



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.

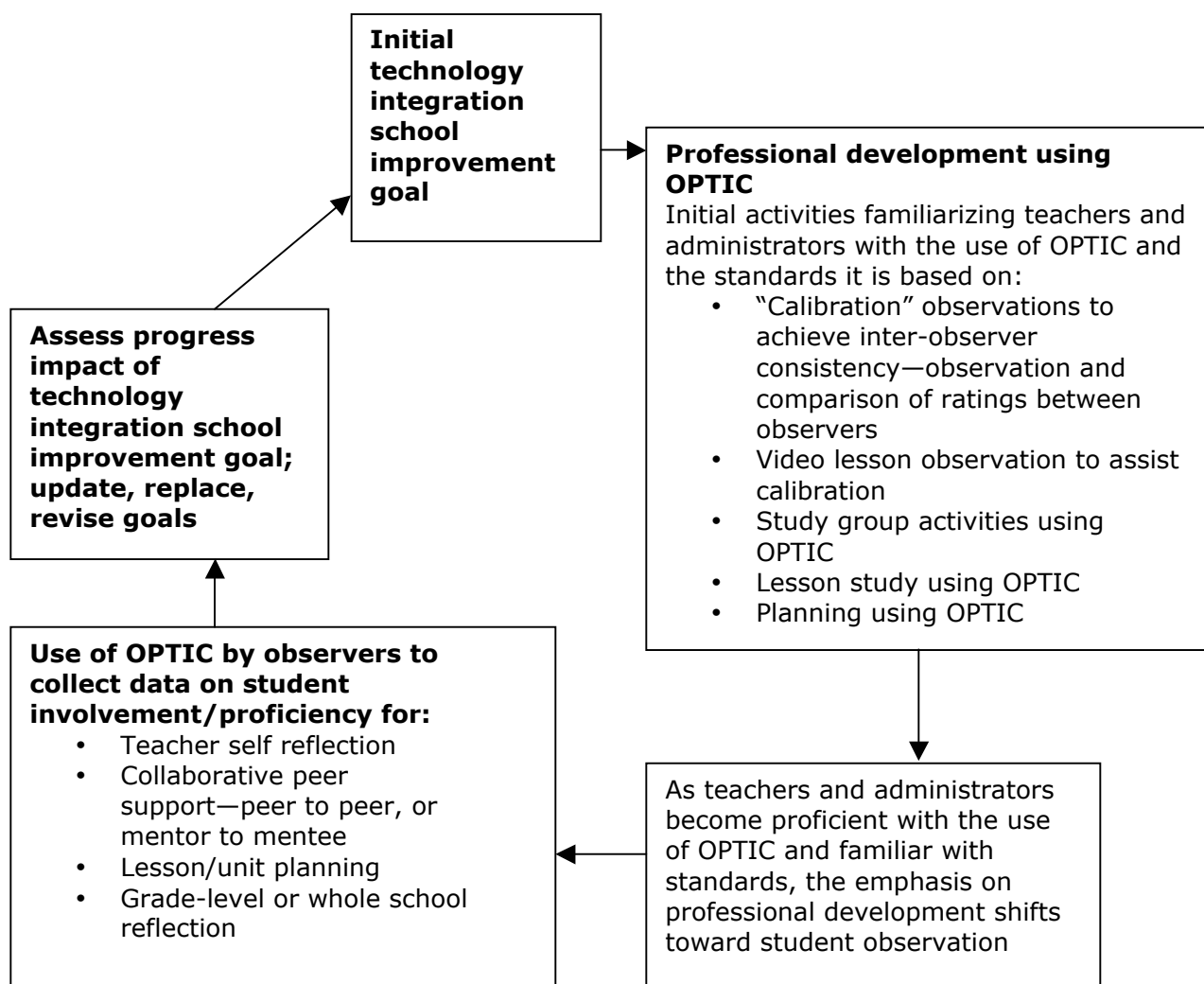
OPTIC and School Improvement

(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%)

| | | | |
|---|---|--|--|
| <input type="checkbox"/> Drill and practice | <input type="checkbox"/> _____ % students using | <input type="checkbox"/> Spreadsheet | <input type="checkbox"/> _____ % using |
| <input type="checkbox"/> Simulation or game | <input type="checkbox"/> _____ | <input type="checkbox"/> Present/publish | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Problem solving | <input type="checkbox"/> _____ | <input type="checkbox"/> Internet browser | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Data analysis | <input type="checkbox"/> _____ | <input type="checkbox"/> Graphics/Web page | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Word processing | <input type="checkbox"/> _____ | <input type="checkbox"/> Other: _____ | |

Student objectives for this time period:

| | |
|--|---|
| <input type="checkbox"/> Learn content-related skills, facts or concepts | <input type="checkbox"/> Develop a project |
| <input type="checkbox"/> Practice or reinforce a skill or concept | <input type="checkbox"/> Learn a research skill |
| <input type="checkbox"/> Communicate with resource person or peer | <input type="checkbox"/> Testing or assessment |
| <input type="checkbox"/> Learn a software or application skill (note): _____ | |
| <input type="checkbox"/> 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 Rubric: For each row, place a mark in the bracket in the box best representing the situation you observe. Columns 4 and 2 are provided as intermediate points for your convenience. 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.

| 5 | 4 | 3 | 2 | 1 | N/A | Notes |
|--|-----|--|-----|---|-----|-------|
| Most students are independently choosing the technologies appropriate to their learning objectives. [] | [] | Some students are independently choosing the technologies appropriate to their learning objectives. [] | [] | Students are using only the technologies prescribed by the teacher for meeting learning objectives. [] | [] | |
| Students are highly involved with their teacher and peers in planning for the use of technology in a unit or lesson. [] | [] | Students have a moderate role with their teacher and/or peers in planning for the use of technology in a unit or lesson. [] | [] | Students await and follow teacher directions for what technology to use. [] | [] | |
| In group activities using technology, a high degree of collaboration is exhibited. [] | [] | In group activities using technology, a moderate degree of collaboration is exhibited. [] | [] | 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. [] | [] | When using technology, some students are not acting in accordance with the district acceptable use policy. [] | [] | 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. [] | [] | Some students exhibit skill in the effective use of available technologies at or above grade and ability levels. [] | [] | Students generally 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 . [] | [] | In using technology, some students are focused on the intended curricular objectives. [] | [] | 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. [] | [] | Some specific technology skills are practiced in the process of achieving core curriculum objectives. [] | [] | 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. [] | [] | Problem solving and higher order thinking is evident in about half the class. [] | [] | Most students exhibit little creativity, only responding to software prompts. [] | [] | |
| Most students are highly engaged in the use of technology. [] | [] | Some students are highly engaged in the use of technology and others are not. [] | [] | Few students are highly engaged in the technology activity. [] | [] | |
| Student use of technology is based on their cognitive abilities and physical needs . [] | [] | Student use of technology is directed at one of the needs areas. [] | [] | Student use of technology is directed at neither area. [] | [] | |
| Most technology uses represent learning activities that could not otherwise be easily done . [] | [] | Some technology uses support learning activities that could not be done without it. [] | [] | Most of the learning activities might be done as well or better without technology. [] | [] | |