Tick TOCS Tick TOCS
Channeling change through theory into scenarios
by Wendy Schultz and Richard Lum

Many different methods exist for building scenarios. Bishop, Hines, and Collins cite almost two dozen scenario building approaches[1]. Methods vary across a process landscape that includes contrasting uncertainties; mapping permutations and combinations of outcomes from key variables; and dynamic forecasting models. Good futures work includes clearly identifying the theories of change underlying scenarios: what drives the changes that create alternative futures? how do impacts collide and connect in the patterns they do? Yet researchers rarely acknowledge the specific theory(ies) of change that contribute to their scenario outcomes, and none that we know of use alternative theories of change and stability (TOCS) as the actual conduits and differentiators of change.

In a recent futures project with Kamehameha Schools of Hawai'i, (Hawaii's largest private school), we helped educational administrators and planners explore the future of education

We used different theories of social change to create distinct scenarios for learning

and learning. This exploration supported Kamehameha School's ongoing drive to develop public and private partnerships to support high quality education for Native Hawaiian children and their families. The intent was strategic – to windtunnel the school's proposed planning goals for the next twenty years against a set of scenarios depicting possible outcomes for US educational and learning systems. The process chosen was specifically systemic and theory driven. Richard Lum developed this approach for his work at Vision Foresight Strategy, and has used it most recently for the UK's National Ecosystem Assessment[2]; in exploring political transformations in The

