"Think locally. Wonder globally."
Starbird & Burger
The joy of thinking

Power Teaching Prototype

New Paradigm Education at Edward Waters College

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Abstract

Since, its early development in our nation's capital, the Power Teaching Prototype (PTP) has evolved to connect three factors likely to characterize 21st Century teaching and learning. Teaching for understanding requires a clear method of designing instruction and a simple, yet powerful, way of delivering. For the design of instruction, Harvard University Project Zero Research Center's teaching for understanding (TfU) framework stands out for its collaboration between top teachers and selected researchers. Howard Gardner's MI approached (based on his multiple intelligences theory) provides a way of delivering student centered instruction. Thus, the first factor of PTP combines design and delivery. In turn, the second factor is information literacy. The core definition of information literacy draws on a 1989 Presidential report which said that information literate people can locate, evaluate, and create information. Information literacy extends teaching for understanding with the use of appropriate technology. Lastly, the third factor is Howard Gardner's five minds for the future. Gardner asserts that five minds are likely to need full development in schools and workplaces: his quintet of minds are the disciplined mind, synthesizing mind, creating mind, respectful mind, and ethical mind. Developing this set of capacities provides ample opportunities for assessing performances of understanding over time. The interaction of the three factors equals leverage for learning in a "flat world." From a systems perspective, Asa Hilliard's "Sba" (deep thought) may be one emergent property.

On the one hand, power teaching becomes a way of creating scenarios about the future of Edward Waters College. On the other hand, PTP becomes a way of designing "Theories of Learning," a psychology seminar, one allowing students to experience new paradigm practices even as they study multiple views of human learning.

To: claudia.wilson@ewc.edu
From: joshua.franklin@ewc.edu
Re: Edward Waters College 2066

Peace, Dr. Wilson. As per your request, attached please find three scenarios for Edward Waters College (EWC) 2066. Please place the scenario set in a time capsule. From the vantage point of tomorrow, our effort to "reinvent EWC" will be evident. What we do now will affect seven generations to come. Note that the best, worst, and probable scenarios take a handful of ideas such as Fluellen's power teaching prototype and Senge's fifth discipline framework to create stories about possible futures. As such, scenarios suggest imaginatively what might happen. The 2066 president of EWC will open the time capsule at our bicentennial celebration of the college's founding as an institution to educate former slaves. But as Eckhart Tolle might say, the "power of now" is upon us.

Best Scenario

100 years after Brown V Board of Education, a critical mass of educators at Edward Waters College (EWC) will have knitted together as a whole three interactive factors: teaching for understanding, information literacy, and Howard Gardner's five minds of the future. "Leverage for learning in a flat world" will have stood out as one of the emergent properties of the power teaching prototype (PTP). Additionally, early in the century, EWC administrators facilitated professional development of faculty. The college transformed into a learning organization embodying Senge's fifth discipline framework. That, in turn, provided a context for developing PTP as a fundamental solution to the problem of achieving academic success with a population comprised of a significant number of students who were descendent of the original group first populating Edward Waters College in 1866, the year of its founding, the year Jacksonville was primarily a culture of farmers and fishermen. More so, the president formed a partnership with Maharishi's transcendental meditation program and developed a critical mass of meditators at the college. Consciousness-based education followed. Equipped with PTP to integrate factors of 21st Century education, practices of Peter Senge's fifth discipline framework to become a learning organization, and TM-Sidha meditation to increase experiences of cosmic consciousness, Edward Waters College became sustainable--one of the top ranked colleges in the land. The college even took purposeful evolution to heart and began fostering space exploration, spirituality, science, and wisdom to extend knowledge to the newly minted Martian settlement of human pioneers. While at EWC, retention and graduation rates soared to extraordinary levels. Graduates were prepared for graduate school or work. They served as wise citizens and practiced voluntary simplicity, making significant contributions to humankind's evolutionary bounce. The 2054 EWC graduates foreshadowed our global shift from Homo sapiens to Homo futuris.

