Superintendent Kristopher Harrison's vision for the district: Focus on "21st-century skills"

On 9/24/2013, Superintendent Kris Harrison distributed the following essay, "Rigor Redefined," by Tony Wagner, to the Board of Education and reported that he and his building principals were implementing Wagner's recommendations. The question of whether the community wanted our schools to take this direction was not addressed, no vote was taken, and the public was not informed that a change was underway.

That is unfortunate, because "21st-century skills" do not exist. The phrase is a marketing slogan developed by the Partnership for 21st Century Skills, an advocacy organization created by the National Education Association and the major technology companies.

Shifting focus from academics to 21st-century skills benefits the NEA because most 21st-century skills aren't really skills at all and can't be tested, so accountability is no longer a problem. No teacher can do a bad job teaching "entrepreneurialism."

Technology companies benefit because schools buy more devices.

For the record, the American Federation of Teachers, the union IUFSD teachers belong to, rejects 21st century skills. The AFT has been a staunch supporter of liberal education for K-12 students. But our district is listening to Tony Wagner and the NEA.

Note that Wagner's list of 21st-century skills does not include foreign language, Latin, or the classics. He is harshly critical of Advanced Placement courses as well. Wagner is the enemy of liberal education.

Ironically, the Common Core was created in part to combat the public-school focus on empty skills in place of knowledge. The Common Core squarely endorses the teaching of traditional content knowledge within the disciplines:

> *By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them the background to be better readers in all content areas. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades.*
> http://www.corestandards.org/ELA-Literacy/CCRA/R/

Why Tony Wagner should not be allowed to "redefine rigor" for Irvington schools

Educational Leadership is not peer-reviewed, and does not publish research. Wagner's article is an opinion piece.

Tony Wagner isn't qualified to redefine rigor in academic disciplines.

Nowhere does Wagner consider college preparation, reason enough to reject Wagner's claims as a guiding vision for our schools. The skills students need to excel in college are the traditional academic skills he wants to redefine away.

Foreign language, Latin, Greek, the classics: none of these are "21st century skills."

Wagner did not interview the college professors who will be teaching and grading most IUFSD students after they graduate. College professors expect students to possess traditional academic knowledge and skill, and they grade student work accordingly.

Wagner's "discoveries" are over 100 years old— they are the classic tenets of "student-centered" education.

Group projects and "critical thinking" date back at least as far as the early 1900s.
See: "The Project Method: Child-Centeredness in Progressive Education" at History Matters.
http://historymatters.gmu.edu/d/4954/

Clay Parker is not an expert on education or on college preparation.

Will your employer teach you calculus?

Cognitive science has shown that "thinking" cannot be taught directly. In order to think, you need something to think about, and that something has to be stored in long-term memory, not Google.

Tony Wagner's article

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Rigor Redefined
by Tony Wagner

(Boldface added)
Even our "best" schools are failing to prepare students for **21st-century careers** and **citizenship**.

In the new global economy, with many jobs being either automated or "off-shored," what skills will students need to build successful careers? What skills will they need to be good citizens? Are these two education goals in conflict?

To examine these questions, I conducted research beginning with conversations with **several hundred business, nonprofit, philanthropic, and education leaders.** With a clearer picture of the skills young people need, I then set out to learn whether U.S. schools are teaching and testing the skills that matter most. I observed classrooms in some of the nation's most highly regarded suburban schools to find out whether our "best" was, in fact, good enough for our children's future. **What I discovered on this journey may surprise you.**

The Schooling Students Need

One of my first conversations was with **Clay Parker**, president of the Chemical Management Division of BOC Edwards—a company that, among other things, makes machines and supplies chemicals for the manufacture of microelectronics devices. He's an engineer by training and the head of a technical business, so when I asked him about the skills he looks for when he hires young people, I was taken aback by his answer.

"First and foremost, I look for someone who asks good questions," Parker responded. "**We can teach them the technical stuff**, but we can't teach them how to ask good questions—how to think."

This is the crux of it. Student-centered administrators believe schools should teach skills, not content. "Critical thinking" skills, "problem solving" skills, collaboration skills, entrepreneurial skills, "accessing information" skills, "habits of the mind," etc.
Wagner's entire article is an attack—masked as a "study"—on the school's traditional mission of transmitting knowledge to a new generation.

"What other skills are you looking for?" I asked, expecting that he'd jump quickly to **content expertise**.

Student-centered educators have always believed children should work together in groups to discover and construct their own knowledge.

Today this belief is justified as preparation for teamwork inside a corporate setting.

