

Curriculum Leadership Institute E-Hint

The Curricular Architecture that Embodies Both 21st Century Skills and Technology Literacy

The Curriculum Leadership Institute is different from most other organizations that support school improvement in that it does more than simply provide districts with the tools and strategies necessary to meet new and emerging initiatives. The CLI digs into the meaning behind currently popular projects because our goal is to help districts do more than just set up local programs to meet external expectations. An important part of our mission is to study and thoroughly analyze trends and shape them to align with historically proven constants.

Two of the more popular projects today are the Partnership for 21st Century Learning Skills (discussed in an earlier E-hint) and "technology literacy." Those terms are referred to so much that it's possible to think they are fully understood and easy to implement in grades K-12 curricula. However, creating a curricular architecture that incorporates both in some mutually supportive fashion is more challenging than it looks.

It might be instructive to examine and compare the primary tenets of these two approaches to school improvement. In the table below are the major considerations found in the "21st Century Skills" domain, shown alongside those issued by the International Society for Technology in Education (ISTE). Without using the lengthy interpretive guides from each organization it is difficult to quickly see the similarities and differences, but clearly the ISTE indicators are a little more specific and applicable. Also, in the 21st Century Skills conceptual framework there is a scaling-down in which the three big goals are on top, with the core school subjects that support them underneath, and the procedural elements found in each subject below those. In this table there is an attempt to align the four most critical 21st Century Skills with the ISTE Standards.

21 st Century Skills		ISTE Standards
Life and Career Skills		Communication and Collaboration
		Digital Citizenship
Learning and Innovation Skills		Creativity and Innovation
Information, Media and Technology Skills		Research and Information Fluency
		Technology Operations and Concepts
	Core Subjects and 21 st Century Themes	Critical Thinking, Problem Solving, Decision-Making
	Standards and Assessments	
	Curriculum and Instruction	
	Professional Development	
	Learning Environments	

An argument can be made that: (1) new life and career skills specific to 21st Century survival will have much to do with ISTE's communication, collaboration and digital citizenship; (2) new learning skills will be strongly related to creativity and innovation; (3) information, media and technology skills will have direct ties to research, interactive fluency, and operations and concepts; and (4) core subjects must have clear themes in which students are asked to think critically, solve real problems and make logical decisions. From the standpoint of curricular architecture the organization of four combinations should be pretty straightforward, as suggested in the following table:

	21st Century Skills (general)	ISTE Standards (specific skills)	Primary Delivery
1	information, media and technology skills	research, interactive fluency, and operations and concepts	collaboration among specialized tech lit teachers and teachers of all other courses and grade levels
2	new life and career skills	communication, collaboration and digital citizenship	teachers of all courses and grade levels
3	new learning skills	creativity and innovation	teachers of all courses and grade levels
4	core subjects have clear themes	thinking critically, solving real problems and making logical decisions.	teachers of core subject areas

As straightforward as the presentation of the four combinations might be on paper, putting them into a district's K-12 curriculum is another matter entirely. Consider where many districts function now with regard to curricular organization: (1) A few partially apply 21st Century Skills and ISTE Standards in the ROW 1 category through use of some kind of technology literacy curriculum, one that typically operates in grades kindergarten through eight via specialized programs and limited collaboration with the regular classroom teachers. (2) Other districts may be attempting to incorporate ROWS 2, 3 and 4 through limited curriculum work and probably much more faculty development activities, especially at the middle and secondary levels.

While those approaches may work up to a point, they are anything but systemic in tying the curricular architecture to instructional processes. In fact, it's possible for districts to almost completely ignore the points made in ROWS 2, 3 and 4 with regard to topics or intended student outcomes in their curricula for the various subject areas. Frequently the situation we encounter in the field is the existence of a district technology committee that is expected to cover all of the areas, but in fact is focused on hardware, software, and connectivity needs associated with the work of subject area committees, buildings and individual classrooms. Even districts that split the responsibilities between a technology "integration" committee and a technology "literacy" committee are not ensuring that the points made in ROWS 2, 3 and 4 are systematically included in all core and enrichment courses. As shown below, the so-called MISSING ELEMENT is often given as a responsibility to each subject area committee, which may or may not have the background or the insight to move their original understanding of subjects they teach toward the goals of either the 21st Century Skills Project or the International Society for Technology in Education.

TODAY'S TYPICAL TECHNOLOGY COMMITTEE AGENDA	THE MISSING ELEMENT	TODAY'S TYPICAL TECHNOLOGY LITERACY COMMITTEE AGENDA
Helps each core subject area committee "integrate" their curricula with hardware, software and connectivity appropriate to the needs of the discipline.	Assistance is given to both the core subject area committees AND the technology literacy SACs in ensuring that all ISTE standards are included in the curriculum, and that 21 st Century Skills are adequately addressed.	Serves as a subject area committee for the purpose of developing and implementing a grades K-12 curriculum in the general ("how to") use of digital electronic hardware, software and connectivity processes.

A future E-hint will expand on the points made in this one, and will give clear examples as to how districts can incorporate what is now missing into their academic programs.