Worst Scenario

The power teaching prototype failed to impact on educators at Edward Waters College by 2054. The majority of students did not develop the capacities needed for an ecological-age. That meant few courses used explicit methods of teaching for understanding. Few students developed information literacy. Few graduated with highly evolved future minds. They did not have leverage to learn in a flat world. Few educators systematically applied U theory to learn from an interdisciplinary problem. Additionally, EWC retained a traditional organizational structure and old paradigm practices persisted. Such a mechanistic view of human potential assured that the college would not be sustainable. Thus, the college faced frequent shut down threats for failing to meet accreditation standards. Instead of multiplying student capacities for the disciplined mind, synthesizing mind, creating mind, respectful mind, and ethical mind, the college mis-educated many. That was ironic because EWC had been founded in 1866 to educate former slaves. By definition, this purpose should have meant liberating the minds of students. Also, instead of transforming into a learning organization, the college resisted change despite being engulfed in a time of accelerated change and new paradigm thinking during Barak Obama's administration. Thus, instead of becoming sustainable, it created wastes. Instead of creating green buildings, it maintained out of date, energy-guzzling structures. Instead of fostering information literacy across disciplines, it allowed many students to under develop capacities for locating, evaluating, and creating ideas. Instead of fostering thinking classrooms, engaging everyone in critical and creative thinking, it allowed many classrooms to be teacher centered and fact based only. Instead of purposeful evolution, it held to old paradigm views of human potential and science. Most graduates of EWC were ill-prepared for life post-college. They didn't know how to think, learn, and create—the 21st Century basic skills John Naisbitt had first identified in Megatrends. Graduates of EWC practiced gross consumerism, adding to adversity trends and contributing to an evolutionary crash for humankind.

Probable Scenario

The power teaching prototype (PTP) characterized successful educators at Edward Waters College by 2020. Each accomplished educator connected the three interactive factors of PTP, but each use of PTP offered uniqueness as well. No two courses were alike. Yet all courses featured Harvard University Project Zero's performance view of understanding and interactive instruction based on Sternberg's assertion that people had to "think to learn" as well as Freire's truth: "reflection and action" liberated minds. All courses fostered information literacy. Students practiced locating, evaluating, and creating information. All courses developed in each student the quintet of minds for the future Howard Gardner had identified in 2006. But a critical mass of these accomplished educators did not form until adversity trends made it clear that a new paradigm education was essential. President Obama had called for new paradigm education in 2009, but EWC took awhile to become sustainable. Faced with shutting down, administrators facilitated a transformation of the college into a learning organization characterized by Senge's fifth discipline framework. That meant the average educator at Edward Waters College in 2030 used systems thinking as a tool for seeing reality as well as how the other four Senge disciplines connected. Each educator practiced systems thinking, personal mastery, mental models, shared vision, and team learning. The educational approach at Edward Waters became so unique it was a site for world-wide Imax conferences based on the power teaching prototype. By its bicentennial in 2066, Edward Waters College had earned a top place in the land, providing what Vito Perone once called an education of "power and consequence." EWC epitomized the words of W. E. B. DuBois: people learned the "accumulated wisdom of the world."

Power Teaching Prototype (PTP)

Scenarios narrate possible tomorrows. But the power teaching prototype describes new paradigm education today. Power Teaching's story began in our nation's capital. In 2004-2005, district public school teachers faced a set of initiatives all at once: another new Superintendent, new standards, new textbooks, new psychometric assessment tools, a new master plan—all sitting on a bedrock of instability from frequent past initiatives and the impact of No Child Left Behind. Educators were overwhelmed. One person, a teacher consultant from the District of Columbia Area Writing Project (DCAWP) at Howard University, responded. He connected the dots among a set of factors that seemed to characterize schools of the future. Each factor had to connect research and practice. Each factor had to have staying power, i.e. likely to link years of past best practices with probable future practices. Each factor had to interact with the other factors in ways that would not only create a whole that was greater than the parts, but would create emergent properties that were radically different than the parts--the way sugar, flour, butter, eggs, and milk become cake whose properties of taste and texture are radically different than the whole created from the batter sitting in the bowl. Thus, the factors had to have synergy.

