

# LEARNING SPECIAL REPORT GOING DIGITAL



#### In this Issue

**Evaluating Digital Curriculum as We Speed Beyond Strategy and Into Tactics Beyond the Buzzwords** How to Make "Life-Ready" Graduates On the Road: Fall Tactics Events

# Speeding Without Accidents

Barbara Yamrick, Board of Education Director, Aurora Public Schools



Barbara intently focused at the recent Denver Digital Curriculum Tactics Discussion



It's one thing to speed fast into digital transition, it's another thing to not splatter accidentally all over the place, metaphorically, confusing your whole institution and potentially actual learning. What you choose for digital objects is one way to mess things up, overwork yourselves, and have once-happy teachers "crying in the Principals office" over digital debacles and hardships as I have heard from more than one school. This is why we get on the road with our Digital Curriculum Discussion events.

"You need to create a book and college course on this, I'm *serious*," Barbara Yamrick, the diminutive but fierce Board of Education Director from Aurora Public Schools said to me about our leadership exercise in Denver on September 15, 2016. I liked her enormously, instantly. I was being put in my place by the very professorial-seeming Barbara after she had so graciously sat in on the event that day. She admonished me with no small amount of sternness to *do my duty*.

I decided then and there that, by gosh, *I am* not going to let Barbara down. It also appeared everyone in Denver loves this woman, so I probably wouldn't be allowed back there if I did let her down.

What follows in this extra-Special Report is one piece of my promise, our Digital Curriculum Evaluation Matrix (a first of its kind) and further editorializing on what is working for real tactics, and real selections, out in schools in America. What you choose for learning objects or products is a Tactic, something that helps you meet an overall Strategy.

Join our online committees inside Knowstory. com anytime for more discussion about this with the folks at the Learning Counsel and leaders from across the nation.

#### **LeiLani Cauthen** CEO & Publisher

Well versed in digital content and curriculum change, the adoption process, successful strategies, and helping schools understand what's available and what will work, LeiLani often writes on the changes and future of the education space. She is a media, research, marketing and sales professional with 26 years of experience in the high tech, government and education sectors.





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#### **Editorial Contributors**

Publisher LeiLani Cauthen Editor-in-Chief Cebron Walker Editor Dr. David Kafitz Contributor Chris Kight

#### Production

Art & Design Dolly Johnson Sales Operations Manager Kristina Hall Advertising Sales Manager Chris Sprague sprague@learningcounsel.com 888.611.7709 Ext 27

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The Learning Counsel helps our subscribing 170,000+ education professionals in the K12 and Higher Ed sector gain context on the shift to digital curriculum. Our mission is to help districts and schools reach real transformation through strategies for digital content & curriculum. Through consulting services and

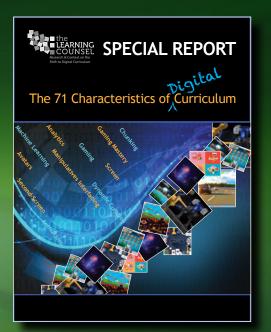
research, to events, custom publishing and online editorial, the Learning Counsel provides dynamic and diverse opportunities for private and public sector leaders to collaborate for positive change

# Evaluating Digital Curriculum as We Speed Beyond Strategy and Into Tactics

by LeiLani Cauthen

Discernment between curriculum materials has always been the job of educators. Today it is important to discern whether digital learning objects are granular or systematized. Where are they on a scale of curated free document-type lesson plans and home-built learning objects via build-curriculum-yourself customization software (authorware) versus professionally coded courseware? Does either one have all the elements of rigor? Here we will delve deeper into how to think about digital resources and how leaders and teachers alike can create a method to evaluate all their options.

See earlier Special Report at learningcounsel.com for a complete review of digital curriculum characteristics and definitions of terms.



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Digital learning objects are simply off-the-charts in numbers. The hunting around, and then inspection process, is a nationwide undertaking being played out in every school and by every teacher across the land.

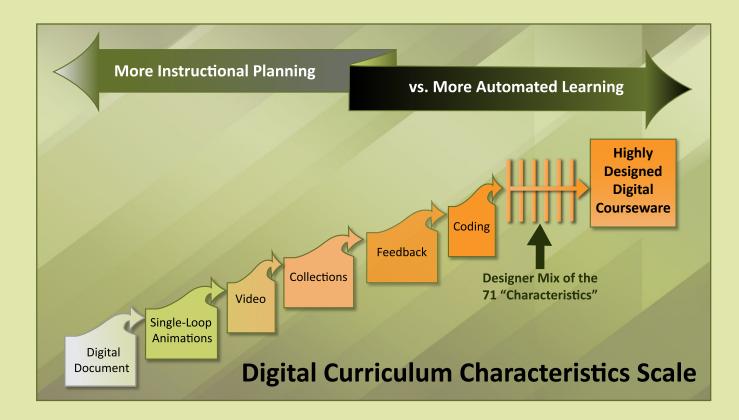
#### The Digital Scene

The power and depth of digital curriculum and its ability to reach and engage students continues to evolve. There are tens of millions of digital learning objects including massive numbers of items that are in the free and open education resources sites. There have always been seemingly tens of thousands of books and options, but now in the digital arena, the number of *companies* seems to have massively expanded. Now the trend is to build in virtual reality languages.

The hunting around for digital learning objects, and the inspection process, is a nationwide undertaking being played out in every school and by every teacher across the land. There is hope in the construction of Knowstory.com to solve many of these current issues. It will provide

a place to create a personal inventory against requirements, standards, lesson-time-used, and more. It will also make it possible to share these inventories with others who might want to copy parts of it to use in their own teaching or learning. All this will help bring order to the great sifting and refining of all these digital things.

Educational leaders want to differentiate various digital learning objects. They also want to have some stability and workability in their digital resources. A new problem of *digital* continuity of operation is at hand since files and lesson plan storage are not the same as handing a substitute or new teacher a textbook that has already been in use. The complexity of operation for digital stewardship is an important new consideration of leaders.



This scale shows a progression of low-value technical objects up to the more sophisticated objects in terms of the complexity of their programming. At the height of the scale is software that is known as "courseware" and requires very little in the way of instructional planning, because it is the plan all-inclusive within a gaming type environment of scope and sequenced learning. A "single-loop animation" is a function like those in PowerPoint or Prezi where any user can do a single-loop action layered on any object to allow it to "swoop in" or "appear" in a timed interval after the slide is already up. A "collection" is often multiple eBooks or videos or objects with a website or App that serves them all to learners by assignment or by user choice. Feedback is something software does to give users the ability to input answers or receive answers on text, pictures, or video, which is a usual function inside learning management systems. Coding is something done to use a multiplicity of computer code mechanisms to craft a whole learning environment or a simple app to do a function – but by a coder. The range of characteristics in between this and the highest-level of digital object, designed digital courseware, is a wide arena of coding characteristics defined in our "71 Characteristics" Special Report.

#### **Digital Object Sophistication**

What is essential for educators to think with is the degree to which an object is digitally fashioned. How digitally sophisticated is it? As content started to go digital, the initial learning objects were static bits of knowledge. Examples of such content include links to sites and excerpts from books, loose videos out on Youtube, and unsophisticated databases of text-based information. As network speed and capacity improved, these objects evolved to be more sophisticated, such as full courseware with embedded video and virtual reality.

Many of the free Open Educational Resources (OER) came out of greater academic works that were "atomized" into little bits that could be mixed

and matched up with lessons as needed. Think about ripping up a whole textbook into chapters and the chapters into the individual concepts inside each one and you get a picture of how many objects live now on the open Internet. Initially, a lot of the work of curating these "chunks" of knowledge into a meaningful scope and sequence for learning occurred manually by educators for consumption by students. They must be meta-tagged and filed and the path-to-finding-them well traveled. Even after all that work is done they may still be disassociated from larger contexts of learning, like how textbooks were planned works with defined scope and sequence.



