Evidence of Effective Teaching Protocol

Technology Integration

Introduction

The *Evidence of Effective Teaching Protocol: Technology Integration* is a research-based framework for promoting district-level and building-level improvements in classroom instruction. It supports the related processes of lesson study, observing classrooms, looking at student work, coaching and mentoring, and data-driven decision making. Its purpose is to help ensure that every student in a school or district has equal access to high quality instruction through technology integration—and therefore has an equal chance to master grade-level expectations.

The instructional quality indicators identified in the *Evidence of Effective Teaching Protocol: Technology Integration* are organized into four main categories:

1. **Facilitate and Inspire Student Learning and Creativity:** Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.
2. **Design and Develop Digital-Age Learning Experiences and Assessments:** Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS•S.
3. **Model Digital-Age Work and Learning:** Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society.
4. **Promote and Model Digital Citizenship and Responsibility:** Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices.

[http://www.iste.org/Content/NavigationMenu/NETS/ForTeachers/2008Standards/NETS_T_Standards_Final.pdf Page 1]

Classroom Observation Protocol

The classroom observation should last approximately 15 minutes. It is not necessary to observe the lesson from the start or to see the end of the lesson. Use your professional judgment to determine when to end the observation. Typically there will be a natural break in the lesson from the time you arrive to 10 to 20 minutes later. Remember that the purpose of the observation is to capture a snapshot of the lesson. The indicators in this observation tool are designed to be observable during any point in the lesson.

While you are observing, be attentive to the instructional activities taking place and the related discourse in the classroom. If it is not whole class instruction, move around the room and observe different groups of students so you can capture a clear snapshot of what is happing during the lesson. Some of the indicators may require evidence of different aspects of the physical classroom environment or student work. Allow yourself to take a few minutes to study the classroom as a physical environment as well as look at posted student work. If necessary you may look over a student's shoulder at their work and ask to see something that they are working on or have completed.

Rating Indicators

We recommend that observers take a three-step approach to rating indicators, as summarized in the chart below:

<table>
<tr><td colspan="4">Do you observe any evidence of the indicator as described?</td></tr>
<tr><td rowspan="4">No</td><td colspan="3">Yes</td></tr>
<tr><td colspan="3">Is there substantial room for improvement?</td></tr>
<tr><td rowspan="3">Yes</td><td colspan="2">No</td></tr>
<tr><td colspan="2">Does the indicator exceed expectations?</td></tr>
<tr><td>No</td><td>Yes</td></tr>
<tr><td>Beginning</td><td>Developing</td><td>Proficient</td><td>Transformative</td></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td></tr>
</table>

First, determine if there is any evidence that the indicator is in place. If not, then assign a rating of "1." This simply means that the indicator was not observed, but it should have been—it is not a value judgment. If the indicator is present at all, ask yourself whether the indicator is fully in place, exactly as described, or if there is substantial room for improvement. If there is substantial room for improvement, assign a rating of "2." If there is evidence that the indicator is fully in place, ask if it exceeds expectations. If it does exceed expectations, assign a rating of "4;" otherwise assign a rating of "3." A rating of "4" should be reserved for exceptional cases.

Note: Some indicators include a rating option of Not Applicable (N/A). It is important to distinguish between a rating of "1" and a rating of "N/A." A score of "1" should be given if the indicator should have been observed, but there was no evidence to support the indicator. A score of "N/A" means that given the context of the lesson it would not be appropriate to observe for the indicator. Indicators that include a N/A option include more specific guidance for when to use "N/A" or "1".

This page intentionally left blank

1 a. Facilitate and Inspire Student Learning and Creativity: Teachers promote, support, and *model creative and innovative thinking and inventiveness.*				
Not Applicable	Beginning	Developing	Proficient	Transformative
N/A	1	2	3	4
The lesson observed *does not* allow for innovation or inventiveness. It may be a skill specific lesson.	The lesson observed *does* allow for innovation or inventiveness, but none was observed. It may be a teacher-centered instructional situation or lecture.	Teacher promotes or supports student expression of creative, innovative thinking in a limited manner. Students may be required to "reproduce" knowledge or complete activities in a specified directed manner. Students are all working on the same product and it is clear that there is only one correct answer or only one way to arrive at that answer.	Teacher promotes or supports student expression of creative, innovative thinking. Students work on different products that they select from a restrained set of options given by the teacher.	Teacher promotes or supports student expression of creative, innovative thinking. Teacher models creative thinking and provides opportunities for students to express their own creativity and innovative thinking. Students work on different products that they select.

Notes

- Creativity*- Develop, implement and communicate new ideas to others effectively.
- Innovation*- Act on creative ideas to make a tangible and useful contribution.