Two Teacher Consultants from DCAWP collaborated at the renewed McKinley (High) Tech High School; they co-designed and co-facilitated the "Mars 2030" project. Both had been Apprentice Faculty members at Harvard Project Zero Research Center's 1999 summer institute on teaching for understanding. Their collaborative 2005-2006 Mars 2030 project used PZ's teaching for understanding framework (TfU) and Howard Gardner's MI approach. Both of these instructional design theories allowed for planning English Language Arts (ELA) standards-based instruction as well as active teaching and learning. The instructional design theories drew on the belief that teaching for understanding happened best when educators planned well and used a specific theory based approach to reach the multiple intelligences profile for each student. 135 students in six classes wrote research papers and presented power point slide shows in a Mars 2030, mini conference at the end of the year. Along the way, students engaged the six features of the Tishman and Perkins framework for teaching thinking, culturally relevant literature, information literacy, and performance based assessments. They reasoned, wrote, read, spoke, and listened. They used age-appropriate digital electronics. In brief, they learned John Naisbitt's TLCs of tomorrow—thinking, learning, and creating.

Factors used in shaping the power teaching prototype (PTP) became tested in the fires of the Savannah-Chatham School district in Georgia and Edward Waters College in Jacksonville, Florida. Also, the evolutionary story of the factors of power teaching had been reported in six occasional papers published in the Educational Resource Information Center (ERIC) international data base, the most extensive of which had been a book length paper entitled "The Titmouse Effect (Power Teaching in 2054—a meditation on the 2006 Urban Sites Conference of the National Writing Project).

To date, three factors seem to meet the criteria. **Teaching for understanding** has a long history in education. Though not always explicit, good teachers throughout the ages have strived to plan well and teach actively. Effective teachers of tomorrow are likely to also plan instruction that connects some sense of standards to activities and assessments that measure those standards in terms of student achievement. Effective teachers of tomorrow are likely to try engaging students in ways that foster understanding of the discipline under study. Efforts at Harvard University Project Zero Research Center have created connections among research and practice in ways that have been making the process of teaching for understanding increasingly explicit for the last 25 years.

Information literacy formally came to life in a 1989 presidential report. A few years later, the concept had less than 100 pieces of literature. By 2008, the literature had grown to greater than 5,000 documents. The landmark document from the American Libraries Association had defined information literacy as the capacity to locate, evaluate, and create information. But long before the report, effective teachers had used technology of the day to facilitate the design and delivery of instruction, and they tried to get students to find, rate, and make ideas. In the context of President Obama's 2009 emphasis on education as part of our nation's economic recovery, information literacy seemed vital. It not only extended teaching for understanding but bridged such performance based instruction with the development of Howard Gardner's five minds for the future. Thus, information literacy became the second factor—one likely to be around 100 years from now.

Finally, educators have always sought to develop the minds of students. But only recently has an explicit framework for such development emerged. Howard Gardner's 2006 creation of **five minds for the future** frames a way to see what these minds might be: the disciplined mind, synthesizing mind, creating mind, respectful mind, and ethical mind provide assessment opportunities for performance based student understanding often demonstrated with intellectual products rooted in information literacy. Gardner says a critical aim for educational institutions in the 21st century given the complex adversity trends humankind now faces must be to develop five minds for the future. He wants each 21st century citizen to have the following: (1) knowledge of at least one discipline in depth, (2) capacity to synthesize ideas within a discipline and across disciplines, (3) capacity to create intellectual products of value for self and others, (4) respect for others who seem different than self, (5) capacity to create works that are ethical and excellent. Gardner's quintet of mind for the future, thus, becomes the third factor. Though new as a whole, each one of Gardner's set of minds draws heavily on his research career. The quintet of minds as a set is likely to be a way of thinking about educational outcomes now and in decades to come. Taken as a whole, the three factors of power teaching connect research and practices, past and possible practices, and are likely to create a whole with emergent properties that differ dramatically from the parts. Call the whole leverage for learning in Friedman's "flat world. Call one emergent property "Sba" (deep thought) from the late educational psychologist Asa Hilliard.

