Framework Resource

Level of Teaching Innovation Framework LoTi

Level of Teaching Innovation (LoTi) Framework

LoTi 0: Non-use
At a Level 0 (Non-Use), the instructional setting—including the use of digital and/or environmental resources—does not support or promote purposeful learning aligned to academic standards/expectations.

LoTi 1: Awareness
At a Level 1 (Awareness), the instructional focus is exclusively direct instruction. Student learning focuses on lower levels of cognitive processing (e.g., Bloom Levels - remembering, understanding, applying; Webb's Levels – recall & reproduction, working with skills & concepts). Digital and/or environmental resources are either (1) non-existent or (2) used by the classroom teacher to enhance teacher presentations.

LoTi 2: Exploration
At a Level 2 (Exploration) the instructional focus emphasizes content understanding and supports mastery learning and direct instruction. Student learning focuses on lower levels of cognitive processing (e.g., Bloom Levels - remembering, understanding, applying; Webb's Levels – recall & reproduction, working with skills & concepts). Digital and/or environmental resources are used by students for extension activities, enrichment exercises, information gathering assignments, or presentations that reinforce lower cognitive skill development relating to the content under investigation.

LoTi 3: Infusion
At a Level 3 (Infusion), the instructional focus emphasizes student higher order thinking (e.g., Bloom Levels – analyzing, evaluating, creating; Webb's Levels – short-term strategic thinking) and teacher-directed problems. Though specific learning activities may lack authenticity, the instructional emphasis is, nonetheless, placed on higher levels of cognitive processing and in-depth treatment of the content using a variety of thinking skill strategies (e.g., problem-solving, decision-making). The concept attainment, inductive thinking, and scientific inquiry models of teaching are the norm and guide the types of products generated by students.

Digital and/or environmental resources are used by students and/or the teacher to execute teacher-directed tasks that emphasize higher levels of student cognitive processing relating to the content standards.

LoTi 4a: Integration (Mechanical)
At a Level 4a (Integration: Mechanical) students are engaged in exploring real-world issues and solving authentic problems using the available digital and/or environmental resources; however, the teacher may experience classroom management (e.g., disciplinary problems) or school climate issues (lack of support from colleagues) that restrict full-scale integration. Heavy reliance is placed on prepackaged materials and/or outside resources (e.g., assistance from a peer coach) that aid the teacher in sustaining student-directed learning. Emphasis is placed on the constructivist, problem-based models of teaching that require higher levels of student cognitive processing (e.g., Bloom Levels – analyzing, evaluating, creating; Webb's Levels – short-term strategic thinking, extended strategic thinking) and in-depth examination of the content standards.

Student use of digital and/or environmental resources is inherent and motivated by the drive to answer student-generated questions that dictate the content, process, and/or products embedded in the learning experience.

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LoTi 4b: Integration (Routine)

At a Level 4b (Integration: Routine) students are fully engaged in exploring real-world issues and solving authentic problems using the available digital and/or environmental resources. The teacher is within his/her comfort level with promoting an inquiry-based model of teaching that involves students applying their learning to the real world (e.g., Webb's Levels – extended strategic thinking). Emphasis is placed on learner-centered strategies and the constructivist, problem-based models of teaching that promote personal goal setting and self-monitoring, student action, and issues resolution.

Students use of digital and/or environmental resources is inherent and motivated by the drive to answer student- generated questions that dictate the content, process, and products embedded in the learning experience.

LoTi 5: Expansion

At a Level 5 (Expansion), student collaborations extending beyond the classroom are employed for authentic problem-solving and issues resolution. Emphasis is placed on learner-centered strategies that promote personal goal setting and self-monitoring, student action, and collaborations with other groups (e.g., another school, different cultures, business establishments, governmental agencies).

Student use of digital and/or environmental resources is inherent and motivated by the drive to answer student- generated questions that dictate the content, process, and products embedded in the learning experience.

The complexity and sophistication of the digital and environmental resources and collaboration tools used are commensurate with (1) the inventiveness and spontaneity of the teacher's experiential-based approach to teaching and learning and (2) the students' level of complex thinking (e.g., problem-solving, decision-making, experimental inquiry) and in-depth understanding of the content standards.

LoTi 6: Refinement

At a Level 6 (Refinement), student collaborations extending beyond the classroom that promote authentic student problem-solving and issues resolution are the norm. The instructional curriculum is entirely learner- based involving the content, process, and product of instruction. The content emerges based on the needs of the learner according to his/her interests and/or aspirations and is supported by ubiquitous access to the most current digital tools and resources.

The pervasive use of and access to advanced digital tools and resources provides a seamless medium for information queries, creative problem-solving, student reflection, and/or product development. Students have ready access to and a complete understanding of a vast array of online collaboration tools and related digital resources to accomplish learning outcomes beyond conventional strategies.

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LoTi "Sniff" Test

Start Here

Does classroom instruction support or promote purposeful learning aligned to the content standards?

No → Learning experience is not standards-based

LoTi 0: Non-use

Yes ↓

Is there evidence of content-related higher order thinking by students?

No → Resources are not used or used by teacher to enhance lectures

LoTi 1: Awareness

Yes → Resources are used by students for information gathering or extension activities

LoTi 2: Exploration

How are digital and/or environmental resources being used?

To be "student-centered", student-generated questions must dictate part of the content, process, and/or product of the learning experience.

Is the learning experience student-centered? Real-world applied learning?

No → Products emphasize complex thinking skill strategies (e.g, problem solving, decision making)

LoTi 3: Infusion

Yes ↓

Is there two-way collaboration with experts outside the classroom?

No → Unresolved classroom management or school climate issues restrict full integration

LoTi 4a: Mechanical Integration

No → Students are fully engaged in self-directed, problem-based learning

LoTi 4b: Routine Integration

Yes ↓

Do students use digital resources exclusively to accomplish learning outcomes beyond conventional strategies?

No → Products are authentic and solve student-centered problems using all available resources

LoTi 5: Expansion

Yes → Products are innovative, authentic, and extend beyond conventional strategies

LoTi 6: Refinement