing the basic components of an evaluation
- Identifying data sources for the evaluation
- Implementing the evaluation and reporting the results
- Communicating the evaluation results

The SEIR*TEC Formative Evaluation Framework Website

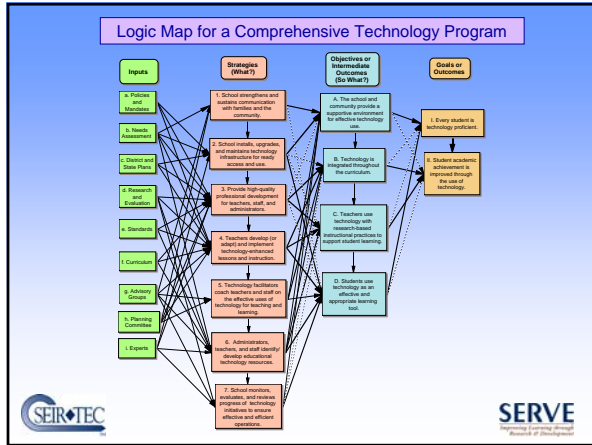
The resources provided on the Formative Evaluation Framework website can be used in two ways:

- You can start at the beginning of the list of resources and descriptions and follow the link at the bottom of the page to each successive section to work through the steps required of a quality project evaluation, or
- If you have a specific need, or interest in, information about a particular section, you can enter a search term in the search box at the top of the page to find the information you need.

The website also provides related resources, data-collection instruments related to technology implementation, and a page to guide the above steps.

Components of the SEIR*TEC Model for Evaluation Plans

- Logic maps
- Evaluation model and worksheets
 - Questions
 - Indicators
 - Data sources, methods and measures
 - Benchmarks
 - Use of findings
- Evaluation management plan



Evaluation Planning Example – Objective B (SEIR*TEC)

Objective: B. Technology is integrated throughout the curriculum.

Supporting Strategies:

- Teachers, staff, and administrators participate in high quality professional development.
- Teachers develop (or adapt) and implement technology-enhanced lessons and instruction.
- Technology facilitators coach teachers and staff on the effective uses of technology for teaching and learning.
- Administrators, teachers, and staff identify/develop educational technology resources.

Impact Questions (So What?) What difference does it make?	Indicators What does success look like?	Methods/Measures/ Data Sources How will you find out?	Benchmarks What are your intermediate targets?	Use of Evaluation Findings What do you do with the results?
What impact does the integration of technology throughout the curriculum have on students' use of technology for learning?	Teachers select and use technology appropriate for each curriculum area	Review of lesson plans in view of the curriculum	By mid year, 75% of teachers' lesson plans incorporate the appropriate use of technology, by the end of year 100%	Determine barriers to technology integration throughout the curriculum
What difference does the integration of technology throughout the curriculum have on student learning?	Students use technology to learn curriculum and to meet state standards	Review of student products using a standard form	Teachers' lesson plans incorporate the appropriate use of technology	Recommend changes in instructional practices
What impact does the integration of technology	The quality of student products is improved	Nine-week grades	75% of students score satisfactory or	Examine alignment of lesson plans to

Evaluation Planning Example – Strategy 4 (SEIR*TEC)

Strategy: 4. Teachers develop (or adapt) and implement technology-enhanced lessons and instruction.

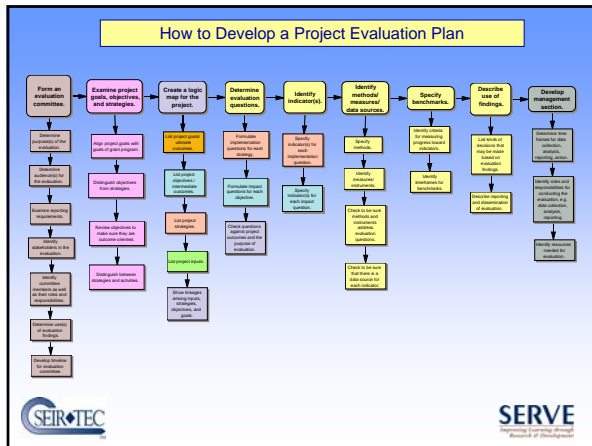
Activities:

- Teachers participate in staff development on locating, creating and using lesson plans that integrate technology with the curriculum.
- Teachers review curriculum lesson plans to ensure that technology is integrated into core content areas, e.g., math, science, language arts, and social studies.
- School develops a compendium of technology-integrated lessons teachers have found/created that work.