Context of power teaching

Step back to see the context for PTP. The recent development of the prototype used the U theory framework to explore three disciplines. As Peter Senge and his colleagues described U theory, three non linear phases characterized the process. First, "sensing" required extensive scanning of the information environment to soak up ideas about a given topic or problem. It seemed to include but was not limited to literature reviews and studies. After extensive preparation—the sensing phase-- "presensing" emerged. This was a period of incubation during which the knowledge appeared to be resting until an insight broke through. Then, realizing led to a series of intellectual products and a new round of sensing, presensing, and realizing.

Presensing had been noteworthy for its insights about a refined set of factors for PTP (from five factors in the early work in our nation's capital to three factors in Jacksonville, Florida) and a new interdisciplinary problem. Realizing became the next generation of PTP manifested in a set of professional development projects based on Peter Senge's fifth discipline framework for becoming learning organizations, an algebra project for first graders, two psychology courses for college students, and publishing an occasional paper series to reflect on these educational experiences. With the PTP design of a professional development project for the Obama Family Network of Jacksonville, Florida and a Lenten series for leaders at St. Luke's Episcopal Church/Iglesia Episcopal San Lucas, as well as the writing of this occasional paper, realizing came to an end and another cycle of sensing began.

U theory

What we know so far from past sensing, presensing, and realizing is that three key dates in history, four new theories of intelligence, and three systems thinkers contextualize the present three factors of the power teaching prototype. Brown V Board of Education not only reversed "separate but equal," stated in the majority decision of Plessey V Ferguson, but provided a lens to measure progress in our nation's public school capacities to educate citizens of tomorrow. Joined with the 1983 A nation at risk report and subsequent national and international assessments of achievement, it is clear that our schools have failed many poor black children, poor white children and children of oppressed people in general. President Obama's attention to education in his economic recovery vision recognizes that these failures have economic and social impact on the well being of our nation.

At least four new theories about human intelligence created a framework for "putting all children ahead." Each provided insights about 21st Century education that saw children of all racial and economic groups as at promise in a set of multiple intelligences. For Gardner (1983) these intelligences included at least eight ways of viewing human potential in terms of capacities to solve or pose problems and fashioning intellectual products people could use to make life better. For Sternberg (1985), these became a triarchic view that said people could develop analytical, creative, and practical intelligences. For Langer (1989), the view became that people could become mindful learners: welcoming new ideas, see context and process, hold more than one perspective, and create new categories. For Perkins (1995), the view became connections among native endowment as measured in IQ tests, experiential intelligence, and reflective intelligence as way of increasing both IQ and experiential intelligence. And a slew of ideas about the plasticity of the human brain with implications for teaching all children that have been emerging from brain research. These brain based ideas to date include, perhaps, the first brain research theory about human potential, namely Joseph Chilton Pearce's idea of **transcendence** with its core concept "heart intelligence."

Step back into systems thinking, a lens for viewing human beings extends our view of power teaching. Darwin casts us in the light of evolution. Our 3.5 million year story has seen at least nine human species leading to our present status as Homo sapiens. For the last 195,000 years, Homo sapiens have been experiencing a series of species level paradigm shifts: from hunting and gathering societies to agricultural societies just 10,000 years ago; from agricultural to industrial societies just 400 years ago. Now in the 21st Century a convergence of world class thinkers including Frijof Capra and Peter Senge believe we are "paradigm shifting" again to new view of the world. Finally, in the January 2009 special issue of *Scientific American* celebrating Charles Darwin, Peter Ward wrote an article forecasting the possible emergence of the next human species: from Homo sapiens to Homo futuris. If Ward is anywhere close to being right, our efforts at transformation today—one more colorfully tagged as "an evolutionary bounce" in Duane Elgin's words-- will become roots for a larger scale human evolution.