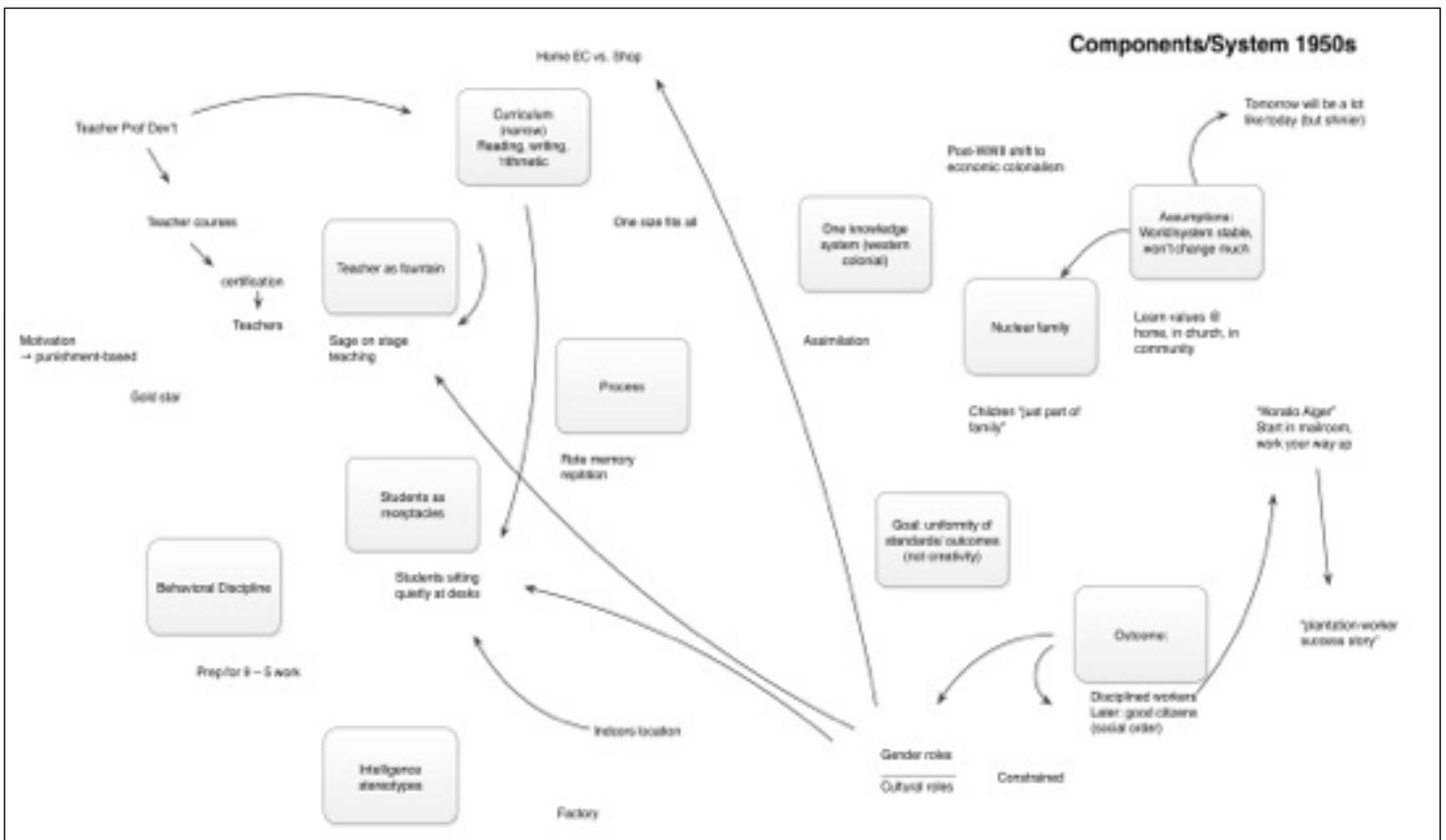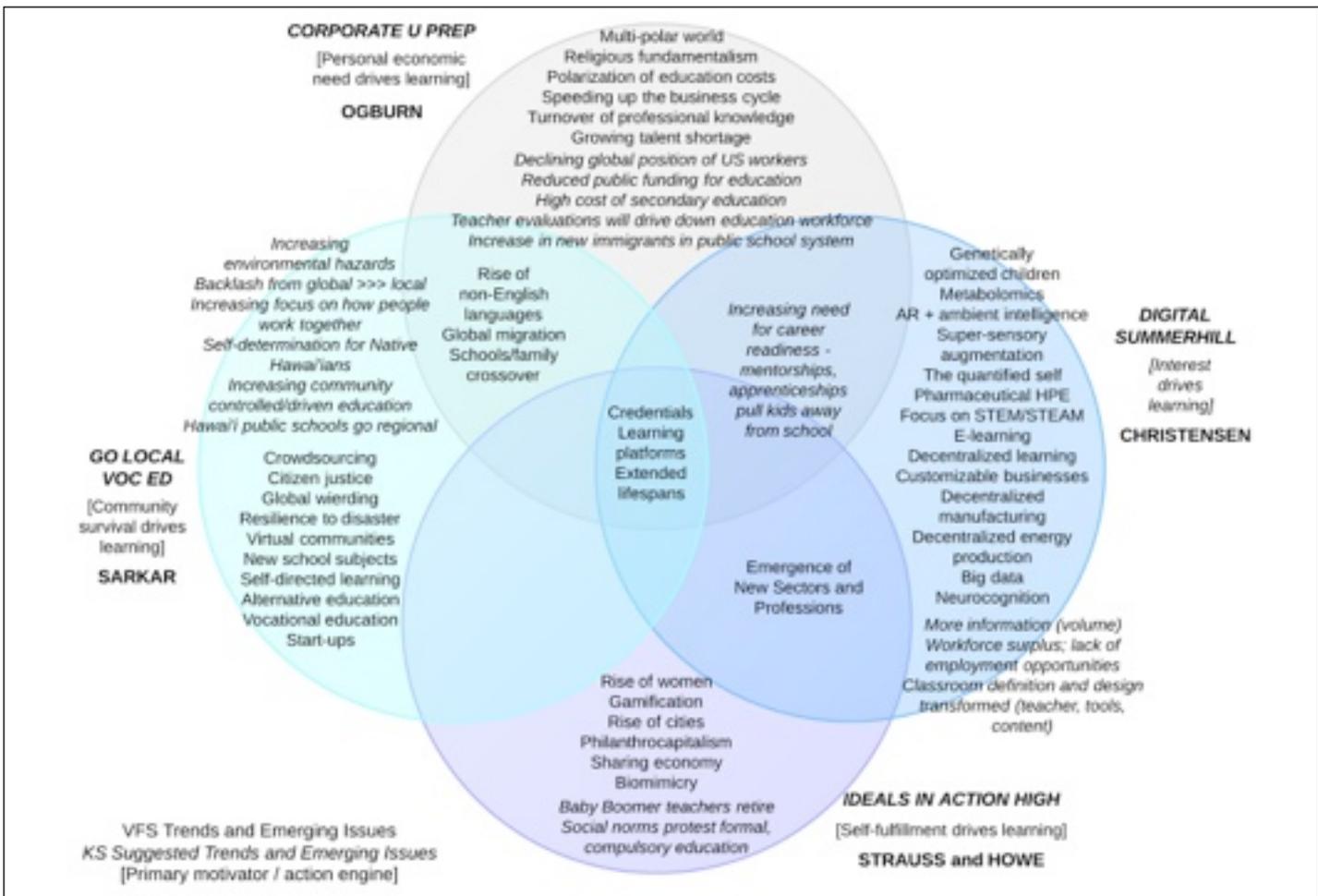Figure 1: The education system and components in the 1950s