Implementation Questions (What?) What do you need to find out?	Indicators What does success look like?	Methods/Measures/ Data Sources How will you find out?	Benchmarks What are your intermediate targets?	Use of Evaluation Findings What do you do with the results?
How extensive is the integration of technology into the curriculum? Into each grade level? Into each subject area?	Teachers are adopting or adding online peer reviewed lesson plans that integrate technology	Lesson plan reviews using a standard rubric	By mid-school year, all teachers implement at least 2 technology-infused lesson plans per month, by the end of the year, all teachers implement at least one technology-infused lesson plan per week	Use results to identify which aspects of staff development are working and which need attention
What is the quality of technology-enhanced lesson plans?	Reviews of teachers developed lesson plans indicate the plans are	Classroom observations by principal and technology facilitator		Use data to make recommendations regarding next steps for staff development
To what extent are teachers implementing technology?		Review of lesson plans in view of curriculum		Re-examine lesson

Evaluation Planning Example – Management Plan (SEIR*TEC)

Evaluation Activities What evaluation activities will occur?	Timeframe When will the evaluation activity occur?	Person Responsible Who will be responsible for ensuring the activity occurs?	Resource(s) What resources do you need to do the evaluation?
Evaluation Team Meetings	Monthly	Project Coordinator	
Collect baseline data	July	Project Coordinator	
Develop rubrics	July	Curriculum Specialist	<ul style="list-style-type: none"> Meeting space and resources for monthly committee meeting Web-based document sharing tool, e.g., WebEx State and local curriculum System to collect electronic lesson plans Database software, e.g., Microsoft Access, FileMakerPro
Identify or develop instruments for data collection	July	Project Coordinator	<ul style="list-style-type: none"> Rubric for assessing lessons and student projects Classroom observation instrument Data collection hardware, e.g., PDAs, laptops, scanner Web-based survey software, e.g., ReMark
Pilot instruments	August	Project Coordinator	
Provide training on classroom observation	August	Technology Facilitator	
Develop focus group protocol and questions	August	Project Coordinator	
Collect interim data	September	Project Coordinator	
Needs assessments	September		
Surveys	September		



What is a logic model?

- A logic model is a graphic representation of the theory or logic behind a project or program. It shows the forces that shape the project as well as the relationships among the key components.

Logos: SEIR•TEC, SERVE

- ### Frameworks for Logic Models
- Harvard Family Research Council
 - Kellogg Foundation
 - National Science Foundation
 - National Staff Development Council
- Logos: SEIR•TEC, SERVE

REACHING RESULTS

LEARNING FROM LOGIC MODELS: AN EXAMPLE OF A FAMILY/SCHOOL PARTNERSHIP PROGRAM

LOGIC MODEL DEFINED

A logic model is a graphic representation of the theory or logic behind a project or program. It shows the forces that shape the project as well as the relationships among the key components.

HOW TO USE A LOGIC MODEL

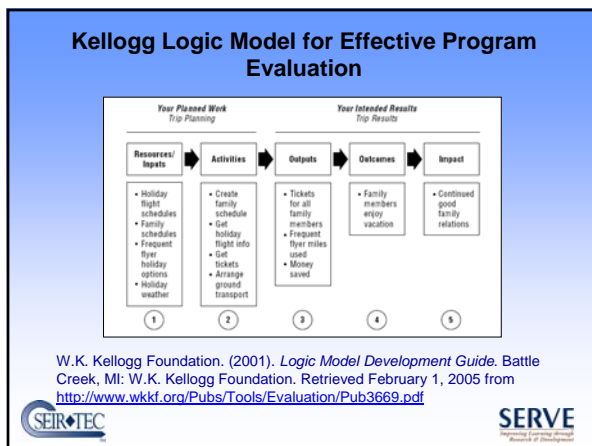
Developing a logic model should be one of the first steps in an evaluation. Once the model is developed, it can be used to guide the evaluation process. The model can be used to identify the key components of the program, to determine the data sources that will be used to collect the data, and to determine the benchmarks that will be used to compare the program's performance.