*Defined by P21 (www.p21.org)

1b. Facilitate and Inspire Student Learning and Creativity: Teachers engage students in *exploring real-world issues and solving authentic problems* using digital tools and resources.			
Beginning	Developing	Proficient	Transformative
1	2	3	4
Students may be using digital tools and resources, but they are not working on authentic problems.	Teacher discusses and/or connects learning to real-world issues. However, there is no further exploration or extension of the topic with digital tools or resources.	Some evidence of students solving authentic problems may exist. Using digital tools or resources students present solutions to problems but may not be required to defend them.	Students solve authentic problems using digital tools or resources. Students present solutions to problems and *publically* defend their solutions.

Notes

- "Authentic problems should be intellectually challenging, personally valuable for students and adults in the community, and essential to understanding content area knowledge. While problems must be sufficiently complex and have no obvious answer, students must be capable of obtaining, managing, and evaluating information that will lead to a reasonable conclusion."
- Examples of products created for authentic problems include recipes, stories and fiction that are published for a wider audience, research reports, informational brochures, formal and informal correspondence, book reviews, and so forth. These are distinguished from worksheets, quizzes, tests, and other forms of schoolwork.
- By real audiences, we mean that work products have an intended audience other than just the teacher. At the very least, work products are intended to be posted for other students to see and learn from.

1c. Facilitate and Inspire Student Learning and Creativity: Teachers promote *student reflection using collaborative tools* to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes.			
Beginning	Developing	Proficient	Transformative
1	2	3	4
No student reflection with collaborative tools is observed.	The collaborative tools are used more in a manner for students to post their reflections primarily for teacher use.	Students may post their reflections in a collaborative tool, but not respond to other student reflections.	The collaborative tools are used in a way where students reflect on their own thinking as well as their peers.

1d. Facilitate and Inspire Student Learning and Creativity: Teachers *model collaborative knowledge construction* by engaging in learning with students, colleagues, and others in face-to-face and virtual environments.				
Not Applicable	Beginning	Developing	Proficient	Transformative
N/A	1	2	3	4
Lesson observed *did not* lend itself to collaborative knowledge construction.	Lesson observed *did* lend itself to collaborative knowledge construction, but none was observed.	Teacher provides opportunities for collaborative student knowledge construction in a superficial and structured manner. Interactions may not be truly collaborative (e.g., working in groups, but one or two students are doing all of the work) or lack digital tools or resources.	Teacher provides opportunities for collaborative student knowledge construction. Students collaborate to construct knowledge with each other and utilize digital tools. Student knowledge construction does not extend beyond the walls of the classroom.	Teacher provides opportunities for collaborative student knowledge construction. Students collaborate to construct knowledge with each other and utilize digital tools. Student knowledge construction extends beyond the walls of the classroom.

Notes
Extending beyond the walls of the classroom refers to collaboration with others outside of the classroom. Examples include collaborations between students in a different classroom in the same school, collaboration with industry professionals, collaboration with a teacher from a different country.

2a. Design and Develop Digital-Age Learning Experiences and Assessments: Teachers design or adapt relevant *learning experiences* that incorporate digital tools and resources to promote student learning and creativity.				
Not Applicable	Beginning	Developing	Proficient	Transformative
N/A	1	2	3	4
The learning experience observed *did not* lend itself to the incorporation of digital tools and resources to promote student learning and creativity.	The learning experience observed *did* lend itself to the incorporation of digital tools and resources to promote student learning and creativity, but was not observed.	Digital tools and resources are used as a part of the learning experience. The tools may be used in a manner to automate existing teacher practices, such as using a document camera to project a worksheet, or students using tools for drill and practice. Student learning is promoted but does not build creativity.	Digital tools and resources are used as part of the learning experience to promote student learning and *somewhat* build creativity.	Digital tools and resources are used as a part of the learning experience by the teacher during instruction. The tools are used in a manner that transforms teaching practices. Student learning and creativity are promoted.

Notes

- Technology usage as a part of relevant learning experiences is effective when:
  - It helps the teaching and learning process become more efficient or productive.
  - It helps enrich or extend student learning in a way that would not have been possible without the technology.
  - It helps students produce quality work using professional tools.
  - It increases student motivation to accomplish learning objectives.

2b. Design and Develop Digital-Age Learning Experiences and Assessments: Teachers develop *technology-enriched learning environments.*			
Beginning	Developing	Proficient	Transformative
1	2	3	4
No technology devices in use in the learning environment.	There are three or fewer technology devices available, but only in use by the teacher.	There are three or fewer technology devices available and used by students and the teacher.	There are more than three technology devices available and used by students and the teacher.