Digital Courseware – <u>TenMarks</u>, an Amazon Company



Discrete Digital Objects – <u>Overdrive</u>, New York State Education Deptartment & others

# Chunks & Lesson Planning vs. Courseware

Compared to courseware organized into a sequential progression of chapter-type elements with quizzes at the end, all the various chunks of video and text are non-sequential little bits of knowledge that require the work of contextualizing from teachers to make them into something meaningful. That curation and sequencing is called digital lesson planning, and while the objects themselves may be copyrighted or open-licensed, in many instances the lesson plan framework around them is automatically the intellectual copyright of the School or District, and not the teacher's. Although this is rarely known by most teachers.

There are still arguments that could be had about whether the act of creating a framework around other licensed works is itself a "work" to be copyrighted or simply a compilation effort, like collecting movies of a genre together in a reference library and critiquing and comparing them one against another in a blog about the whole genre. The ideological difference between this sort of library-plus-blog and a lesson plan framework is minor, and the Learning Counsel predicts the future copyright issues around what text or framing was uniquely created versus simply curated will be numerous, because the mixing-and-matching is a growing new area of art for digital teaching.

Since many times teachers never used the entire textbook for a subject in the past, the chunking idea is great in some respects. It allows

a certain freedom, but it is more work than buying the equivalent of a textbook, or the new digital textbook that has been re-modernized into the "full courseware" idea.

One courseware provider, Dreambox, has this to say on their website about courseware:

#### Courseware

"Our innovative technology captures every interaction a student makes while working within and between lessons. As it dynamically adapts and individualizes instruction in real time, it provides millions of learning paths tailored to each student's unique needs. It is a ground-breaking, student-driven learning environment that leverages gaming fundamentals to inspire and empower students to build 21st century thinking and problem solving skills, master key concepts, increase achievement, and boost long-lasting confidence in learning."

- Dreambox Learning (<a href="http://www.dreambox.com/company">http://www.dreambox.com/company</a>)

Courseware has programming aspects that deliver the most appropriate type of object in sequence for learning, the same things teachers do that is critical for good digital lessons, and adding the work of truly individualizing that object so that it's the right one for that specific student user. Courseware is simply log-in-and-go-through-the-lessons, pre-built and structured in some instances to offer "levels" much like games do, so that faster or slower students follow routes unique to them, or are looped back into multiple avenues of remedial learning.

#### **Choose with a Consumer Attitude**

The ability to distinguish if a digital learning object is "flat" (for example, a text document that does not do anything—the lowest level of object) from an entire program of courses that are animated and contain internal logic, requires a different mindset. In fact, the consideration would need to be more than an academic attitude—it would require a *consumer attitude* and a designer view about the user interface and user experience. Such an attitude would guarantee a higher level of user appreciation and therefore have a heavy impact on learning. But beware! Just because it's glamorous does not mean it teaches. Early software was more glitz than substance.

Consumers are drawn to appeals promised by software that are usually very simple. A game like Candy Crush allows a player to do exactly that, crush digital candy. It is also *only* doing that. Courseware is changing this over-simplification of appeal with a consumer appeal to *accomplishment*, which is an implied appeal in game Apps but usually not emphasized, because it is only a game, so getting a high score is not an actual achievement level in life like finishing a course or graduating. The more sophisticated courseware is a game-world of options and sometimes allows teachers to assign or "lever" learners into certain routes within it.

Whether an object is just one concept or a collection of concepts incorporated into courseware is an issue for educators to come to grips with by actually looking inside and experiencing all the routes of courseware. The same is not as true for direct learning courseware consumers who have typically had experiences with e-commerce and gaming worlds online, which have already raised their level of expectation for learning objects. They expect the software to navigate them. Educators typically do not expect this, but the K12 market is now smaller than the open

consumer market for learning. Therefore, we see publishers creating awesome digital courseware and massive collections of digital objects that have suggested meta-tags for student reading levels and more with the navigation consumers expect. When schools use courseware, it is an adjustment for the teacher who must learn two things:

#### 1. How to use it.

The full breadth of the courseware and how it is structuring learning, where it allows the teacher to interject and what sorts of analytics it provides, and,

#### 2. How to supplement it.

How the use of the courseware will replace old pedagogy and allow the teacher to use it as core while the teacher now *flips* the learning and focuses on supplemental activities, projects, and some lecturing. This is one of the real revolutions in digital. However, it is *no different than the days of textbooks*. Textbooks had to be considered for how to use and how to supplement, but in the early days of digital publishing, the learning objects were the dead opposite – supplemental and not core. Teachers already know how to do this well.

What's also interesting about courseware is that the consumer/learner can see it fit itself to them as they use it. This is the same way that our intelligent assistants like Siri or Cortana on our phones work. It is also the true definition of "personalization" in the software world. For consumers and high numbers of screen-learning students (in-class activity or out of a school), curriculum software products need to be highly-systematized, and courses that contain preset programs that can be personalized will be expected. An everyone-is-the-same experience and a whole lot of odd navigational quirks that cause large amounts of user questions will fail,

as some publishers experienced in their early forays into online sales and customer support.

Again, when learning objects are only discrete concepts, they present more work for teachers to curate and frame. However, and this is one of the more interesting things to consider, when students themselves curate, discrete learning objects that are not systematized represent a rebirth of discovery as part of the learning process. Allowing them to do that is the tricky part if the school's system is built to only allow teacher discovery, manipulation, and assignment of learning objects, and the student is still a passive receiver-only of the pre-determined set of objects.

#### **Optimum Digital**

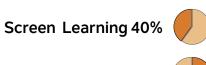
Teachers tend to do better with optimally aggregated digital learning objects, full courseware, for at least 60% of their materials. These should be used for a maximum of 40% of lesson time used in screen learning with the rest

being active discussion,

lab, and other activities,

projects, and the

Courseware 60% Discrete Digital Objects 40%



like. Full courseware or collections that function autonomously give teachers back more of their muchneeded classroom time to individualize learning and give their attention to students. The promise **Projects | Activities 60%** of the emerging industry of digital courseware, both for-

> profit and free, can return teachers to greater time spent on student interaction and the "human side" to balance the screen learning.

### **Evaluating Digital Learning Objects**

Evaluating any digital learning object is complex because, like textbooks, it can't be done based on just its title or marketing claims. It must be done with each of the concepts inside the software, and sometimes there are a large number in any one learning object. Unfortunately, being a "software guru" and knowing what you are looking at in terms of how well something is designed for interface and rigor, is not something that any research or ratings firm other than the Learning Counsel has a handle on.

Merriam-Webster's defines the noun "concept" as the "idea of what something is or how it works." When that definition is used for evaluation, the digital learning object is either a single concept or can be partitioned into multiple concepts. Evaluators are then analyzing objects in the same way that developing software is done - by each concept being coded individually.

To do this you must look at and validate each part of the digital learning object by experiencing it.

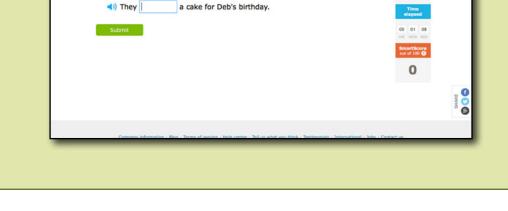
#### The Super-Hurried Evaluation

Evaluating digital learning objects by *concept* is arguably the best way to evaluate what the worth of a digital object is, because it can be broken down into three things:

1. Technical and **design** sophistication By looking at the application, there is clearly a single focus on each web page with a practice question for fill out that is clear to see, centered, without any distraction, and it is offering feedback of how much time is ticking off per each practice question. It could perhaps use more

#### Example:

Concept: Identifying Past Tense in Language Arts - 1st Grade. (Example from IXL Learning, See: https://www.ixl.com/ela/grade-1/ form-and-use-the-regular-past-tense)



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(1) Complete the sentence in the past tense. Add -d to the verb.

stylizing with a digital character guide appealing to different age sets, like Mickey Mouse greeting software guests as they enter some Disney Interactive lessons.