LOGIC MODEL EXAMPLE

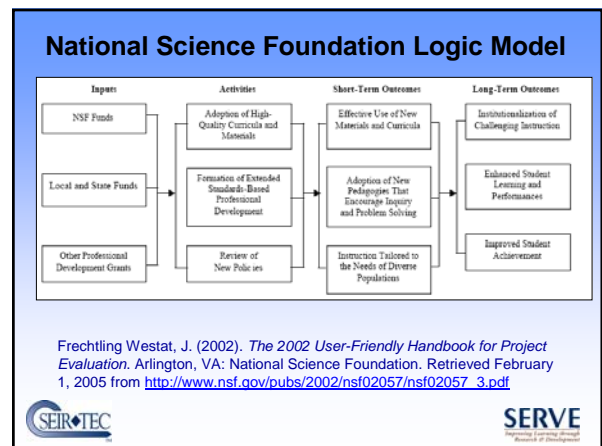
Harvard Family Research Council's Family/School Partnership Program is a logic model that shows the relationship between the program's goals, objectives, and strategies. The model is used to guide the evaluation process.

Logos: SEIR•TEC, SERVE

Coffman, J. (1999). *Learning from Logic Models*. Cambridge, MA: Harvard Family Research Project. Retrieved February 1, 2005 from <http://www.gse.harvard.edu/%7Ehfrp/pubs/onlinepubs/rfb/learning.html>

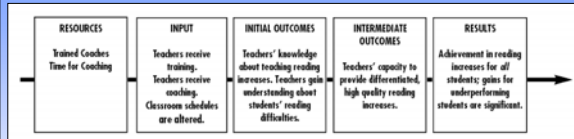


W.K. Kellogg Foundation. (2001). *Logic Model Development Guide*. Battle Creek, MI: W.K. Kellogg Foundation. Retrieved February 1, 2005 from <http://www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf>



Frechtling Westat, J. (2002). *The 2002 User-Friendly Handbook for Project Evaluation*. Arlington, VA: National Science Foundation. Retrieved February 1, 2005 from http://www.nsf.gov/pubs/2002/nsf02057/nsf02057_3.pdf

NSDC Logic Model for Evaluating Staff Development



Killion, J. (2001). *Assessing Impact: Evaluating Staff Development*. Oxford, OH: National Staff Development Council. Retrieved February 1, 2005 from <http://www.nsd.org/connect/projects/ai1-4.pdf>



2. Collect and use data for program planning and decision making.

- Conduct annual needs assessments of teachers and staff.
- Adopt or adapt a protocol for conducting classroom observations.
- Use the data to measure how technology is or isn't being used for teaching and learning, not for teacher performance.



2. Collect and use data for planning and decision making.

- Review lesson plans to see the extent to which technology is used for teaching and learning. Use a common format, e.g., rubrics, for the review.
- Review students' products to see what and how well students are learning.



Resources

- Looking for Technology Integration (LoFTI)
 - <http://www.seirtec.org/evaluation/stna.html>
- School Technology Needs Assessment (STNA)
 - <http://www.seirtec.org/evaluation/stna.html>
- Profiler Pro
 - <http://profilerpro.com/>
- Rubistar
 - <http://rubistar.4teachers.org/index.php>



1. Lead the way.

- Teachers who indicate that their principals are good leaders say the principals “transform” their schools.



1. Lead the way.

- Leaders create a shared vision for the use of technology for teaching and learning. They see technology as a means to an end, i.e., improving learning, rather than something else the school has to do.



1. Lead the way.

- Principals who are good leaders build capacity for leadership within the school, e.g., by supporting teachers in developing their leadership potential.



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1. Lead the way.

- Good leaders are good communicators.
- Leaders model the use of technology.
- Participate in professional development.



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Resources

- Educational Technology Leadership Toolkit
– <http://www.nsba.org/sbot/toolkit/>
- Planning into Practice
– www.seirtec.org/publications
- Fullan, M. (2001). *Leadership in a Culture of Change*



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