Notes

- Examples of technology devices include computers and anything that can be connected to a computer (e.g., cell phone, digital cameras, document camera, mp3 players, PDAs, student responders, interactive whiteboards, peripheral devices, scanners, probes).
- Overhead projectors and traditional calculators should not be counted as technology because they cannot be used in conjunction with a computer.

2c. Design and Develop Digital-Age Learning Experiences and Assessments: Teachers *customize and personalize learning activities* to address students' diverse learning styles, working strategies, and abilities using digital tools and resources.			
Beginning	Developing	Proficient	Transformative
1	2	3	4
Lesson does lend itself to personalization of learning activities, but none was observed.	Student learning activities may be leveled or grouped for teacher ease but are not customized in a manner that addresses the student's learning style, working strategy, and technological ability.	A single digital tool or resource, typically teacher driven, is used to customize and personalize learning activities to address the needs of individual students.	Digital tools and resources are used to customize and personalize learning activities to address the needs of individual students.

Notes

- Examples of digital tools or resources that might be observed to customize and personalize learning include the following: multimedia resources (diverse learning styles), different work products (working strategies), NovaNet (ability).

2d. Design and Develop Digital-Age Learning Experiences and Assessments: Teachers provide students with multiple and varied formative and summative *assessments aligned with content and technology standards and use resulting data to inform learning and teaching.*			
Beginning	Developing	Proficient	Transformative
1	2	3	4
No evidence of assessments to inform learning and teaching.	An assessment (formal or informal checks) is utilized; however, data from assessments *are not* used to inform learning and teaching.	An assessment (formal or informal checks) are utilized; however, data from assessments *are* used to inform learning and teaching.	Two or more assessments (formal or informal checks) are utilized and the resulting data from assessments are used to inform learning and teaching.

Notes

- There might be instances in which you do not see the assessment administered, but it is obvious that the teacher uses assessment data to drive instruction. For example, you might see this in the way that students are grouped.
- Due to the nature of a classroom observation it may not be possible to know the degree to which the assessment is aligned with content and technology standards. For the purposes of this indicator, give the teacher the benefit of the doubt and assume that the assessments are aligned.

3a. Model Digital-Age Work and Learning: Teachers *demonstrate fluency* in technology systems and the transfer of current knowledge to *new technologies and situations*.			
Beginning	Developing	Proficient	Transformative
1	2	3	4
Lesson observed did not include technology.	The teacher has technology in the classroom but the use is ineffective. Technology is used in the same way that an overhead or chalkboard could be used. Teacher uses a computer as a presentation device only during direct instruction of lesson.	The teacher is demonstrating technology fluency during the lesson through effective and appropriate integration of the digital tools or resources.	The teacher demonstrates technology fluency in ways that enrich or transfer learning to new technology situations.

Notes

- Technology usage as a part of relevant learning experiences is effective when:
  - It helps the teaching and learning process become more efficient or productive.
  - It helps enrich or extend student learning in a way that would not have been possible without the technology.
  - It helps students produce quality work using professional tools.
  - It increases student motivation to accomplish learning objectives.

3b. Model Digital-Age Work and Learning: Teachers *collaborate* with students, peers, parents, and community members *using digital tools and resources* to support student success and innovation.				
Not Applicable	Beginning	Developing	Proficient	Transformative
N/A	1	2	3	4
Lesson observed *did not* lend itself to collaboration using digital tools resources or use would have been inappropriate.	Lesson observed *did* lend itself to a collaborative approach or collaboration using digital tools, and resources; however no evidence was observed.	The teacher uses basic digital tools and resources to provide feedback.	The teacher uses basic digital tools and resources for two-way communication that includes a minimal amount of exchanges.	The teacher uses innovative digital tools and resources, such as collaborative technology for ongoing two-way communication that supports student success and innovation.

Notes

- Examples of collaborative technology include online discussion board, blog, and wiki.
- It is not necessary for collaboration to be with all groups (e.g., students, peers, parents, community). Collaboration with one group is sufficient to rate this indicator.

3c. Model Digital-Age Work and Learning: Teachers communicate relevant information and ideas effectively to students, parents, and peers *using a variety of digital-age media and formats.*			
Beginning	Developing	Proficient	Transformative
1	2	3	4
Technology tools and resources are not used for communication.	Basic technology tools (e.g., district Web page, online gradebook, etc.) are available for one-way communication from the teacher either to students, parents, and peers. There is limited use of these tools.	Basic technology tools (e.g., district Web page, online gradebook, etc.) are available for communication from the teacher either to students, parents, and peers. There is evidence of regular use.	There is extensive or innovative use of digital age media and formats to communicate with students, parents, and peers.

Notes

- Technology tools provide an opportunity for two-way communication between students, parents, and teachers.

