



Looking for Technology Integration (LoFTI)

Purpose: LoFTI is a tool to aid in the observation of technology integration into teaching and learning. The data gathered through the use of this instrument should be helpful in building-level staff members as they plan and/or provide professional development in instructional technology.

**Please use the corresponding checklist before implementing this LoFTI tool:

https://www.fi.ncsu.edu/assets/Checklist_LoFTI_Instructions.pdf

1. Please enter the date and time:

Date (mm/dd/yyyy): _____

Time (hh:mm): _____

2. Observer Name: _____

3. Which school is being observed? _____

4. Teacher Name: _____

For all items, check any and all which apply to the activities being observed.

5. Grade level:

- | | | | |
|---------------------------------------|----------------------------|-----------------------------|-----------------------------|
| <input type="checkbox"/> Pre-K | <input type="checkbox"/> 3 | <input type="checkbox"/> 7 | <input type="checkbox"/> 11 |
| <input type="checkbox"/> Kindergarten | <input type="checkbox"/> 4 | <input type="checkbox"/> 8 | <input type="checkbox"/> 12 |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 5 | <input type="checkbox"/> 9 | <input type="checkbox"/> 13 |
| <input type="checkbox"/> 2 | <input type="checkbox"/> 6 | <input type="checkbox"/> 10 | |

6. What track is this class?

- | | |
|--|--|
| <input type="checkbox"/> Special Education | <input type="checkbox"/> Honors |
| <input type="checkbox"/> Remedial | <input type="checkbox"/> Advanced Placement |
| <input type="checkbox"/> General Education | <input type="checkbox"/> Other (please specify): _____ |



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7. Is technology in use?

- Yes
- No

8. How many students are...

In class? _____

Using technology? _____

Comments:

9. Student Arrangement:

- Tables, Centers, Pods
- Circle or U
- Cubicles
- Rows
- Other (please specify): _____

10. Learning Environment:

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> Auditorium | <input type="checkbox"/> Media center |
| <input type="checkbox"/> Cafeteria | <input type="checkbox"/> Multi-purpose room |
| <input type="checkbox"/> Classroom | <input type="checkbox"/> Outside |
| <input type="checkbox"/> Gymnasium | <input type="checkbox"/> Virtual environment |
| <input type="checkbox"/> Lab | <input type="checkbox"/> Other (please specify): _____ |

11. Student Grouping:

- | | |
|---|--|
| <input type="checkbox"/> Independent work | <input type="checkbox"/> Whole groups |
| <input type="checkbox"/> Learning centers | <input type="checkbox"/> Workshops |
| <input type="checkbox"/> Pairs | <input type="checkbox"/> Other (please specify): _____ |
| <input type="checkbox"/> Small groups | |

12. Instructional Collaborators:

- | | |
|--|--|
| <input type="checkbox"/> Administrator | <input type="checkbox"/> Special Education teacher |
| <input type="checkbox"/> Assistant | <input type="checkbox"/> Student |
| <input type="checkbox"/> Curriculum specialist | <input type="checkbox"/> Technology facilitator |
| <input type="checkbox"/> Media coordinator | <input type="checkbox"/> Volunteer |
| <input type="checkbox"/> Other teacher | <input type="checkbox"/> None |
| <input type="checkbox"/> Outside consultant | <input type="checkbox"/> Other (please specify): _____ |

13. Core Subject:

- | | |
|---|--|
| <input type="checkbox"/> Arts | <input type="checkbox"/> Physical education |
| <input type="checkbox"/> Career technical | <input type="checkbox"/> Library/media skills |
| <input type="checkbox"/> Computer/technology skills | <input type="checkbox"/> Mathematics |
| <input type="checkbox"/> English/Language arts | <input type="checkbox"/> Foreign languages |
| <input type="checkbox"/> English as a second language | <input type="checkbox"/> Science |
| <input type="checkbox"/> Guidance | <input type="checkbox"/> Social studies |
| <input type="checkbox"/> Health | <input type="checkbox"/> Other (please specify): _____ |

Technology includes such things as computers, laptops, software, iPods, iPads, interactive whiteboards, digital cameras, document cameras, video cameras, the Internet, clickers, 3D virtual space, etc.

