OPTIC - Observation Protocol for Technology Integration in the Classroom

USER GUIDE

Rationale

This protocol is designed to support the observation of classrooms or technology laboratories to gather data on the ways curricular integration of technology is occurring. Classroom observation of technology use is common by principals and other school leaders for several purposes:

- to assess the level or status of curricular integration of technology in a school
- to improve their own understanding of technology in the curriculum
- to assist staff in developing appropriate technology integration abilities
- to provide information for school improvement plans

This protocol is designed to assist principals and other educators in gathering classroom data for those tasks, particularly the first purpose, and provide a basis for consistent interpretation of the term *technology integration*. OPTIC was not designed for or validated in teacher evaluation.

School Progress Assessment Strategy

OPTIC is designed to allow an observer to complete the form during a 20-25 minute observation. The general process of school-wide assessment includes several stages:

1. An observer should conduct observations in a large number of classrooms within a short time frame of a week or two. In one building of 20 classrooms, 10 would be a good sample, but in smaller schools, observing all classrooms might be feasible. The sample should include all grade levels.

2. After data collection is complete, use an OPTIC form to enter the totals of all the observations for each data item on page 1, and indicate on each item of page 2 the total number of checks in each box.

3. A reflective session should take place in which the observer considers the questions:

> In how many different locations were technologies, especially computers, being used? *(In general, the more the better. The main question is whether the appropriate hardware and software is available at the desired point of instructional activity.)*
>
> What distribution of student/computer ratios was observed? (*Different ratios are desirable depending on the instructional situations. The key question is whether the ratios are appropriate to the instructional intent. While 1 – 1 is widely desired, group work such as in a team project might be fine at 6 – 1. Of course, if the number of stations is limited, low ratios might not be possible. However, even if a large number of stations is available, the ratio might be higher because the instructional intent is group work.)*
>
> What groupings of students predominated? Why? (student choice, teacher direction?)

What was the observed distribution of required vs. student chosen activities? *(Judge this by the purpose of the session. Introduction of new skills might need required activities, whereas older children with several years of experience and higher skills should be progressing toward greater choice of software tools or technology.)*

Where is the focus of overall nature of student use in a range from passive to producing? Did I see a progression toward greater expectations of student products in higher grades? *(As in the last item, the older and more skilled the students, the greater should be the level of production.)*

What is the observed frequency of use of the various technologies? How many technologies and how many software applications were in use? *(In a comprehensive program you should expect to see most of them across the grade levels, and usage of a greater range of technologies and applications in higher grades.)*

How many student goals (ISTE goals, bottom of page 1) were addressed across all the classrooms? *(You should expect that all the goals should be addressed across all grade levels in a comprehensive plan of integration, and at an appropriate level in each grade.)*

Where is the central tendency of marked locations on each rubric item on p. 2? *(A tendency toward the right side of the scale, and movement of central tendency toward the right at higher grade levels, is desirable.)*

4. The reflection process should culminate in a comparison of the observed status of integration with the school or district goals for integration. In summarizing results, remember that the data represents only one source, student activity, and thus addresses a limited set of indicators. A broader picture of the level of integration of technology should include other components and data sources, identified in the document *Assessing Technology Integration in the School*, also available on the OPTIC Web site.

Various frameworks have been proposed for summarizing developmental stages and levels of performance of teachers or students, or levels of meeting professional goals for integrating technology. A simple 5 to 7-point scale might suffice. Another example based on the Essential Conditions Meta-Rubric from the International Society for Technology in Education (ISTE) is provided here to help you express your school's status.

Developing – Limited use of technology; a few applications are used by a few teachers; teachers who do use technology are experimenting; school or district goals for technology integration are largely unmet.

Approaching – Moderate use of technology by a fair number of teachers; most teachers are learning how to integrate and a few teachers are at a high level of practice; some school or district goals for technology integration are being met.

Meets – Many teachers make use of a number of different technologies and applications and some are at a high level of practice; the minimum goals in the district plan for curricular integration and related staff development are being met.

Exceeds – Most teachers are at a high level of understanding and practice; most of the goals for curricular integration are being exceeded.