- 2. Completeness of knowledge coverage (actual **instruction**) The software is dynamically giving practice but does not appear to give lesson context for what Past Tense means as a lesson - it is therefore most probably something to classify as supplemental and not core curriculum.
- 3. The combination of the first two in the digital realm that results in the ability to cause learning, a.k.a. "rigor."

The software appears rigorous from the definition of being right in each practice question and the design is functional and not distractive. So, in summary, this one concept of all the IXL Learning lesson concepts appears to be 1) technical design appropriate, 2) supplemental instructional (practice), and 3) rigorous – at least upon cursory review of that one lesson within the total number of lessons in their website collection.

People are already generally using these simple 1-2-3 steps of concept evaluation when looking at digital learning objects. Design + instruction + rigorousness are the major points and comprise the "super hurried" evaluation.

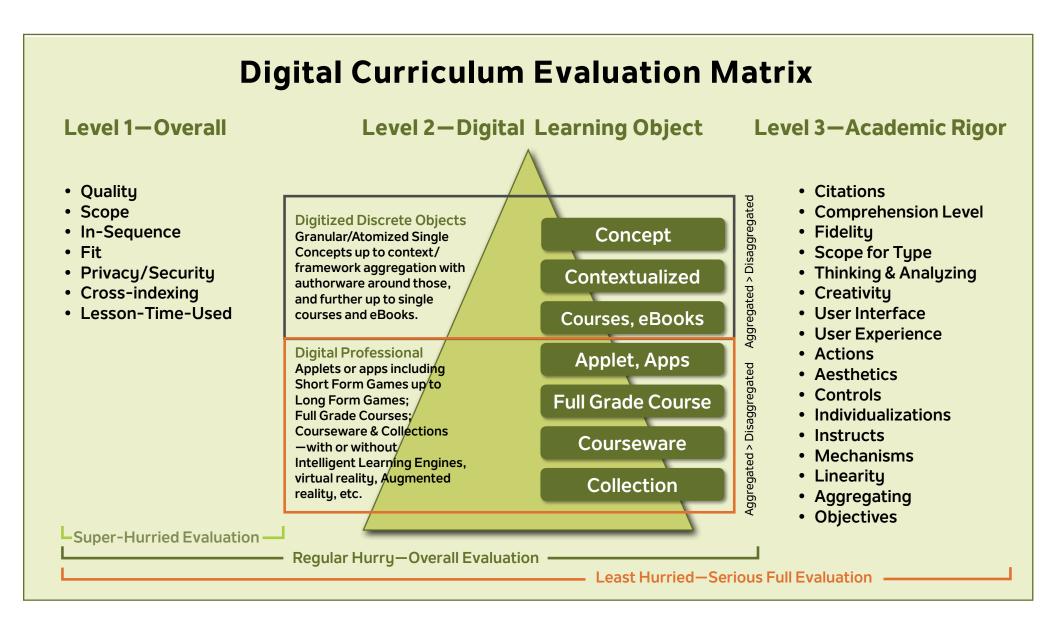
Scoring an object across these three most important things in detail requires a sort of "matrix" to evaluate, and that is what we are presenting to you here in this article.

#### Regular Hurry - Overall Evaluation Using Level 1 of the Matrix

If you're in a *regular* hurry, you can use the comprehensive new Digital Curriculum Evaluation Matrix to do a rapid evaluation using just the "Overall" points. You would only get into using the entire matrix if it's a major adoption. Teachers or committees of curriculum experts can make rapid analysis just on the Overall points.

Schools can figure out their own specific number score for digital learning objects for overall value using the Overall section of the Matrix. Highly sophisticated programs can take a short amount of time to evaluate by looking at each characteristic of the software and experiencing it from a user point of view. Using the list of just the items in "Level 1 – Overall" anyone can make a quick mental calculation of those things for that object. These are the listed below in numbers 1-7.

This ideology of how you would take a quick-look or go deeply into inspecting any piece of software for what it is and does as a learning object is a work-in-progress.



# Evaluating digital learning objects by concept is arguably the best way to evaluate what the worth of a digital object is, because it can be broken down by design, instruction and rigor.

#### Level 1 - Quality of the Knowledge Object

At the simplest levels, the most critical things for any evaluation are the things that have always been critical for instructional design, but now with a digital twist.

Note, we suggest a scale of 1-10 for *each* of the areas and all of the 71 Characteristics. The highest score, then, would be 78.

- 1. Quality knowledge concepts or artifacts (a fancy word for things, like pictures, video, and primary sources that have been scanned in still usually a picture). Watch it, this one is more subjective and opinionated than the others. 1-10 Value per concept. It would be wise to number how many concepts there actually are in the learning object. Having to evaluate *all* of them if there are hundreds or even thousands, so a random sampling is usual.
- 2. Taking one or more of the concepts, individually, next in importance in instructional design is a reasoned scope that takes advantage of the things that are of high quality when the content is digital: visualizations, animations, scaffolding of information, content levering, pre- and post-use formative assessments, audio, and all other enhancements (see the "71 Characteristics," which is soon to be updated to slightly more in number) that are useful for the chosen subject and topic. 1-71 Value.
- 3. Next, in-sequence delivery of that concept through the digital mechanisms that support mastery of what is being taught. Once mastery occurs, the learner can then be exposed to a multiplicity of in-sequence concepts building on the original topic. These extensions of the original topic can go in various directions in ways that are themselves instructional because they are non-linear and serve to create more learning. 1-10 Value.

- 4. Fit (alignment) with requirements and standards. 1-10 Value.
- 5. Privacy and security of student data. Note that this is an entire subject of its own and best left to the experts for right now. The Learning Counsel will be releasing important national data and analysis points on this that can be asked by non-techies in a pinch in the near future. In the meantime, we suggest you ask of any software what data it takes that might potentially compromise student privacy and see what the publisher's terms of service include. 1-10 Value.
- 6. Beyond those, and what makes digital delivery unique, is a cross-indexing of the concept with other concepts in a greater ecosystem of knowledge. This might be as low as simple meta-tagging or correct filing. If the object doesn't have this quality, it will be hard to find again. 1-10 Value.
- 7. Lesson Time Used (LTU). Total LTU is a single numerical value per *year*. You can figure out LTU by first asking approximately how much time it takes to learn or do *one learning concept* in any learning object, or the average time of that concept if the object has many different features and functions. This is most like one chapter in a textbook or one lesson or section or quiz or one book (a book being usually themed around one major concept.) Apps and courseware might break down into different concepts as lessons. These are typically individual concepts attempting to be taught. What's important about this is that it is very hard for teachers to assign a digital object to be completed by a learner if they have no idea the time involved to complete it.

One concept might take 15 minutes for a learner, or more.

#### **Examples of Lesson Time Used**

#### Example 1:

A digital collection of books with 3,000 total books has been purchased. Each book typically is one major concept, particularly for fiction. Non-fiction might have multiple concepts, such as a textbook. In this example, we're using one (1) as the number of concepts per book and we are going to say that one book takes ten and a half hours, on average, to read.

3000 (total number of books) x 10.5 (average time) = 31,500. This means the total *Lesson Time Used* (LTU) is 31,500 hours.

A digital book collection is like a whole library, so this LTU calculation should not be a surprise.

#### Example 2:

An App has been purchased which covers math for both addition and subtraction, two major concepts.

To learn the concept of addition in the App takes 2 hours of in-App screen learning. To learn the concept of subtraction takes 3 hours of in-App screen learning.