Step up to a more local application of the power teaching concept. A senior seminar that once featured primarily old paradigm theories of learning drawn from a single text book can be designed to teach for understanding, foster information literacy, and assess students along the lines of Gardner's quintet of minds for the future. What follows is Theories of Learning—PTP embodied.

"We cannot base the education of future citizens on the present inexcusable inequality of wealth nor on physical differences of race. We must seek not to make men carpenters but to make carpenters men." -Du Bois, 1920

Theories of Learning

(Prototype new paradigm seminar for Edward Waters College)

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Course Description

W.E.B. DuBois refuted the Jones Report in 1918. The report argued that African Americans needed only a marginal education even in college. DuBois countered by arguing that "all people needed to learn the "accumulated wisdom of the world." To the vision of DuBois, the Theories of Learning seminar is a writing intensive, thought demanding exploration of core ideas from psychology applied to 21st century educational settings. The seminar takes a performance view of understanding, thus, it uses Harvard University Project Zero Research Center's teaching for understanding framework to design instruction and Howard Gardner's MI approach to deliver instruction in student centered think tanks. The seminar requires a series of papers and research based power point slide shows in a mini conference entitled "Future Minds." Along the way to the mini conference, learners develop critical thinking capacities with David Perkins's knowledge as design and Robert Marzano's research based strategies for improving student achievement. Additionally, students practice information literacy and what Howard Gardner calls five minds for the future: the disciplined mind, synthesizing mind, creating mind, respectful mind, and ethical mind. In brief, the Theories of learning seminar uses power teaching to create an adventure in 21st Century education.

Note: while open to all majors, especially education and psychology majors, completion of the general course requirements is a prerequisite for this seminar.

Course Design

Teaching for Understanding Framework

Perkins & Unger, 1999
Harvard University Project Zero Research Center

Generative topic

Future of Learning

Throughline

"All learning integrates thinking and doing."
Peter Senge et al
Presence

Understanding goals

1. Students will understand how to write an effective summary.
2. Students will understand how to write a comparison paper.
3. Students will understand how to write research papers that explore the future of learning.
4. Students will understand how to present knowledge as design power point slide shows in a mini conference.
5. Students will use knowledge as design to organize the thinking in their research papers and final examinations.

Understanding performances

Students write the following: a summary of complex article, a comparison paper about two articles, a research paper about the future of learning. Students will create research based power point shows to share their knowledge about the future of learning within a community of scholars. Students will engage a critical thinking final examination to reflect on tomorrow's learning.

Ongoing assessments

To improve performances of understanding, students will do the following: (10 give and get value neutral feedback; (2) discuss theories of learning from the perspectives of old and new paradigms in science; (3) write daily as well as engage evaluation papers and power point slide shows; and, (4) use specific strategies such as David Perkins' knowledge as design method of critical thinking, the Tishman, Perkins, Jay framework for critical thinking, Robert Sternberg's view that people must think to learn, and Robert Marzano's research based strategies for improving student achievement. Each of these provides opportunities to assess performances of understanding.

Grading

To determine final grades based on major performances of understanding, the facilitator will use the following point system:

A =500-450 points

B= 449-400 points

C=399-350 points

D=349-300 points

F =or less than 299 points

- Summary paper = 50 points
- Comparison paper = 50 points
- Research paper = 100 points
- Power point presentation = 100 points
- Final examination = 200 points

Teaching Method

To teach for understanding, the facilitator will use Howard Gardner's MI approach for active learning with an eye on the development of Gardner's five minds for the future (disciplined mind, synthesizing mind, creating mind, respectful mind, and ethical mind). Typical classes feature interactive, student centered strategies that focus on Robert Sternberg's idea "think to learn."

Syllabus

"Theories of learning" unfolds in several, writing intensive blocks, about three weeks each. Think tanks (workshops) fill in the blocks. The overall sequence of instruction aims at the understanding goals. Note the block approach allows students to gain depth of understanding one topic at a time.