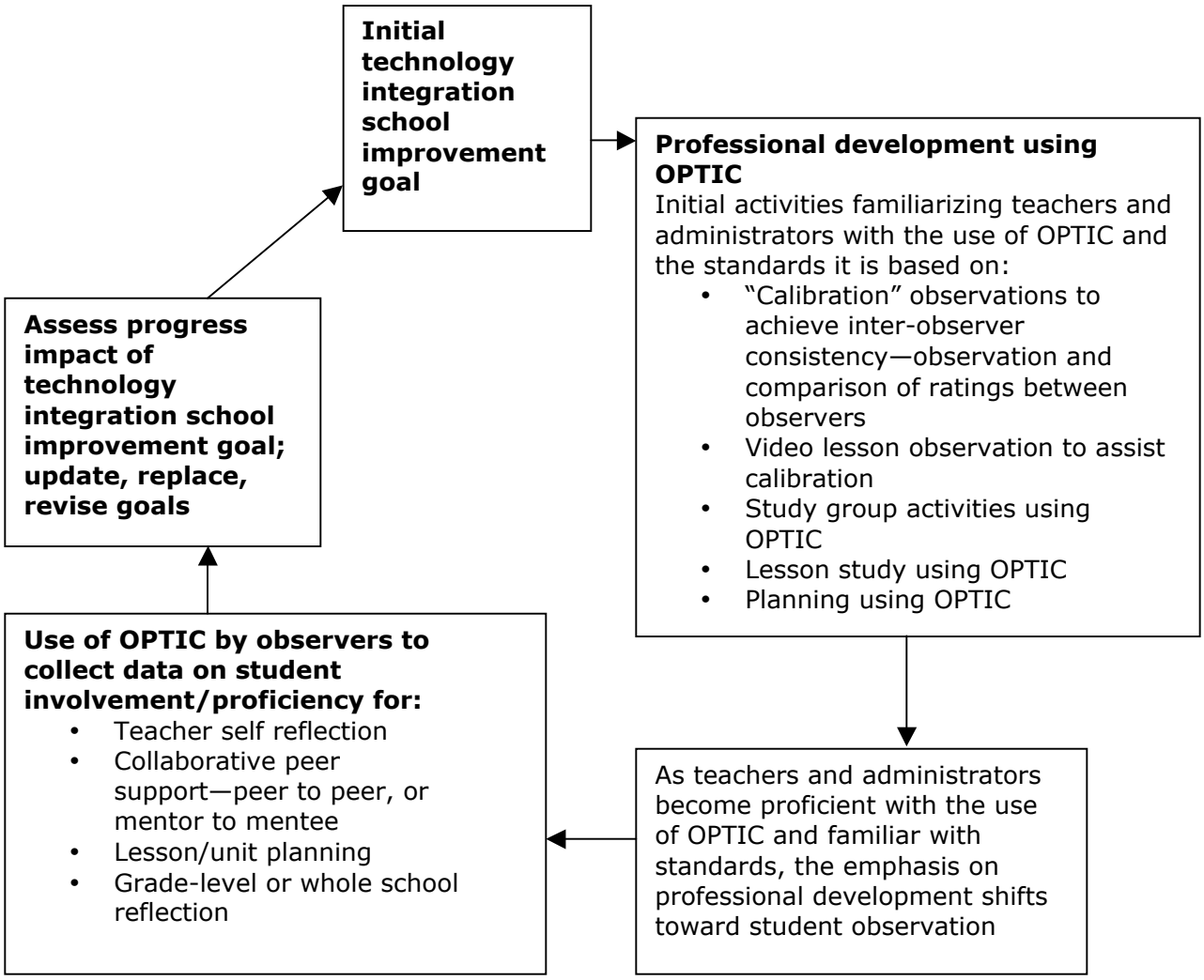
OPTIC and School Improvement

(The following strategy was contributed by a school principal involved in the OPTIC field test.)

OPTIC is optionally used in the context of, and connection with, the implementation of a school's improvement plan. The two major uses are to facilitate professional development, and to help reflect on student learning. Its purpose in this regard is multifaceted:

1. to facilitate understanding of technology integration standards by users;
2. to promote the understanding that technology integration is not an isolated subject, but a strategy to leverage the teaching of the general curriculum;
3. to inform the planning of lessons and units;
4. to use as a tool for gathering data for the reflection of teachers, groups of professional peers, mentor/mentee pairs, and administrators;
5. to use as a tool for gathering data to inform school improvement processes, especially progress toward goals.

The use of OPTIC in this manner can be viewed in the context of the school improvement cycle:



Other Strategies for Using OPTIC

Educators in several field test schools have tried other strategies and purposes with the OPTIC instrument. These include evaluating a teacher, self-evaluation by a teacher, peer teacher advice and assistance, and staff development for teachers and others. NWREL did not design or test OPTIC for those purposes, but it is recognized that educators will adapt tools in ways they find useful, so the following strategies from test schools are provided:

Observation conducted by personnel of differing job responsibilities, including school principals, peer teachers, mentors, technology coordinators and a superintendent.

A team approach involving individuals from two or three of those categories, with team members observing the same classrooms simultaneously. In this strategy, pre- and post-observation discussions among the team members are important for calibrating rating choices.

A team approach in which team members observed the same classrooms but at different times. This approach did not show any advantage in information gained over the simultaneous observation strategy. If two or three individuals were observing a number of classrooms independently, it would be important for them to observe at least one class session simultaneously in order to calibrate their ratings before observing the rest.

Observation of each other's classes by members of peer teacher pairs. This approach typically included pre- and post-observation discussions, and resulted in enriched and more common understanding of the nature of technology integration by both teachers. In one field test district, the protocol has been made a part of the staff development process for the peer teacher program.