With one concept (addition) taking 2 hours, and the other (subtraction) one taking 3 hours, the total is 5 hours of lessons in that App that teaches two concepts.

The total Lesson Time Used (LTU) is 5 hours.

The basic thing to ask is "What number of concepts are covered?"

The second basic thing to ask is "How much time do the concepts take on average?"

Then multiply those two numbers to get the total.

#### LTU CALCULATION

Concepts x 10 Minutes Average = 500 minutes or (divided by 60 minutes in an hour) = 8.33 Hours

Later on, you may want to find out how much time is actually being used of total LTU by any one user for courseware that has been purchased, because you are not sure it is getting enough use to warrant the spend.

# Least Hurried — Serious Full Evaluation Using Levels 2 & 3 of the Matrix

A full evaluation looks at all of Level 1 *after* using Level 2 and 3. So you start with "What is it?" which is Level 2, then move through each part of Level 3, grading as you go, and end with an overall evaluation of Level 1.

#### Level 2 - Object Scale

This is the "what is it?" level. You must understand the quality of the digital object you are looking at. This is not "quality" as in being better necessarily, but in terms of its having a quality that can be defined.

The two major quality categories are:

1. Digitized by a non-Developer— meaning usually teacher-made with support from the school or district. This could be build-curriculum-yourself software (authorware) that uses pre-built parts of development to make a lesson or a course and be pretty cool, but the object is not professionally coded by some developer.

2. *Digital Professional* – Developed by designers and programmers with testing for the education market. Again, this doesn't necessarily mean it's totally awesome or even more rigorous, just that it is professionally built by someone who is a code-writer.

Within those two categories are the granular, disaggregated objects at the top of the scale and the more aggregated objects at the bottom. Schools may need to decide to target some ratio in their mix of all objects of professional versus non-professional to lessen the expense and inefficiencies of custom creation and upkeep. This is especially true if the discrete learning objects are found via links for their use in lesson plans and the links break. They may also want to have a care as to how much is purely granular versus systematized and aggregated objects. Potentially, paid professional industry work can more efficiently spread the cost of creation and upkeep across many schools and keep accurate track of what is working.

At any level, each object can contain various digital characteristics. "Scoring" in this area is Non-Professional versus Professional (developer) and the quality and quantity of added characteristics in the software. In addition, how granular versus aggregated is another area of scoring. The question of what a school or teacher scores an object is a question of what percentage of their time they want on building all home-grown materials versus professionally built. Schools may have signed pledges to be fully free and open education resources so their score model would be weighted in favor of more granular because that is more typical to the free resource world. It may also be more typical to the older grades where discovery of what object could be a part of the learning design.

As a comment on the all free open education resources, it is important to note that originally the train of thought for focusing attention on free and open resources was very pointed at money savings. That was when schools couldn't conceive of buying all their computing devices and high-value digital courseware. That is just as it should be, of course, but presently the market has shifted, and more schools are realizing they

Educational leaders want to differentiate various digital learning objects. They also want to have some stability and workability in their digital resources.

can achieve full or nearly full coverage models of high-value digital curriculum with a mix of their own materials or outside courses if they stop buying paper books and shift over. The Learning Counsel's 2016 Survey showed that fully 80% of schools have not yet reorganized budgets away from paper purchase into digital purchase.

Other considerations on the technology side of *what is it?* include, the deeply technical ideas that would require the ability to inspect inside the actual program code for syntax, data structure, control structure, and how well it's all documented, organized, and labeled.

Whether any digital learning object "works" and is "easy or difficult" in terms of user experience should be evaluation points of the technical sophistication of the user interface/user experience where it intersects with the academic rigor of the concept.

#### Level 3 - Academic Rigor

The following list can be used with a point system to evaluate the rigor of digital learning objects. It would be used in combination with the other two levels of the scale already noted, and is adaptable for teacher or school needs. It combines the concept of academic rigor with the digital qualities that are instrumental in delivering that rigor. It should be used against every individual concept or minor aggregation within a digital object, as in one section of courseware teaching something like addition and subtraction of fractions.

#### Rigor Scale: one point per each (1)

- 1. Citations.
- 2. Comprehension difficulty level as in reading (lexile) or mathematics level (), if applicable.
- 3. Fidelity. (The instruct inherent in the learning object delivers its concept in the way it should be to achieve learning with the software, or in a way that is a true assessment if it is a test.)
- 4. Individual object, for its type, has an appropriate scope not too broad or too narrow
- 5. Elicits higher levels of thinking and analyzing in the learner.
- 6. Elicits creativity in thinking and responding.
- 7. Uses an appropriate user interface with proper navigation.
- 8. Provides an overall positive user experience.
- 9. Has appropriate Actions \* (one point per each of audio enhancement, live chat, live video, annotating, accessibility, social gaming, spell checkers, spatial-temporal reasoning, dynamic definitions, probeware viewing, digital social interactions, sketching, touch enabled, storied).
- 10. Has appropriate Aesthetics\*(characters, voice, virtual reality, animations, visual advantages, video embedding, avatars).
- 11. Has appropriate Controls\*(dynamic curation, plagiarism checking, interoper able, project- based, student personalization, navigation).
- 12. Has appropriate Individualizations \* (multiple languages, collections, work product curation.)
- 13. Has appropriate Instructs \* (favoriting, administrative personalization, second screen, projection, portability, feedback, programming practice, inference, clip embedding, standards alignment/attainment).

- 14. Has appropriate Mechanisms \* (machine learning, intervention, training, project mastery, distance live-lab, authorware, terminology, interactive queries, real-time attention data/neuro-determinism, device input, intelligent learning engines, gesture controlled data, collaboration-ware, assembly, practice micro-games, social experimentation, formative assessment, pre-assessment, coding, game-based earning, gaming rewards, manipulative-object interplay, summative assessment, artificial intelligence, recall mechanized [selection or matching from memory], dimensional).
- 15. Uses appropriate linearity, as in the presentation of one concept or one question or one answer for any one True/False, fill-out field, or buttons.
- 16. Uses appropriate aggregation tools, as in the way shopping-cart technology allows learners to collect and build artifacts into a portfolio that demonstrates understanding, if appropriate.
- 17. Sets and meets objectives.
- \* References the "71 Characteristics of Digital Curriculum" Special Report, available online at <u>LearningCounsel.com</u>

This new Digital Curriculum Evaluation Matrix is the start of how to *look* with a bit more sophistication in mind using our eyes and ears and sense of learning engagement—at digital learning objects. Within Knowstory, the ability to rate objects as a broad community for "Fit," "Worked," and "Easy," has the promise of creating a coordinated national, and possibly international, sorting of the good from the unworkable learning objects, the poorly crafted from the finely wrought, the biased from the unbiased.

Next – an Orientation to tactics in going fully digital.

## Orientation Tactics

To speed along without major problems, here are questions to find your own answers that will help you and your schools work out quality digital curriculum transitions.

- 1. What is happening as learning objects become consumerized built expressly for the individual? What will this mean for professionally developed digital courseware?
- 2 How many digital learning objects you have? Are teachers aware of what other teachers have?
- 3. What is your overall digital transition strategy to provide for digital devices that use curriculum that takes a lot of bandwidth, like video streaming? (Consider the devices, student access when not at school, what's allowed on the networks, filtering, and security and privacy.)
- 4. Will you be using a Learning Management System? One, none, or many?
- 5. What can your networks handle? What if every student brings multiple devices and then crowds into three rooms instead of twelve for some project work can those three rooms handle the load?