"I want people who can engage in good discussion—who can look me in the eye and have a give and take. All of our work is done in teams. You have to know how to work well with others. But you also have to know how to engage customers—to find out what their needs are. If you can't engage others, then you won't learn what you need to know."

I initially doubted whether Parker's views were representative of business leaders in general. But after interviewing leaders in settings from Apple to Unilever to the U.S. Army and **reviewing the research on workplace skills**, I came to understand that **the world of work has changed profoundly**.

Wagner does not know what the research says.

No mention of college, which is where most of our students are headed after high school.

Today's students need to master seven survival skills to thrive in the new world of work. And these skills are the same ones that will enable students to become productive citizens who contribute to solving some of the most pressing issues we face in the 21st century.

Thinking depends on knowing.
Helping students acquire knowledge is the job of the school.

See APA's "Top 20 Principals for Pre-K-12 Teaching and Learning." The word "knowledge" appears 49 times in 30 pages.
http://www.apa.org/ed/schools/cpse/top-twenty-principles.pdf

1. Critical Thinking and Problem Solving

Economic historians date globalization's "big bang" to the 1820s. The only recent changes of any significance have to do with currency flows and dollar appreciation, both of which erode manufacturing and manufacturing jobs.

To compete in **the new global economy**, companies need their workers to think about how to continuously improve their products, processes, or services. Over and over, executives told me that the heart of critical thinking and problem solving is the ability to ask the right questions. As one senior executive from Dell said, "Yesterday's answers won't solve today's problems."

Ellen Kumata is an executive coach in Boston.

She has no expertise on the economy, curriculum, teaching, educational outcomes, or the disciplines.

Ellen Kumata, managing partner at Cambria Associates, explained the extraordinary pressures on leaders today. "The challenge is this: How do you do things that haven't been done before, where you have to rethink or think anew? It's not

incremental improvement any more. The markets are changing too fast."

2. Collaboration and Leadership

Teamwork with technology . . .

Teamwork is no longer just about working with others in your building. Christie Pedra, CEO of Siemens, explained, "Technology has allowed for virtual teams. We have teams working on major infrastructure projects that are all over the U.S. On other projects, you're working with people all around the world on solving a software problem. Every week they're on a variety of conference calls; they're doing Web casts; they're doing net meetings."

Google "Michael Summers" and "gender discrimination."

Mike Summers, vice president for Global Talent Management at Dell, said that his greatest concern was young people's lack of leadership skills. "Kids just out of school have an amazing lack of preparedness in general leadership skills and collaborative skills," he explained. "They lack the ability to influence."

3. Agility and Adaptability

Sample interview question for a position as Technology Analyst at Goldman Sachs:

There are infinite black and white dots on a plane. Prove that the distance between one black dot and one white dot is one unit.
http://www.businessinsider.com/toughest-job-interview-questions-2013-7?op=1

Answering this question requires knowledge stored in long-term memory.

One of my first conversations was with **Clay Parker**, president of the Chemical Management Division of BOC Edwards—a company that, among other things, makes machines and supplies chemicals for the manufacture of microelectronics devices. He's an engineer by training and the head of a technical business, so when I asked him about the skills he looks for when he hires young people, I was taken aback by his answer.

Does Clay Parker's job still exist?

Clay Parker explained that anyone who works at BOC Edwards today "has to think, be flexible, change, and use a variety of tools to solve new problems. We change what we do all the time. **I can guarantee the job I hire someone to do will change or may not exist in the future**, so this is why **adaptability and learning skills are more important than technical skills**."

4. Initiative and Entrepreneurialism

Mark Chandler's opinions should not set the agenda for Irvington schools.

Mark Chandler, senior vice president and general counsel at Cisco, was one of the strongest proponents of initiative: "I say to my employees, if you try five things and get all five of them right, you may be failing. If you try 10 things, and get eight of them right, you're a hero. You'll never be blamed for failing to reach a stretch goal, but you will be

blamed for not trying. One of the problems of a large company is risk aversion. Our challenge is how to create an entrepreneurial culture in a larger organization."

5. Effective Oral and Written Communication

Mike Summers of Dell said, "We are routinely surprised at the difficulty some young people have in communicating: verbal skills, written skills, presentation skills. They have difficulty being clear and concise; it's hard for them to create focus, energy, and passion around the points they want to make. If you're talking to an exec, the first thing you'll get asked if you haven't made it perfectly clear in the first 60 seconds of your presentation is, 'What do you want me to take away from this meeting?' They don't know how to answer that question."

Mike Summers again.

You can't write clearly if you don't understand what you're writing about. Writing instructors see this phenomenon all the time.