14. Teacher Activities:

(Check only if technology is being used for...)

- | | |
|--|--|
| <input type="checkbox"/> Activating prior knowledge | <input type="checkbox"/> Providing feedback |
| <input type="checkbox"/> Assessment | <input type="checkbox"/> Questioning |
| <input type="checkbox"/> Cues, questions, and advance organizers | <input type="checkbox"/> Reinforcing/recognition |
| <input type="checkbox"/> Demonstration | <input type="checkbox"/> Scaffolding |
| <input type="checkbox"/> Differentiated instruction | <input type="checkbox"/> Setting objectives |
| <input type="checkbox"/> Facilitation (guiding) | <input type="checkbox"/> Summarizing |
| <input type="checkbox"/> Lecture | <input type="checkbox"/> Other (please specify): _____ |

15. Assessment Methods:

(Check only if technology is being used)

- | | |
|--|--|
| <input type="checkbox"/> Oral response | <input type="checkbox"/> Selected response |
| <input type="checkbox"/> Product (e.g., project with rubric) | <input type="checkbox"/> Written response |
| <input type="checkbox"/> Performance (e.g., presentation, demonstration) | <input type="checkbox"/> Other (please specify): _____ |

16. Technology is being used as a tool for...*(Check either Teacher or Student, or both)*

	Teacher	Students
Problem-Solving (e.g., graphing, decision support, design)	<input type="checkbox"/>	<input type="checkbox"/>
Communication (e.g., document preparation, email, presentation, web development)	<input type="checkbox"/>	<input type="checkbox"/>
Information Processing (e.g., data manipulation, writing, data tables)	<input type="checkbox"/>	<input type="checkbox"/>
Research (e.g., collecting information or data)	<input type="checkbox"/>	<input type="checkbox"/>
Personal Development (e.g., e-learning, time management, calendar)	<input type="checkbox"/>	<input type="checkbox"/>
Group Productivity/Cooperative Learning (e.g., collaboration, planning, document sharing)	<input type="checkbox"/>	<input type="checkbox"/>
Formative Assessment	<input type="checkbox"/>	<input type="checkbox"/>
Summative Assessment	<input type="checkbox"/>	<input type="checkbox"/>
Brainstorming	<input type="checkbox"/>	<input type="checkbox"/>
Computer-assisted instruction	<input type="checkbox"/>	<input type="checkbox"/>
Face to face classroom discussion	<input type="checkbox"/>	<input type="checkbox"/>
Face to face group discussion	<input type="checkbox"/>	<input type="checkbox"/>
Asynchronous discussion	<input type="checkbox"/>	<input type="checkbox"/>
Drill and practice	<input type="checkbox"/>	<input type="checkbox"/>
Generating and testing hypotheses	<input type="checkbox"/>	<input type="checkbox"/>
Identifying similarities and differences	<input type="checkbox"/>	<input type="checkbox"/>
Project-based activities	<input type="checkbox"/>	<input type="checkbox"/>
Recitation	<input type="checkbox"/>	<input type="checkbox"/>
Summarizing and note-taking	<input type="checkbox"/>	<input type="checkbox"/>

17. Technology hardware is in use by...

(Check either Teacher or Student, or both)

	Teacher	Students
Assistive Technology	<input type="checkbox"/>	<input type="checkbox"/>
Audio (e.g., speakers, microphone)	<input type="checkbox"/>	<input type="checkbox"/>
Art/Music (e.g., drawing tablet, musical keyboard)	<input type="checkbox"/>	<input type="checkbox"/>
Imaging (e.g., camcorder, film or digital camera, document camera, scanner)	<input type="checkbox"/>	<input type="checkbox"/>
Display (e.g., digital projector, digital white board, television, TV-link, printer)	<input type="checkbox"/>	<input type="checkbox"/>
Media Storage / Retrieval (e.g., print material, DVD, VCR, external storage devices)	<input type="checkbox"/>	<input type="checkbox"/>
Math / Science / Technical (e.g., GPS, probeware, calculator, video microscope)	<input type="checkbox"/>	<input type="checkbox"/>
Desktop computer	<input type="checkbox"/>	<input type="checkbox"/>
Laptop computer (including tablets)	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>