"With digital learning, the network has never been more important to improving student outcomes. Would an Indy racer perform better on a race track or a dirt road? You need a race track for your students." — Richard Nedwich, Director of Education, Ruckus Wireless

- 6. What sorts of curriculum things could be services you can have other organizations do including technology support? Language pathology help via distance teaching? Foreign language courses? Homework hot-lines?
- 7. What sort of curriculum "mix" do you want by grade? All discrete, granular objects, or more systematized? Why? What are the repercussions of that?
- 8. What is the pedagogical use of any one tactic concentrated in whole group teaching, project-based learning, individualized learning, or...?
- 8. Are the tactics extensible to other teachers in that subject or grade?
- 9. Are the tactics subject-specific as a learning object, or is it a "Tool App" that is a cross-subject asset for learning?
- 10. Are you carefully avoiding just "niftiness" (digital things that are nifty but may have little rigor) to focus on substantive digital learning object tactics?

# **Definitions**

#### Key terms as we speed into digital curriculum tactics

Concepts are single discrete knowledge objects, and could be called just "content" or "resource," but are more accurately a concept. These are artifacts like photos or videos. Also called "granular" and "atomized" bits of knowledge. Examples include Word documents, PowerPoints, notes, short videos, pictures, etc.

**Contextualized** concepts are lectures, stories, articles, lesson plans, or assessments/tests and are usually meta-tagged. These could be elements made with authorware of various types including animated objects. May have minor goals or objectives. A part of this category are systems that are contextualizers, or Learning Management Systems (LMS) that frame and hold such objects in repositories. Some LMS's contain analytics on use of objects and connected grading, but are not by definition creating object internal intelligence adaptations - the objects themselves are not coded with algorithms. However, they could give single-sign-on into independent professionally coded adaptive learning courseware.

Courses and eBooks contain multiple concepts. This category includes non-coded courses made inside LMS's and eBooks, which can use non-programmers to author them. Such objects are often bundled with directions for activities. These have short or mid-range goals or objectives to achieve, and include defined scope and usually sequence.

Apps are whole programs that perform small, short-form (Applet) operations, or large operations like long-form learning games.

Courses that are professional coded are composed of a set of lessons and goals to achieve that takes longer than a single 50-minute class period. Professional courses have a defined scope and a workable sequence towards learning goals. Some courses include intelligent learning engines so they can be adaptive to individual learners and provide analytics back to users and instructors.

**Courseware** is like courses except it may have a much wider scope with multiple subjects and topics. Once logged in, the student uses the navigation to go from lesson to lesson without further interjection by an instructor. However, the courseware may give some levers to the instructor to gate or ungate progress (as in hitting a digital lever that allows freedom to surge forward to new lessons), and at times provides analytics to the students and teacher.

Collection(s) are typically many eBooks, lectures, courses, Apps, or videos that have a management framework around them. This may include other functionality like testing for the entrance level of the learner.

Note: This list of terms does not include "Tool Apps" which are usually single-function like note-taking, or authorware, like Adobe Illustrator, or technical software, like computer-aided-design programs (CAD), none of which have knowledge concepts already embedded.



## The Story of What You Know

A social way to build the story of your knowledge inventory.

Full Beta Release January 2017

nce upon a time, your district or school had an imaginary invenstory of all your digital learning objects.

Oh, the wonders of being able to cost analyze your curriculum map!

All the teachers of the land purchased, found or made their <u>own</u> digital learning objects. They were 100% perfect at curation, filing and tracking. Each teacher had every subject covered completely with digital invenstory and kept it orderly in browser bookmarks and a learning management system.

No teachers **ever** left, and new ones came fully ready for anything. Sigh.

Still, they sometimes dreamed of sharing their invenstory with other teachers in far off places on the internet.



Then came Knowstory! A place where teachers and schools come together for a magical global view of that institution and *all* associated individual's objects. Together at last.

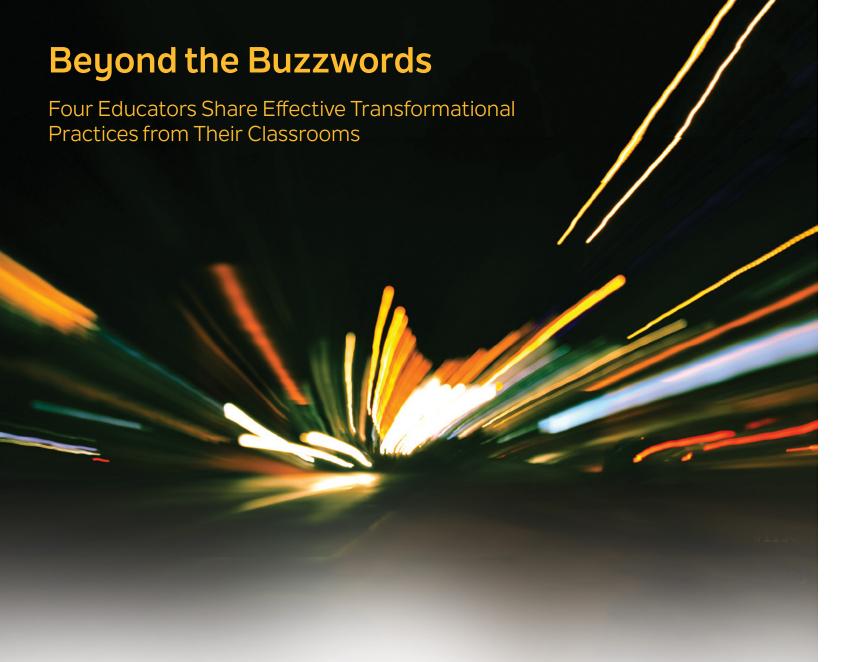
The End 🛹

P.S. Plus a lot of sharing with others not in your school, and eventually a marketplace and more and more function to become the most super-awesome thing ever for education. You've got to be in on this.

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Whether it's teachers, administrators, politicians, parents, or companies, everyone wants to "fix" the American education system. With all these voices clamoring to be heard, it's no wonder that educators are awash in buzzwords. Every few months, it seems, someone publishes a book or article centered on a catchphrase to represent a "new" approach that will revolutionize (or, as the tech startups like to say, "disrupt") education.

These terms are also tending to be used (even subconsciously) as a sort of litmus test to see if a teacher or new administrator is up to date. Do they understand the newest jargon being bandied about on conference and convention floors and in the halls of schools? If they do,

they're "in" and hopefully using the most in vogue models of teaching and learning in classrooms.

Most of these buzzwords come and go when they either prove useless or end up being a variation on something teachers have been doing for centuries. (Isn't "real-time feedback" just a fancu term for "answering a student's question"?)

Sometimes buzzwords stick around, though, because the methods they represent actually turn out to be useful in the classroom. Here, four teachers share how they have transformed buzzwords into practical best practices for teaching—and as a result, have transformed their classrooms, too.

# Personalized Learning

The tactics to personalize—or probably, more precisely, "individualize"—lea rning through a combination of technology and in-person interaction

by Monique Jensen

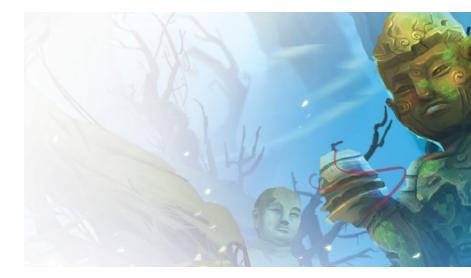
In Parma, Idaho, we believe blended and individualized learning go hand-in-hand to provide students with a fulfilling educational experience that challenges them in the best possible ways. Technology allows our teachers to take a snapshot of students' reading levels at any time and paint a clear picture of each student's individual achievements.

Although our literacy scores have always been good, we recently identified that reading resources in our middle school were scarce. Harry Potter, the Divergent Series, and other popular fiction books enthrall students, but they often struggle to read nonfiction text.

We aimed to help students personalize their reading experience by providing a larger variety of nonfiction texts. In this way, students were able to learn about topics that interested them. Thanks to a grant, we were able to purchase myON in 2015. The new digital literacy environment offered on-demand access to more than 10,000 fiction and nonfiction books.