Third Era3 (presented at the APF Gathering 2012 in Oxford); and as part of VFS training modules. The steps of the process, in brief, are:

- Create a shared timeline of transformations in the US educational system over the past 100 years (based on both participant contributions in a workshop as well as desk research);

- Create a soft systems 'map of the territory' depicting the state of education and learning in the 1950s (see Figure 1 above);

- Create a contrasting map depicting the current state of education and learning (Figure 2);

- Engage in environmental scanning to identify trends and emerging issues (TEIs) of change that might affect either the nodes or interconnections of the current system as participants had

mapped it (see the yellow notes in the system map below as the participants' first brainstorm of TEIs directly affecting system components);

- Sort the TEIs into clusters using a TOCS as a 'seed crystal' / attractor, and as a design focus (see below);

- Write the scenarios depicting how the TEIs in concert with a specific TOCS created a narrative arc of change over time.

- Enliven and personalise the scenarios with character quotes.

We chose four specific theories of social change, and created four distinct scenarios for education and learning as a result.

The social change theories chosen included P.R. Sarkar's social cycle theory depicting displacement of successive leader worldviews (worker,

warrior, intellectual, capitalist); William F. Ogburn's theory of culture lag; Clayton Christensen's theory of the disruptive impacts of innovations; and Strauss and Howe's age-cohort theory of generational worldview cycles.

To give you a sense of the scenarios that resulted, highlights of the unique features of each scenario in comparison to the others are presented in a summary table below (Figure 4). Short summaries of the four scenarios are:

1. **Go Local Voc Ed** is framed by the social cycle theory of P. R. Sarkar. This scenario traces the evolution of learning as society undergoes a broad social transformation driven by increasing economic volatility and destabilization. Society moves from a period of unquestioned capitalism and the

Figure 2: The education system and components in the 2010s

Figure 3: The scenarios and their roots in theories of change

CORPORATE U PREP

[Personal economic need drives learning]

OGBURN

Multi-polar world
Religious fundamentalism
Polarization of education costs
Speeding up the business cycle
Turnover of professional knowledge
Growing talent shortage
Declining global position of US workers
Reduced public funding for education
High cost of secondary education
Teacher evaluations will drive down education workforce
Increase in new immigrants in public school system

Increasing environmental hazards
Backlash from global >>> local
Increasing focus on how people work together
Self-determination for Native Hawai'ians
Increasing community controlled/driven education
Hawai'i public schools go regional

Rise of non-English languages
Global migration
Schools/family crossover

Increasing need for career readiness - mentorships, apprenticeships pull kids away from school