Repeat observation of the same classroom after a period of two or three months. This strategy can result in changed perceptions of the nature of integration on the part of some observers as well as teachers.

Users choosing any of the above should consider the following advice from the educators involved in trying the above ideas:

> The observer should take into account the lab or classroom context, type of activity, and expectations of the observer and principal. As a result, the observer might choose to skip items or sections if they appear irrelevant in the situation. Absence of any criterion in one observation is not necessarily a sign of deficiency.
>
> A conference between observer and teacher should precede the observation to help the observer understand the teacher's goals and expectations.
>
> A post-observation conference between observer and teacher should be conducted to discuss the results and their implications. Having the teacher also complete the protocol can enrich the post-observation discussion.

The protocol is available at www.netc.org/assessing/home/integration.php. in three formats. For additional information, please contact:

Northwest Regional Educational Laboratory
101 SW Main St., Suite 500
Portland, OR 97204-3297
Phone: 1-800-211-9435 or (503) 275-9500

OPTIC - Observation Protocol for Technology Integration in the Classroom

I. Setting and Circumstances:

Grade Level(s) of Students _____ Observation Length: _____ minutes

Site (check): __Computer lab __Classroom __Other Inside: _____
__Outside the building: what setting? _____

Ratio of Students to Station or Device: __1 to 1 __2-5 to 1 __6-9 to 1 __10 to 1 or more

*In each category below, **check as many as apply** during the time of the observation.*

Activity: __Individual __Small group __Whole class
__Student Presentation __Teacher Presentation

Choice: The specific uses of technology in this session were
__required of all students __required of some students __unrestricted

Curricular area(s) addressed: __Math __Science __Language Arts __Social Studies
__Foreign Language __Other_____

Primary nature of student activity: __Passive and receiving __Producing and creating

Technologies in use: __Computer __Internet __E-mail __Hand held __Camera
__One-way video __Two-way Interactive video __CD Other _____

Software in use by class during the observation: (Will not total 100%)

__Drill and practice	____% students using	__Spreadsheet	____ % using
__Simulation or game	____	__Present/publish	____
__Problem solving	____	__Internet browser	____
__Data analysis	____	__Graphics/Web page	____
__Word processing	____	__Other:_____	

Student objectives for this time period:

__Learn content-related skills, facts or concepts	__Develop a project
__Practice or reinforce a skill or concept	__Learn a research skill
__Communicate with resource person or peer	__Testing or assessment

__Learn a software or application skill (note): _____
__Other (note): _____

Student goals addressed this time period:
__ be a discriminating and technically proficient technology user
__ seek, analyze and evaluate information using technology
__ conduct problem solving and/or decision making activities using technology
__ be a creative and effective user of productivity tools
__ be effective communicators, collaborators, publishers and producers
__ be a responsible citizen, worker, learner in technology environment

II. Integration Observation Tool: In each row, mark the line at a place best representing the situation you observe. A mark in column N/A means the item is not applicable in this situation. Use of N/A in any one observation is not a sign of deficiency.

High level of student involvement or proficiency		Low level of student involvement or proficiency	N/A	Notes
Most students are **independently choosing** the technologies appropriate to the learning objectives.	←---------I---------I---------I--------→	Students are using only the technologies prescribed by the teacher for meeting the learning objectives.		
Students are **highly involved** with their teacher and peers **in planning** for the use of technology in a unit or lesson.	←---------I---------I---------I--------→	Students await and follow teacher directions for what technology to use.		
In group activities using technology, a **high degree of collaboration** is exhibited.	←---------I---------I---------I--------→	In group activities using technology, few students display collaboration.		
When using technology, **most students act ethically** and in accordance with the district acceptable use policy.	←---------I---------I---------I--------→	When using technology, few students follow the district acceptable use policy; many violations are apparent.		
Most students exhibit **skill in the effective use** of available technologies at or above grade and ability levels.	←---------I---------I---------I--------→	Most students exhibit a low level of skill in their use of available technologies and require much assistance.		
In using technology, most students are **focused on the intended curricular objectives**.	←---------I---------I---------I--------→	In using technology, few students are focused on the intended curricular objectives.		
Most **specific technology skills are embedded** and learned **in the context of core curriculum** lesson objectives.	←---------I---------I---------I--------→	Specific technology skills are taught and practiced as separate lessons, and later applied to core objectives.		
Problem solving and higher order thinking is evident in most students' activities.	←---------I---------I---------I--------→	Most students exhibit little creativity, only responding to software prompts.		
Most students are **highly engaged** in the use of technology.	←---------I---------I---------I--------→	Few students are highly engaged in the technology activity.		
Student use of technology is based on their **cognitive abilities and physical needs**.	←---------I---------I---------I--------→	Student use of technology is directed at neither of the two areas.		
Technology uses represent learning activities that could **not otherwise be easily done**.	←---------I---------I---------I--------→	Most of the observed activities might be done as well or better without technology.		