One challenge was that the rigor of Idaho Standards and Common Core State Standards didn't leave much room for independent reading outside of required readings. Having a digital literacy environment motivates students to read what they enjoy - mobile, anywhere at any time.

Upon logging onto the platform, students are prompted to take a Lexile® test to measure their reading level. Next, they're asked what topics they enjoy reading and learning about, from sports to dinosaurs to cars, and animals. The platform lets



them generate a personalized library of books based on their reading level and interests, creating an environment where students are excited to read about topics they love.

Teachers use the digital environment to individualize the learning experience while classes are in the computer labs, and on student 1:1 devices. With frequent, in-platform assessments, educators stay in tune with their students' reading accomplishments and are well aware of each

To spread the love of reading, teachers have adopted what they call "myON Mondays," where students spend class time reading content of their choice.





Parma's new digital literacy environment motivates students to read what they enjoy – mobile, anywhere at any time. student's strengths. This data carries over into teachers' traditional, whole class-lessons, where they can individualize assignments and readings for each student.

Individualized reading also allows gifted students to excel and improve their reading level. The tool also serves as intervention in assisting students who may struggle with reading.

To spread the love of reading, teachers have adopted what they call "myON Mondays," where students spend class time reading content of their choice. Other educators assign science-based book reports and track independent reading time to ensure that each student is improving at a pace they're comfortable with.

Individualized reading allows gifted students to excel and improve their reading level. The tool also serves as intervention in assisting students who may struggle with reading.

One exciting addition the District made to the program to motivate students to read independently, was a contest where the student who read the most pages would win a mountain bike. In three months, one student read more than 5,000 pages, which dramatically improved his reading level. We believe success stories like this would have never happened had we not adopted a digital literacy environment focused on personalized learning.

Our educators have embraced facilitating personalized learning. They work diligently to incorporate students' interests into every lesson possible. Although some of our teachers were timid about combining personalized and blended learning, this combination has become part of their daily classroom routines. Individualized learning now comes as second nature and the benefits to our students are outstanding.

#### Editors Note:

In software parlance, *Individualizations* are a means of making learning unique <u>to</u> someone. *Personalization* is when it is something one does <u>for oneself.</u>

Monique Jensen served as an elementary school teacher for 14 years and is now the district instructional coach at Parma School District in Parma, ID.

You can follow her on Twitter @CoachMo21326.



# Blended Learning

An educator and mother shares her tactics to "blend" learning at home and at school

by Donell Pons

My school, American International School of Utah (AISU), is a charter school with the blended learning model in its mission statement. Even without that explicit mission, blended learning just makes sense.

Think of your own learning experiences. I'll bet the ones you remember best are those that resulted in "creating" something — an end product that took multiple types of learning materials and observations. You also probably remember the few times when something you learned moved beyond classroom subject matters and became applicable in life. The art of teaching students to read is like that, it easily adapts itself to blended learning. Blending tech and learning and life are what schools are really about these days.

I'm not just an educator; I'm a parent. Watching my own children informed my classroom philosophies. The best experiences my children have had come out of a blended learning model. This happens naturally in home environments rich in hands-on learning. With my kids, I've even had adventures like researching natural dyes and foraging in the yard for the right plants because I ran out of the blue paint to finish a project.

In the classroom, I use a number of tactics to make blended learning a reality. Here are my top three:

Blended learning is best when it becomes organic. Take a concept and let it unfold naturally, which usually requires multiple modalities to fully realize.

Ensure that schools have the hardware and software to support blended learning. One tool we use to help teach all students at AISU to read is the Reading Horizons program, which integrates interactive classroom instruction with online components.

Focused and continuous professional development is critical. Educators need to be constantly learning, not only about their subject matter, but also about



their students. A great Swedish cognitive neuroscientist, Stanislas Dehaene, has written several important books on the science of learning.

A solid blended learning program empowers students to use multiple sources to support what they are learning. It includes the digital content or courseware component that's part of a well-scaffolded classroom experience and supports the kind of learning that moves beyond short-term memory to working memory—and eventually to the much-coveted long-term memory that is so important for enriched understanding.

My advice to educators who are interested in investigating blended learning is simple: Find a mentor teacher or school willing to share ideas and support your efforts. It's easy for me at AISU because everyone is involved in blended learning. I can consult with other teachers, and everyone is engaged in the process.

Donell Pons, M.Ed, MAT, SPED, is a certified dyslexia screener, consultant, and tutor. She can be reached at donell.pons@aisutah.org.



# Project-Based Learning

An elementary educator creates classroom simulations to incorporate PBL and bring relevance to traditional lessons

By Anthony Johnson



Think about your job today. Have you ever been given a formal assessment to prove you know the ins and outs of your job? Probably not. In today's economy, employees are assessed based on overall performance—not a test. The same should be said for student evaluations. Similar to the real world, in my classroom students show what they've learned through project-based learning (PBL) and application using real world examples.

I adopted a project-based model in my first year of teaching. On the first day of school I issue my students a PASSPORT (which stands for "Preparing All Students for Success by Participating in an Ongoing Real-world simulation using Technology) and explained that their yearlong simulation in "Johnsonville" starts today.

When students become part of their own learning they take pride in their education and become more engaged



Fifth Grade students at Isenbery Elementary School in Salisbury, North Carolina

The school year is a simulation of adulthood where students work, create, and learn about personal finance and entrepreneurial skills. They experience real-world situations and gain insights into global affairs. Students don't view my classroom as a "classroom" but more of an interactive city where all projects intertwine to create an ecosystem of businesses, homes, and more.

Each student has the opportunity to become an entrepreneur, politician, banker, and more. They are given \$1,000 in Johnsonville cash to begin their lives. Students must buy a house or rent an apartment, earn wages, and manage their finances. As the children buy and sell items that I donate, they learn math skills along with life lessons. Like a real business, they manage a database of their clients or suppliers, create advertising plans, and track their income to ensure they are making a profit. Students earn extra money through academic achievements and good behavior.

One amazing online resource I discovered for PBL is Defined STEM. It is a great tool to help me create relevant lessons I can incorporate into Johnsonville. The supplementary curriculum provides students with research resources, videos, and project prompts that test students to think outside the box and put them in real-world situations.

If you are ready to incorporate this teaching and learning style into your school or classroom, here are some Tactical Classroom Tips for creating a Johnsonville-like environment:

- Make project-based learning relevant to the students. In Johnsonville, students are exploring issues like buying a home, paying rent, starting a business, and managing finances. Students see adults face these same issues and can relate what happens in Johnsonville to the real world, making every lesson relevant and gets them excited to learn.
- Encourage collaboration. Desks are designed for individual students—which is why I don't have any. In my classroom you will only find tables, collaboration bars, and sofas perfect for students to think creatively and problem-solve in groups.

• Facilitate. Other teachers trying PBL often tell me, "my kids can't do it" or "it's a lot of work." However, I think the real issue is teachers giving up control of their classroom. PBL allows students to take charge of their learning, which gives the educator freedom to facilitate and encourage critical thinking.

North Carolina State testing proves that my PBL model improved student scores. At the end of the 2016 school year, my 5th grade students scored an average of 85% on the state science exam, while my school as a whole scored 58%. I believe my focus on PBL and hands-on learning propelled my students and was the catalyst for this major boost in test scores.

When students become part of their own learning they take pride in their education and become more engaged. PBL keeps students busy and allows each one to show what they've learned in a creative, supportive, and collaborative environment.