Genetically optimized children
Metabolomics
AR + ambient intelligence
Super-sensory augmentation
The quantified self
Pharmaceutical HPE
Focus on STEM/STEAM
E-learning
Decentralized learning
Customizable businesses
Decentralized manufacturing
Decentralized energy production
Big data
Neurocognition

DIGITAL SUMMERHILL

[Interest drives learning]

CHRISTENSEN

GO LOCAL VOC ED

[Community survival drives learning]

SARKAR

Crowdsourcing
Citizen justice
Global wierding
Resilience to disaster
Virtual communities
New school subjects
Self-directed learning
Alternative education
Vocational education
Start-ups

Credentials
Learning platforms
Extended lifespans

Emergence of New Sectors and Professions

More information (volume)
Workforce surplus; lack of employment opportunities
Classroom definition and design transformed (teacher, tools, content)

Rise of women
Gamification
Rise of cities
Philanthrocapitalism
Sharing economy
Biomimicry
Baby Boomer teachers retire
Social norms protest formal, compulsory education

IDEALS IN ACTION HIGH

[Self-fulfillment drives learning]

STRAUSS and HOWE

VFS Trends and Emerging Issues
KS Suggested Trends and Emerging Issues
[Primary motivator / action engine]

pursuit of profit to a period of "democratization," grass roots values, and environmental sustainability and justice. As control of education shifts to public communities, the purposes and methods of learning likewise shift to reflect newly dominant priorities and concerns for the future. Schools refocus on a localised education, oriented towards practice but not vocational in the traditional sense. Content connects deeply to cultural tradition, specifically its insights regarding Hawaii's unique biosphere – but as a stepping stone to Bio Age innovations and global comparative advantage.

2. **Corporate U Prep**, a

scenario framed and driven by the theory of culture lag as articulated by William F. Ogburn, describes a future of significant dislocation to mainstream education. A broad and

rapidly evolving "skills" ecosystem emerges, built by private industry and to which individual learners subscribe. Key components of this scenario include public schools offering business certificate/career programs but focusing mostly on socialization, leaving private education as the last bastion of liberal arts.

3. **Digital Summerhill**, a

scenario illustrating the transformative impacts of disruptive technology as described by Clayton Christensen, evolves as the digital age matures. In this future people, infrastructure, and environment are linked in an immersive, adaptive data context that shatters the last vestiges of industrial-age public education and creates what to many resembles individual educational decentralization and freedom bordering on anarchy. Children can and do teach themselves

via technology at any time and in all places, assisted by learning avatars and digital coaches. Schools essentially disappear as physical institutions.

4. **Ideals in Action High**

is driven forward by sweeping generational changes as described in age-cohort analysis. This is a future in which the millennial generation reshapes the institution of education, erasing the already-fading lines of the old system and redefining the role of schools and youth in daily community life. Learning becomes more individual, community-relevant, and project-based as millennials transform education to solve society's problems.

Each of these rewrites the assumptions of traditional primary and secondary education and learning, but in distinctly different ways.