And: you can't understand what you're writing about without knowledge stored in long-term memory.
See: "Understanding is Remembering in Disguise"
http://blog.coreknowledge.org/2009/03/24/understanding-is-remembering-in-disguise/

In sum: good writing depends on knowledge stored in long-term memory, and knowledge stored in long-term memory is different from knowledge stored on Google. Wagner's entire essay is based on a false premise.

From the *Harvard Business Review* blog:
"I won't hire people who use poor grammar. Here's why."
Kyle Wylens | July 20, 2012:
"If you think an apostrophe was one of the 12 disciples of Jesus, you will never work for me. If you think a semicolon is a regular colon with an identity crisis, I will not hire you. If you scatter commas into a sentence with all the discrimination of a shotgun, you might make it to the foyer before we politely escort you from the building."

Summers and other leaders from various companies were not necessarily complaining about young people's poor grammar, punctuation, or spelling—the things we spend so much time teaching and testing in our schools. Although writing and speaking correctly are obviously important, the complaints I heard most frequently were about fuzzy thinking and young people not knowing how to write with a real voice.

6. Accessing and Analyzing Information

"Accessing information" means Chromebooks and Google.
Inside constructivist classrooms, "analyzing information" usually means group PowerPoints.

It's impossible to "access" and "analyze" information without knowing the search terms, which is part of knowing the subject.

Example: It's impossible to look up the rule governing use of the possessive case with gerunds if you don't know what a gerund is.

Facts change very slowly, if at all.

The sum of 2+2 has not changed.

The victors in WWII have not changed.

Findings and interpretations change, but you can't understand findings and interpretations—or why they have changed—if you don't know the facts of a field.

Employees in the 21st century have to manage an astronomical amount of information daily. As Mike Summers told me, "There is so much information available that it is almost too much, and if people aren't prepared to process the information effectively it almost freezes them in their steps."

It's not only the sheer quantity of information that represents a challenge, but also how rapidly the information is changing. Quick—how many planets are there? In the early 1990s, I heard then-Harvard University president Neil Rudenstine say in a speech that the half-life of knowledge in the humanities is 10 years, and in math and science,

it's only two or three years. I wonder what he would say it is today.

7. Curiosity and Imagination

Mike Summers told me, "People who've learned to ask great questions and have learned to be inquisitive are the ones who move the fastest in our environment because they solve the biggest problems in ways that have the most impact on innovation."

3rd citation of Mike Summers

Mike Summers' performance review of female executives:
www.contractormisconduct.org/ass/contractors/21/cases/1022/1396/dell-chapman_complaint.pdf

The era of "increasing abundance" ended with the crash.

Daniel Pink is a nonfiction writer, not an expert on education or college preparation.

Daniel Pink, the author of A Whole New Mind, observes that **with increasing abundance**, people want unique products and services: "For businesses it's no longer enough to create a product that's reasonably priced and adequately functional. It must also be beautiful, unique, and meaningful." Pink notes that developing young people's capacities for imagination, creativity, and empathy will be increasingly important for maintaining the United States' competitive advantage in the future.

The Schooling Students Get

How many parents and taxpayers agree that schools with "high test scores" aren't providing a proper 21st-century education?

Parents object to excessive testing & teaching to the test, but they don't want their children to do badly.

I've spent time observing in classrooms across the United States for more than 20 years. Here is a sampling of what I've seen recently. These examples come from secondary honors and advanced placement (AP) classes in three school systems that enjoy excellent reputations because of their high test scores.

AP Chemistry

All of Wagner's "bad" classes are AP classes.
All of Wagner's "bad" teachers are AP teachers.

Student-centered administrators dislike AP courses because they are "content rich," as an Ardsley high school teacher explained to the I.H.S. site committee during our visit to his district.

"Content rich" is the expression he actually used: AP classes are "content rich."

Student-centered administrators consider worksheets to be bad form.

Students work in groups of two and three mixing chemicals according to directions written on the chalkboard. Once the mixtures are prepared, students heat the concoction with Bunsen burners. According to the directions on the board, they are supposed to record their observations on a **worksheet**.

Three boys in a chemistry class are standing over the *only* beaker of smoking chemicals in the room – and we *don't* want them to "stop what they are doing" & seek the advice of a knowledgeable adult?

Student safety should take priority over 21st-century

I watch a group of **three young men whose mixture is giving off a thin spiral of smoke** as it's being heated—something that **none of the other students' beakers are doing**. One student looks back at the chalkboard and then at his notes. Then **all three stop what they are doing, apparently**

skills.

waiting for the teacher to come help them.