Anthony Johnson is a 5th-grade science and social studies teacher at Isenberg Elementary School in Salisbury, NC. He holds the title of Apple Distinguished Educator, TED-Ed Innovative Educator, and was just selected as Teacher of the Year for the Rowan-Salisbury School System. You can follow him on Twitter @a p johnson



# Flipped Learning

Flipping is much more than a way to deliver instruction via video it's a technique paired with a mindset change

By Aaron Sams & Justin Aglio



In a recent interview with CUE, Esther Wojcicki, author of Moonshots in Education: Launching Blended Learning in the Classroom, said, "I also learned that there is confusion between blended learning, flipped classroom, and project-based learning."

#### We agree!

Many educators are confused about these three terms. They often identify with one of them because they were exposed to it through personal or district level-learning opportunities. In addition, once educators learn about one of these terms they will identify their teaching practices within a community where they are welcomed and supported through personal and district-level support systems.

When it comes to flipped learning, there are many support systems for teachers. The Flipped Learning Network, online community forums, and other community avenues allow educators to share best practices and tech tools like Chatterpix, Touchcast, and ClassFlow.

The biggest misconception that we hear about flipped learning is that it's all about students just watching videos. Teachers who Flip will tell you that this is not the case. To help set the record straight, the Flipped Learning Network has defined flipped learning as "a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter."

The Flipped Learning Network also defines the four pillars of flipped learning.

#### The Four Pillars of F-L-I-P™

- Flexible environment: Educators create flexible spaces where students choose when and where they learn. Educators who flip their classes are also flexible in their expectations of student timelines for learning and in their assessments of student learning.
- Learning culture: In a flipped learning model, in-class time is dedicated to exploring topics in depth and creating rich learning opportunities. As a result, students are actively involved in knowledge construction as they participate in and evaluate their learning in a personally meaningful manner.

## Educators create flexible spaces where students choose when and where they learn.



- Intentional content: Flipped learning educators determine what they need to teach and what materials students should handle on their own. Educators should deliver content in a way that maximizes classroom time and leads to student-centered, active learning strategies that vary with grade level and subject matter.
- Professional educator: The role of a professional educator is even more important, and often more demanding, in a flipped classroom than in a traditional one. During class time, educators need to observe students, providing them with instant feedback and assessment. While educators may take on less

visibly prominent roles in a flipped classroom, they remain the essential part that enables learning to occur successfully.

This definition differentiates flipped learning from blended learning and project-based learning. Flipping is a technique paired with a mindset change. The technique is moving the direct instruction out of the classroom, and the mindset change is thinking differently about the classroom space. Although flipped learning is becoming a common term to many educators, it remains an uncommon pedagogical approach to traditional classroom teachers. We encourage you to explore flipped learning and to embrace a mindset that focuses on improved student learning.

Aaron Sams operates the education consulting firm Sams Learning Designs, is an Adjunct Professor at Saint Vincent College. Aaron has co-authored seven books on the flipped classroom concept. You can follow him on Twitter @ChemicalSams. (Aaron is to the left in the photo.)

Justin Aglio is the Director of Innovation at Montour School District in Pennsylvania. Recently, he was mentioned as a 2016 "Edtech and Elearning Top 100 Influencer" by Onalytica You can follow him on Twitter @Justin Aglio. (Justin is to the right in the photo.)



# Making "Life-Ready" Graduates Indiana District Combines Software, Tech and Leading-Edge Teaching Practice for Student Success By Cebron Walker

. . . the tech is simply a tool, not any type of replacement for the teacher

# Modernizing a System for Real-World Career Readiness

"We knew we were failing our students. We researched different school models that would address the issues we faced—our kids that knew the three 'R's' didn't have the 21st century skills to be college and career ready," stated Dr. Sharon Johnson Shirley, Superintendent of Lake Ridge. "A lot of what we saw was just 'How do we help students prep for the test' type programs. We didn't need our students to simply 'test better.'"

Lake Ridge found the New Tech program that had been developed in Napa, California. New Tech was a collaborative effort of Napa businesses (who needed career-ready graduates) and the Napa Valley Unified School District. What was born was a new model that prepared kids, not only with academic skills but modern work-a-day world abilities such as collaboration, work ethic, oral presentation, problem solving and critical thinking.

Lake Ridge is built on that model, with three fundamental pillars:

- Project based learning
- 1-to-1 technology with digital resources that support the teaching and learning
- A culture in which a student can holistically become a contributing member of society.

"When we moved into this model we rapidly converted to a 1-to-1 technology model in a project-based environment.

But, to be clear, the tech is simply a tool, not any type of replacement for the teacher," stated Superintendent Shirley.

#### Digital Resources - On Tap

The teachers at Lake Ridge confront the same problem as many others around the U.S., spending many extra hours creating lessons from a myriad of possible digital objects and projects. "It is very labor intensive," stated Cynthia Trevino, High School Principal and New Tech Director. To lessen the burden, the district created a digital resource guide. It's a combination of OER, paid courseware and specific subject apps and tools which includes the common publishers, well known across the digital content spectrum—HMH, Brain Pop, Compass Odyssey, Study Island, IXL, and the like.

Calumet New Tech students are involved in a round table discussion about the integration of technology and project-based learning into their curriculum with the US Department of Education Under Secretary, Martha Kanter.

In the last twenty-five Learning Counsel Discussion events in 2016, we've talked with hundreds of administrators who share various stories. In all these, they are concerned about staying informed and learning the best-practices in this constantly innovating landscape.

Workable and result-proven solutions is what Lake Ridge New Tech school in Indiana is all about. They've been building their teaching and learning approach over ten years. Seeing early on that old

education systems were out of touch and that graduates were not prepared for the world and careers that were waiting for them, they started looking, piloting and re-teaching teachers and administrators.

Lake Ridge is a pre-K through 12 public school in Gary, Indiana. Their own school district, in an urban area, they serve about 2,000 students with two elementary schools, one middle school, a high school, a pre-K Head Start program and an adult education program.



the Learning Counsel: GOING DIGITAL
the Learning Counsel: GOING DIGITAL

# "Our students needed the ability to be continuous learners and to learn information that was timely and relevant."

See digital curriculum resource grid on page 34

Their digital curriculum resource grid lays out each tool and on one side is how it can be used best, and the other side of the grid shows which schools are using it so you can spot where teachers have incorporated it already. It is not just a reference for the district to see what supports and tools they have available for the school and instructors. Most importantly, teachers see what resources are being used, and where, district-wide. Certain teachers have become experts using this digital content or that tool. Other teachers can then go to them for rapid help and direction to save time.

As further support to their model, the entire network of 175 New Tech schools around the

world built a sort of virtual digital resource warehouse to make all lessons and projects created by their teachers available. "Teachers, of all New Tech schools, share projects and lessons and this is always building up so we don't have to constantly re-invent the wheel, or at least we have pieces to build from," stated Trevino.

Lake Ridge is trying to work smarter, not harder. As an example of how they are getting more efficient, Lake Ridge just had districtwide training on Google for Education. Twenty people got level-one certified. "This is part of a program so we are not having teachers up nights with 60-70-hour work weeks," stated Trevino.



Dr. Sharon Johnson-Shirley Superintendent of Lake Ridge New Tech Schools, reviews how a student is using their learning management system to complete an assignment.

#### **Project Based Learning Awesomeness**

Principal Trevino explained the project-based approach is the central philosophy at Lake Ridge. "Real-world projects don't lend themselves to textbooks. Textbooks are usually outdated and limited and they're not conducive to combining coursework and helping students understand the 'why' of the content." Lake Ridge rapidly abandoned the use of textbooks altogether. "Our students needed the ability to be continuous learners and to learn information that was timely and relevant."

To share an example, Trevino explained that they bring in outside organizations with actual situation-based projects, such as an engineering company that was rebuilding a local bridge, the FBI who involved the students in crime scene investigations or Northwestern University who incorporated assistance from Lake Ridge students on a DNA project to potentially exonerate people on death row.