18. Technology software is in use by...
(Check either Teacher or Student, or both)

	Teacher	Students
Administrative (e.g., grading, record-keeping)	<input type="checkbox"/>	<input type="checkbox"/>
Assessment / Testing	<input type="checkbox"/>	<input type="checkbox"/>
Assistive (e.g., screen reader)	<input type="checkbox"/>	<input type="checkbox"/>
Computer-Assisted Instruction / Integrated Learning System	<input type="checkbox"/>	<input type="checkbox"/>
Thinking tools (e.g. visual organizer, simulation, modeling, problem-solving)	<input type="checkbox"/>	<input type="checkbox"/>
Hardware-Embedded (e.g. digital white board, GPS/GIS, digital interactive response system)	<input type="checkbox"/>	<input type="checkbox"/>
Multimedia (e.g., digital video editing)	<input type="checkbox"/>	<input type="checkbox"/>
Productivity Software (e.g., database, presentation, spreadsheet, word processing)	<input type="checkbox"/>	<input type="checkbox"/>
Programming or web scripting (e.g., Javascript, PHP, Visual Basic)	<input type="checkbox"/>	<input type="checkbox"/>
Graphics / Publishing (e.g., page layout, drawing/painting, CAD, photo editing, web publishing)	<input type="checkbox"/>	<input type="checkbox"/>
Subject-specific software	<input type="checkbox"/>	<input type="checkbox"/>
Web Browser (e.g., MS Internet Explorer, Netscape, Firefox)	<input type="checkbox"/>	<input type="checkbox"/>
<i>Web Applications</i>		
Course management software (DyKnow, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Database systems	<input type="checkbox"/>	<input type="checkbox"/>
Discussion boards	<input type="checkbox"/>	<input type="checkbox"/>
Libraries, E-publications	<input type="checkbox"/>	<input type="checkbox"/>
Search engine	<input type="checkbox"/>	<input type="checkbox"/>
Video, voice, or real-time text conference	<input type="checkbox"/>	<input type="checkbox"/>
Web logs, blogs	<input type="checkbox"/>	<input type="checkbox"/>
Web mail	<input type="checkbox"/>	<input type="checkbox"/>
Wiki	<input type="checkbox"/>	<input type="checkbox"/>
<i>NC-Specific Web Resources</i>		
Learn NC	<input type="checkbox"/>	<input type="checkbox"/>
NC Wise Owl	<input type="checkbox"/>	<input type="checkbox"/>
SAS in School	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>

For the following item, please indicate the percentage of students in the classroom showing positive student engagement.

19. Student engagement is shown by...

<i>Positive indicator of Engagement</i>	<i>Circle your best estimate of the percentage of students showing each positive indicator of engagement</i>						<i>The opposite is Disaffection</i>
Sustained behavioral involvement	100%	80%	60%	40%	20%	0%	Tendency to give up easily in the face of challenges
Positive emotional tone—cheerful, calm, communicative	100%	80%	60%	40%	20%	0%	Negative emotional tone—boredom, depression, anxiety, anger, withdrawal, or rebellion
Selection of tasks at the border of their competencies	100%	80%	60%	40%	20%	0%	Selection of tasks well within their comfort zone
Initiation of action when given the opportunity	100%	80%	60%	40%	20%	0%	Passivity, lack of initiative
Exertion of effort and concentration	100%	80%	60%	40%	20%	0%	Laziness, distraction

****OPTIONAL ADDITIONAL ITEMS****

20. How was technology used in this classroom? (RAT framework; Hughes, et al., 2006; Adapted from Wilder Research's Technology Integration Observation Protocol, Maxfield, Huynh, & Mueller, 2011)

(CHECK ALL THAT APPLY and type a brief description in the corresponding text box)

Replacement. “Technology used to replace and in no way change established instructional practices, student learning processes, or content goals. The technology serves merely as a different means to the same instructional end. Most of the learning activities might be done as well or better without technology.” *(Example: Using an interactive whiteboard for the same purposes as a chalkboard)*