"What's happening to your mixture?" I ask the group.

"Dunno," one mutters. "We must have mixed it up wrong."

"What's your hypothesis about what happened—why it's smoking?"

Intrusively demanding that 3 students produce an on-the-spot hypothesis as to why they are the only ones whose experiment has gone wrong is rude. Does *Tony Wagner* have any idea why the beaker is smoking?
If he does, why doesn't he produce, on the spot, a guided inquiry to help these students come up with a hypothesis?
Better yet, why doesn't Wagner ask himself whether there's a reason talented AP students are so unresponsive to his teaching approach?

The three look at one another blankly, and the student who has been doing all the speaking looks at me and shrugs.

AP U.S. Government

Student-centered administrators consider multiple-choice questions bad form, but the research shows otherwise.
One example: "Multiple-choice tests stabilize access to marginal knowledge"
http://www.ncbi.nlm.nih.gov/pubmed/25201690

Student-centered administrators consider teachers asking question – especially when using transparencies and textbooks – bad form. The teacher should be a guide on the side, not a sage on the stage.

PowerPoint videos watched in "learning stations" or at home are acceptable because they involve technology.

The teacher is reviewing answers to a sample test that the class took the previous day. The test contains 80 multiple-choice questions related to the functions and branches of the federal government.

When he's finished, he says "OK, now let's look at some sample free-response questions from previous years' AP exams." He flips the overhead projector on and reads from the text of a transparency: "Give three reasons why the Iron Triangle may be criticized as undemocratic. How would you answer this question?"

No one replies.

"OK, who can give me a definition of the Iron Triangle?"

A student pipes up, "The military-industrial-congressional complex."

"OK, so what would be three reasons why it would be considered undemocratic?" The teacher calls on a student in the front row who has his hand half raised, and he answers the question in a voice that we can't hear over the hum of the projector's fan.

"Good. Now let's look at another one." The teacher

flips another transparency onto the projector. "Now this question is about bureaucracy. Let me tell you how to answer this one .... "

AP English

Students "slouch deeply" whenever teachers help them review for tests.

The teacher explains that the class is going to review students' literature notes for the advanced placement exam next week. The seven students are deeply slouched in their chairs, arranged in a semicircle around the teacher's desk.

The teacher asks, "Now what is Virginia Woolf saying about the balance between an independent life versus a social life?"

Students ruffle through their notebooks. Finally, a young woman, reading from her notes, answers, "Mrs. Ramsey sought meaning from social interactions."

"Yes, that's right. Now what about Lily, the artist? How did she construct meaning?"

"Through her painting," another student mumbles, her face scrunched close to her notes.

"So what is Woolf saying about the choices these two women have made, and what each has sacrificed?"

The moral: students should construct knowledge in groups, not listen to a teacher.

No reply. The teacher sighs, gets up, goes to the board, and begins writing.

A Rare Class

For Wagner, "academic content" is acceptable <u>only when you use it to develop "core competencies</u>." He has no love of knowledge for the sake of knowledge and no belief that teachers can or should inspire a love of knowledge in their students. The place of knowledge in the schools, for all constructivists, is purely utilitarian: it should be used to teach 21st-century skills.

Once in a great while, I observe a class in which **a teacher is using academic content to develop students' core competencies**. In such a class, the contrast with the others is stark.

At the beginning of the period in an Algebra II class, the teacher writes a problem on the board. He turns to the students, who are sitting in desks arranged in squares of four that face one another. "You haven't seen this kind of problem before," he explains. "Solving it will require you to use concepts from both geometry and algebra. Each group will try to develop at least two different ways to solve this problem. After all the groups have finished, I'll randomly choose someone from each group who will write one of your proofs on the board, and I'll

BIASED WORDING
Students who are asked questions by a teacher standing at the front of the class – a sage on the stage – "pipe up." [see above]

Students working in groups engage in "animated discussion."

Is it acceptable to be an introvert in a student-centered school?

Must all students work in "animated" groups all the time?

Is it important for students to learn how to work independently?

The teacher in this vignette refuses to engage or to share knowledge with students. In any other setting, his behavior would be rude.

According to Wagner, a good teacher should refuse to answer direct questions. Group members, on the other hand, are under no such restriction. Direct instruction is acceptable when delivered by peers.

WHAT THE RESEARCH SAYS: "Results [of our study] indicate that traditional lecture style teaching is associated with significantly higher student achievement."
http://files.eric.ed.gov/fulltext/ED513541.pdf

"Mere memorization"

In a constructivist school even very young children, who enjoy memorizing facts & do it for fun, are forced to sit in groups and "solve problems." Children can't be children.