3d. Model Digital-Age Work and Learning: Teachers *model and facilitate effective use* of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning.				
Not Applicable	Beginning	Developing	Proficient	Transformative
N/A	1	2	3	4
Technology tools and resources *were not* available for use during lesson observed or use would have been inappropriate for lesson content and/or delivery.	Technology tools and resources *were* available and appropriate for use; however use was not observed.	Teacher appears to access online information selectively. Strategies for evaluating the accuracy and authenticity of online information are ineffective or applied inconsistently.	Teacher models effective use of digital tools. There is an established procedure for evaluating and using appropriate resources. This process may not be evident to students or required for students to follow.	Students use an established procedure (modeled and facilitated by teacher) when evaluating online information. They make efficient judgments about the accuracy of online resources and recognize traits that make these sources reliable or unreliable.

Notes

- Evidence may include the following: observation of student decision making; conversations between students and the teacher, students and other students, or between the observer and students; content of student work samples; students identifying reliable patterns of Web site addresses (e.g., .edu, .k12, and .gov); posted evaluation procedures; samples of Web addresses with key components highlighted and detailed; and/or classroom lists of credible Web resources.

4a. Promote and Model Digital Citizenship and Responsibility: Teachers *advocate, model, and teach safe, legal, and ethical use of digital information and technology*, including respect for copyright, intellectual property, and the appropriate documentation of sources.				
Not Applicable	Beginning	Developing	Proficient	Transformative
N/A	1	2	3	4
Lesson observed did not lend itself to acknowledgement of ethical use of digital information and technology during the lesson.	No acknowledgement of ethical use of digital information and technology during the lesson, but there should have been acknowledgement.	Teacher acknowledges copyright and ethical issues related to digital information and technology but does not regularly or actively practice behaviors when using content from other sources.	Teacher models ethical use of digital information and technology. There is an established procedure for respecting intellectual property; however, the procedure is not clearly communicated to students or required for students to follow.	Teacher models ethical use of digital information and technology. There is an established procedure for respecting intellectual property that the students follow.

4b. Promote and Model Digital Citizenship and Responsibility: Teachers address the diverse needs of all learners by using *learner-centered strategies and providing equitable access* to appropriate digital tools and resources.			
Beginning	Developing	Proficient	Transformative
1	2	3	4
Students are passive learners receiving knowledge transmitted by the teacher. Teacher holds all of the control of learning in the classroom. Students do not have equitable access to digital tools.	Students are passive learners receiving knowledge transmitted by the teacher or other means. Teacher holds all of the control of learning in the classroom. Students have equitable access to digital tools.	Students are active learners, but the lesson is teacher directed and students are responsible for learning the content deemed important by the teacher. The teacher has slightly more control of the learning than the students.	Students are active learners responsible for their own learning. Teacher and students have equal control of learning.

4c. Promote and Model Digital Citizenship and Responsibility: Teachers *promote and model digital etiquette and responsible social interactions* related to the use of technology and information.				
Not Applicable	Beginning	Developing	Proficient	Transformative
N/A	1	2	3	4
The lesson does not lend itself to social interactions online.	No acknowledgement of digital etiquette during the lesson, but there should have been acknowledgement because students interacted with others online.	Teacher acknowledges digital ettiquete but does not regularly or actively practice behaviors.	Teacher models appropriate digital etiquette. There are established norms for digital etiquette; however, the norms are not clearly communicated to students or required for students to follow.	Teacher models appropriate digital etiquette. There are established norms for digital etiquette and the norms are clearly communicated to students and required for students to follow.

Notes

- Examples of digital etiquette, or appropriate interaction online, include the following: using appropriate language, protecting your identity when online, ensuring that you are culturally sensitive, and treating others with respect online.

4d. Promote and Model Digital Citizenship and Responsibility: Teachers develop and model cultural understanding and global awareness by *engaging with colleagues and students of other cultures* using digital-age communication and collaboration tools.			
Beginning	Developing	Proficient	Transformative
1	2	3	4
Students do not use digital tools to engage with colleagues and students of other cultures.	There are some attempts to use digital-age communications to make connections beyond the classroom, but the attempts are passive or designed to share or collect information but not to collaborate actively or pursue a two-way relationship with others in the community.	Technology is used to establish a connection or a single collaboration with others in the global community.	Effective models, evidence of regular activities, and ongoing collaboration with students of other cultures are evident and a natural part of the learning environment.

Notes

- The key idea is learning takes place in the context of tasks, problems, or projects that are inherently purposeful and meaningful to students (and tied to essential curriculum). In other words, look for activities that are not just "hands-on" activities; they are also "minds-on" activities that provide opportunities for students to develop and practice critical skills and important content understanding.
- Examples of "passive" attempts at connections include the creation of classroom Web sites or blogs that share happenings, discoveries, or opinions without eliciting or encouraging feedback.