Amplification. “Technology used to amplify current instructional practices, student learning, or content goals, oftentimes resulting in increased efficiency and productivity. The focus is effectiveness or streamlining, not fundamental change.” *(Example: Using a word processor rather than written materials for instructional preparation)*

Transformation. “Technology used to transform the instructional method, the students’ learning processes, and/or the actual subject matter. Technology is not merely a tool, but rather an instrument of mentality. The focus is fundamental change, redefining the possibilities of education. Most technology uses represent learning activities that could not otherwise be easily done.” *(Example: Using StorySpace software to write hypertext narratives)*

21. Classroom Agenda:

22. Other comments regarding teacher (e.g. demeanor, comfort with technology, interactions with students):

23. Other comments regarding students (e.g. comfort with technology, peer interactions):

24. Other comments regarding learning environment:

25. Please enter the time:

Time (hh:mm): _____

Definition of terms for Teacher Activities

1. **Activating Prior Knowledge:**

- Reminds the learner what they already know
- Prior knowledge provides a framework or scheme through which new information is actively assimilated.

2. **Assessment:**

- Observed demonstration of knowledge
- Involves some formal assessment scale: rubric, grading scale
- Examples: portfolios, exams (test or quizzes), reflections

3. **Cues, Questions, Advanced Organizers:**

- Used to help assist students to transfer or apply what they know to what they are learning
- Provide concepts and principles to the students directly – help the learner to integrate new materials with what they already know; they "prepare" the learner for new information.

4. **Demonstration:**

- Method of teaching by example rather than simple explanation

5. **Differentiated Instruction**

- Involves teachers using a variety of instructional strategies that address diverse student learning needs
- In differentiated instruction students are placed at the center of teaching and learning and student needs drive instructional planning.

6. **Facilitating (Guiding):**

- Providing support and direction for students

7. **Lecture:**

- Oral presentations intended to present information or teach students about a particular subject or topic.

8. **Providing Feedback**

- Telling students how they did in relation to specific levels of knowledge
- Taking time to write comments, point out omissions, and explain thinking when reviewing student work.

9. **Questioning**

- Finding out what students already know (or do not know) and then connecting to students' existing knowledge base.

10. **Reinforcing Effort and Providing Recognition**

- Having students keep a log of their weekly efforts and achievements, reflect on it periodically, and even mathematically analyze the data;
- Finding ways to personalize recognition; giving awards for individual accomplishments.

11. **Scaffolding**

- Supports provided to facilitate the learner's development.
- The scaffolds facilitate a student's ability to build on prior knowledge and internalize new information. Scaffolding may include assistance with planning, organizing, doing and/or reflecting on the specific task. Such assistance is best.

12. **Setting Objectives**

- Setting a core goal for a unit and desired outcomes for learning.

13. **Summarizing**

- Asking students to analyze a subject to expose what's essential and then put it in their own words

Definition of terms for Student Activities

1. **Problem-solving** – analyze, coming up with a solution
2. **Presentation** - a performance, exhibition, or demonstration put on before an audience
3. **Project-based activities**
 - Results in a product or performance
 - Based on essential question
 - Multidisciplinary – like the “real world”
 - Student-directed – students “own” their work
 - Students collaborate
 - Authentic Technology use (authentic uses (e.g., collecting, processing, presenting information)
 - Long Term
4. **Recitation**
 - The public reading aloud of something or reciting of something from memory, especially poetry
 - Oral response by a student to questions on previously taught material
5. **Summarizing and note-taking** - to give a shortened version of something that has been said or written, stating its main points
6. **Assessment**
7. **Brainstorming:**
 - Group creativity designed to generate a large number of ideas for the solution to a problem.
8. **Computer-assisted instruction:**
 - Most often refers to drill-and-practice, tutorial, or simulation activities offered either by themselves or as supplements to traditional, teacher directed instruction
9. **Cooperative learning:**
 - Students interact in purposely structured heterogeneous group to support the learning of oneself and others in the same group.
10. **Classroom discussion**
 - Whole class discussion of a topic
11. **Drill and practice:**
 - Promotes the acquisition of knowledge or skill through repetitive practice
12. **Generating and testing hypotheses:**
 - Asking students to predict what will happen and then conducting a test/experiment
13. **Identifying similarities and differences** – comparisons, contrasts