Block one: Robert Marzano's research based summarizing and note taking strategies
Think tank tasks:

- "Starting Block" Game from Harvard University Project Zero Research Center (discover prior knowledge) and knowledge as design for critical thinking
- KWL on Tom Lombardo's article on the future of psychology
- Knowledge as design to reflect on Marzano's "summarizing and note taking" strategy

Block Two Robert Marzano's research based similarities and differences strategies
Think tank tasks:

- Knowledge as design to reflect on Marzano's "similarities and differences" strategy
- KWL on Elizabet Sahtouris' new paradigm view of science
- comparison paper Lombardo vis a vis Sahtouris (mid term)

Block Three (Robert Marzano's research based questioning and hypothesizing strategies
Think tank tasks:

- Knowledge as design to reflect on Marzano's questioning and hypothesis strategy
- locate and evaluate peer reviewed articles about behaviorist theories of learning, constructivist theories of learning, teachable intelligence theories, or mind brain research on learning
- round table discussions of articles and books (primary documents) ("co-generative dialogue" strategy)
- preparation of research papers with the knowledge as design format to organize thinking and encourage original critical thinking
- submission of research papers for peer review

Block Four (disciplinary mind, synthesizing mind, creating mind, respectful mind, ethical mind)
Think tank tasks:

- power point presentation from the professor: "Power Teaching Prototype: New paradigm education at Edward Waters College" plenary session for the mini conference Future of Learning
- Power point presentations in the mini conference: Future of Learning
- submission of research papers for possible online publication
- "Reflection Cube" Game from Harvard University Project Zero Research Center (reflect on the seminar)
- course evaluation (college wide)
- final examination

Final examination

(An essay test of critical thinking)

- "All learning integrates thinking and doing." Why did the theories of learning seminar use Peter Senge's idea about learning as a throughline? (purpose)
- How did your understanding of theories of learning change during the seminar? (structure)
- How do two model case theories of learning from different persuasions compare?
- Solve the following interdisciplinary problem: how might students at Edward Waters College gain leverage for learning now and in decades to come? (argument)
- What has been missing from your study of theories of learning? What new research questions or hypotheses emerge? (invent)

Reflection

Mathematics professors Burger and Starbird offer several strategies for thinking. One of which in particular applies to this embodiment of PTP in a real course for college students: "Think locally. Wonder globally." Theories of learning uses the Harvard PZ teaching for understanding framework to spell out generative topic, throughline, understanding goals, understanding performances, and ongoing assessments. It indentifies Howard Gardner's MI approach as its primary instructional design theory for delivering student centered teaching and learning. Thus, the teaching for understanding factor from PTP is in place, locally. The prototype course fosters information literacy and Gardner's five minds of the future as well. So the three factors of PTP are explicitly part of the course. As a whole, the interaction of the factors equal leverage for learning. But thinking globally, the course encourages Asa Hilliard's deep thought about theories of learning beginning with challenging articles drawn from *World Future Review.* Students can wonder about the evolutionary path of psychology itself in concert with human evolution. They can wonder about the fundamental assumptions of science for the last 400 years or so and Sahtouris's assumptions for a new paradigm view of science in which psychology is embedded. They can explore the developmental trajectory of theories of learning from behaviorism to constructivism to teachable intelligences theories to brain research. And then, full circle to the local, students can learn both procedural and declarative knowledge to be used beyond the borders of the course. That is power teaching.

Conclusion

As part of a network of historically black colleges and universities nested within the larger set of other institutions of higher education in our nation and the world, EWC is part of the equity struggle and a gem to be polished in President Obama's hands. Also, it is part of the human story. While local to Jacksonville, Florida, EWC can reframe itself to create a far reaching instructional prototype—one that fosters human evolution course by course. The power teaching prototype is but one of many possibilities for designing and delivering instruction. Finally, PTP yields an interdisciplinary problem for Otto Scharmer's Theory U (advanced action research) as well: How might students gain leverage for learning in a "flat world" now and in decades to come?

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