"The DNA project was particularly interesting for our students. We combined a biology and health course for that because our instructors knew the students needed to learn about DNA. So instead of traditional lectures and study on DNA and then

tests, they organized for the National Innocence Project of Northwestern University to come in and have the students take responsibility for creating materials such as videos, pamphlets, articles or information sheets for people who had been convicted and sentenced to the death penalty. The students had to make materials that would educate the inmates on how DNA could be used to exonerate them."

Real-world skills were gained throughout the project. The instructors worked as assistants to help curate resources and coach the students along as they taught themselves about biology, health and DNA as well as law, social issues and the criminal system along the way. "As you can imagine, 5 or 10-year-old textbooks would have been virtually useless in that situation," stated Trevino.

But the resources weren't the end of the project. Members of Northwestern University, National Innocence Project came to the school to listen to the students present their findings and resources and then they evaluated and critiqued the students based on a rubric to ensure that the students learned what they needed to know. Trevino pointed out: "It was real world application, using all the tools and tech they are familiar with outside of school. Not one of the students ever asked, 'why do I need to learn this."



As the Editor-in-Chief of the Learning Counsel, he operates in the "eye of the storm" in this rapidly transforming education space, reporting on and sharing the stories of those who are shaping the future of education. Follow the Learning Counsel on Twitter: @learningcounsel. Lake Ridge uses a grid which lays out each digital tool. The left side shows how each can be used best, and on the right side is a list of schools which are using the digital tool.

#### Lake Ridge New Tech Schools 2015-2016 Programs

nt./Sup.	Core	Liter	Tech.	Assess.	Other	Programs	HP	LNGF	LRMS	CHS
					х	PBIS	х	х	х	х
					х	Inclusion	х	х	х	х
	х	х				Guided Reading (leveled)	х	х		
		х				Read 180 (90 minutes)			х	
х		х	х			Voyager Reading (students below grade level)		avail		avai
х	х	х		х		CRAs/IAKTs	х	х	х	х
	х					Writers Workshop	х			
	х		х			Envisions Math	х	х		
	х		х			Carnegie Math				х
Х						Touch Math		х		
	х					Scott Foresman Science and Lab Kits	х	х		
	х					Houghton Mifflin Harcourt Series Social Studies	х	х		
	х					Read Alouds		х		
Х						Triumphs Intervention		х		
х		х				Fountas and Pinnell Balanced Literacy Framework	х	х		
Х		х				Fountas and Pinnell Phonics Kits	х	х		
Х		х			х	Fountas Pinnell Leveled Literacy Intervention (gr. K-5)	х	х		
х		х			х	Leveled Classroom Libraries	х	х		
Х	х					5 Step Writing Process		х		
	х					6+1 Writing	х	х	х	?
Х					х	SHINE (RtI)		х		
х						Edmark		х		
	х					Words Their Way (K-2)	х	х		
	х		х			ICAN Learn - Math			х	
х			х			Study Island			х	х
х	х		х			Compass Odyssey	х	х	х	х
			х	х		Accelerated Reader (Reading)			х	
			х	х		Acuity (Math, ELA)	х	х	х	
х						Summer School (ECA)				х
	х	х		х		Fountas Pinnell Benchmark Assessments	х	х		
				х		NWEA	х	х	х	
Х	х	х	х	х		Star Reading and Math				х
Х	х			х		8-Step	х	х	х	х
				х		Orleans Hanna Assessment of Algebra Readiness			х	
Х				х		Criterion				х
х						Data Coaching			х	
					х	Southlake Regional Behavioral Support On-Site	х	х	х	
					х	Crown Counseling On-Site				х
					Х	Community Health Net On-Site				х
			х		х	Fast ForWord	х	х	х	
					х	CoGat	х	х	х	х
	х					Curriculum Consultants (Trammel, Findlay, etc.)	х	х	х	х
	х					National Geographic	х	х		
Х	Ì					IXL Math	х	х		Х
х	х	İ				HiDef (21st CCLCr after school)			х	х
х	х	х	х	х	х	Google Drive/Apps	х	х	х	х
Х	х	х	х	х		Turn it In				х
		İ						<u> </u>		

Int/Sup: Instructional
Support
Core: Core Academic
Liter.: Literacy
Tech.: Technology
Assess.: Assessment
HP: Hosford Park New
Tech Elementary School
LNGH: Longfellow New
Tech Elementary School
LRMS: Lake Ridge New
Tech Middle School
CHS: Calumet New Tech
High School







# On the Road: Fall Tactics Discussions

The crazy, busy life of an education road show brings continual pride and personal fulfillment to the Learning Counsel team.
Our Digital Curriculum Transition Discussion events generate the important conversations with educators and administrators of what is happening within the education space. Disruption is at hand for the way teachers organize lessons and how leaders lead. It needs to be discussed and organized.

Shifting this massive industry called Education in the U.S. is not easy. As our friend Steve Wentz, Chief Technology Officer at Pasadena ISD (TX) told us when we were in Houston, "We're on the cusp of seeing some huge differences in the education market. It's a hundred-year-old process that needs to be changed. Turning this ship is difficult."

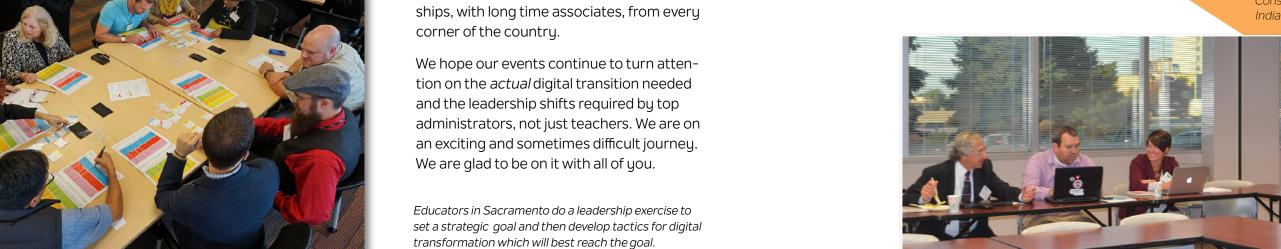
These photographs and highlights from some of the recent 13 cities we've visited share a bit of the awesomeness from the road. We've made great new friends and continued incredibly productive partnerships, with long time associates, from every corner of the country.





Above: Educators in Tampa do a leadership exercise to set a strategic goal and then develop tactics for digital transformation which will best reach the goal.

Below: Mike Jamerson, CTO of Bartholomew Consolidated School District and others at the Indianapolis discussion event collaborate.



Below: Daniel Alston and Dr. William George of Middletown Township Public Schools with peers, listening in as Dr. Jeff Gorman, Mt. Vernon City Public Schools speaks at the New



Above: Dr. Larry Mussoline, Superintendent, Downington Area

School District and team in NYC



Above: LeiLani and Leng Fritsche, Assistant Superintendent of Houston ISD, found a few minutes to catch up in Dallas.



Above: Chris McMurray, Assistant Superintendent of Evergreen Public Schools and peers at the Portland (OR) discussion.



Left to Right: Carl Behmer, Director of IT at Placer Union High School District, Eric Roberts from Williams Unified School District and Matthew Vendryes of Davis and Adult Community Education work together to set a digital curriculum transition goal in Sacramento.



Right: Martin Cardenas, High School Math Strategist, Grand Prairie Independent School District presenting in Dallas (TX).

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Above: David Kafitz, VP School Relations of the Learning

Counsel runs a panel discussion in Sacramento with Janet

Skulina, Superintendent of Knights Ferry Elementary School





Above: Superintendent Skulina and Leilani discuss where Knights Ferry stands on transition and use of digital curriculum by teachers.



Right: Michael Guirguis, Head of School Partnership at Yup Technologies, shares how Yup assists schools with virtual tutors for efficient intervention options.



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