Wagner provides no evidence that refusing to answer a direct question builds tolerance for "ambiguity." Nor does he explain why "building tolerance for ambiguity" is more important than ensuring students have learned a subject well enough to remember what they've learned later on.

The teacher assumes, but does not check to see, that all students have learned the intended content. No "formative assessment" is performed.

What happens when a member of the group does not understand the solution other members have reached?

Wagner misrepresents the views of professors in the liberal arts and sciences:

More Than One-Third of College Faculty Believes Most of Their Students Lack Basic Skills Needed for

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ask that person to explain the process your group used."

The groups quickly go to work. **Animated discussion** takes place as students pull the problem apart and talk about different ways to solve it. While they work, the teacher circulates from group to group. **When a student asks a question, the teacher responds with another question**: "Have you considered ... ?" "**Why did you assume that**?" or simply "**Have you asked someone in your group**?"

What makes this an **effective** lesson-a lesson in which students are learning a number of the seven survival skills while also mastering academic content? First, students are given a complex, multi-step problem that is different from any they've seen in the past. To solve it, they have to apply critical-thinking and problem-solving skills and call on previously acquired knowledge from both geometry and algebra. **Mere memorization** won't get them far. Second, they have to find two ways to solve the problem, which requires initiative and imagination. Third, they have to explain their proofs using effective communication skills. Fourth, the teacher does not spoon-feed students the answers. **He uses questions to push students' thinking and build their tolerance for ambiguity**. Finally, because the teacher announces in advance that he'll randomly call on a student to show how the group solved the problem, **each student in every group is held accountable**. **Success requires teamwork**.

Rigor for the 21st Century

Across the United States, I see schools that are succeeding at making adequate yearly progress but failing our students. Increasingly, there is only one curriculum: test prep. Of the hundreds of classes that I've observed in recent years, fewer than 1 in 20 were engaged in instruction designed to teach students to think instead of merely drilling for the test.

To teach and test the skills that our students need, we must first redefine excellent instruction. It is not a checklist of teacher behaviors and a model lesson that covers content standards. It is working with

College, UCLA Survey Reveals
http://heri.ucla.edu/pr-display.php?prQry=25

The Dumbest Generation: How the Digital Age Stupefies Young Americans and Jeopardizes Our Future (Don't Trust Anyone Under 30) by Mark Bauerlein (English professor, Emory)

Ignorance Is Blitz: Mangled Moments of History from Actual College Students by Anders Henriksson (college professor)

10 Questions That Most College Students Can't Answer, But You Probably Can (Forbes: reports on study by Kent State professors John Dunlosky and Katherine Rawson)

Academics subordinated to 21st-century skills.

colleagues to ensure that all students master the skills they need to succeed as lifelong learners, workers, and citizens. **I have yet to talk to a recent graduate, college teacher, community leader, or business leader who said that not knowing enough academic content was a problem**. In my interviews, everyone stressed the importance of critical thinking, communication skills, and collaboration.

We need to use academic content to teach the seven survival skills every day, at every grade level, and in every class. And we need to insist on a combination of locally developed assessments and new nationally normed, online tests-such as the College and Work Readiness Assessment measure students' analytic reasoning, critical-thinking, problem-solving, and writing skills.

Endnote

Pink, D. (2005). A whole new mind: Moving from the information age to the conceptual age. New York: Riverhead Books, pp. 32-33.

Tony Wagner is Codirector of the Change Leadership Group at the Harvard Graduate School of Education.

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URLs

Board Docs: http://www.boarddocs.com/ny/iufsd/Board.nsf/goto?open&id=9VJS7655E38A#
September 23, 2013 Work Session/Special Meeting

"Rigor Redefined" by Tony Wagner:
http://www.boarddocs.com/ny/iufsd/Board.nsf/files/9BNNG35F6D37/$file/article-rigor.pdf

District Goal Development Presentation September 24 2013 v2
http://www.boarddocs.com/ny/iufsd/Board.nsf/files/9BVH7Q46BAEC/$file/District%20Goal%20Development%20Presentation%20September%2024%202013%20v2.pdf

VIDEO of Irvington USFD School Board meeting – September 24, 2013
https://www.youtube.com/watch?v=TzPbZh2ahdw
2:13:30 – Superintendent presentation on "Rigor Redefined" begins

Irvington UFSD | BOE meeting videos
https://www.youtube.com/channel/UCFmUI-HOJvuCjL_0_clV8wQ