Figure 4: The four scenarios unpacked

Characteristic	GLOCAL VOCATIONAL EDUCATION (Sarkar Social Cycle)	CORPORATE U PREP (Ogburn Culture Lag)	DIGITAL SUMMERHILL (Christensen Disruptive Innovation)	IDEALS IN ACTION HIGH (Strauss + Howe Age-Cohort Analysis)
What catalyzes change?	Global–local tensions; from valuing profit to valuing nature	Economy / jobs / talent shortage	Disruptive technology; connected mind-body-tech-ecosystem	Crisis amplifies generational gap in perspective re: education and learning
What drives learning?	Community survival	Economic need	Personal interest	Civic needs
What are the roots of this scenario's learning styles?	Experiential learning; discovery learning	Mastery learning	Multiple intelligences; Kolb's learning styles model; connectivism	Constructivism; communities of practice; new roles, new rules in classroom—blend and flip
What's the focus of learning in this scenario?	Equal and just development based on unique local environment	Skills acquisition	Personal optimization	Action to improve local community
Who designs curriculum and how?	Local expertise amplified with global / tech resources	Negotiated evolution between traditional education and new biz education providers	Design anarchy, splintering old institutions, programs—more like ed app market/ecology	Pro-consumers; collaborative creation—learners, teachers blur in successful systems
Physical plant	Scattered workspaces throughout the community near often-used local learning contexts (coastal and mountain classrooms, urban / professional center classrooms, etc)	Downsizing public school plants, outsourcing to commercial spaces (e.g., unused storefront, city center, and mall spaces near private partners)	Unnecessary: education / learning communities find their own gathering spaces via adaptive, flashmob-like process	"Hive Hub" for community projects—much more community use of schools as well; become lively centers of local activity
Public schools	Backlash—DOE tries to maintain uniform curriculum nationally Mass shift to vocational schools	In HS students half in traditional classes; half enrolled in certificate classes on-line outside of school; socialization is the main value add.	Some schools try to adapt by adopting tech—costs too high; others go retro, stress basics. Truant officers overloaded as students simply stop attending.	Public education focusses on learning/problem- solving for civic action, creating new collaborative learning environments in the process
Charter schools	Evolving community-controlled education; taking the lead in the new 'local context' education. More important; proliferate	Solve funding problem by partnering with corporations—new public-private educational/vocational/research mix; successful ones evolve to align with business	Successful transitions: uploading themselves to system, continuing as virtual learning communities	Diminish in importance as public schools transform; become historical artifact
Private schools	This shift challenges college prep focus; marginalized dinosaurs	Last bastion of liberal arts—philosopher-kings in prep	Go hybrid, focus on elite socialization, and state-of-the-art enhancements.	Solving global problems with their global reach—training philanthro-capitalists
Home/student independent schooling	Some link into 'new local ed' experiments, others stick to 'old traditional ed' in backlash	All certificate classes all the time—or traditional ed backlash	Educational change emerges with students themselves	Decline—so anti-social and Gen X!—former home schoolers flock to Hubs
Interaction with Common Core / New Common Core	Ecosystem Services, Biomimicry, Genetic Engineering, Cultural Studies	Mindfulness, Empathy, Cultural Identity, Civic Virtues	No "common" core	Design Thinking, Facilitation, Mediation, Fundraising
Interaction with NCLB / New NCLB	One Biolab Per Child	One Yoga Mat Per Child	One Learning Butler Per Child	Six Thinking Hats Per Child

A connected campus in a connected world.
Image: Kamehameha Schools photo by Michael Young.

Using a TOCS as a backbone

for the emergent future meant the narrative dynamic and story arc (the 'future history') were built in from the start. Each social change theory also attracted specific categories of emerging issues. Sarkar highlights worldviews shifting as ruling elites and leaders shift; Ogburn prioritizes cultural lag in the face of change; Christensen focusses on disruptive innovations and technology; and Strauss and Howe on demographic, value, and cultural changes across generations.

Kamehameha Schools' staff found the process very useful: both exploring the evolution of four different futures for education and learning, and using the resulting scenarios for wind-tunneling. The level of distinguishing detail that emerged across the four scenarios confirmed how effectively different theories of social change can generate and differentiate a set of futures. Most importantly, the emphasis on social change embedded an emphasis on values, culture, and worldviews, both within communities and across generations. ◄

References

1. Bishop, Peter, Andy Hines, and Terry Collins. (2007). The current state of scenario development: an overview of techniques. foresight, 9(1), 5-25. London, UK: Emerald Group Publishing Ltd.

2. UK National Ecosystem Assessment, http://uknea.unep-wcmc.org/.

3. Lum, Richard K. The Third Era. Vision Foresight Strategy monograph, 2013: http://www.slideshare.net/richardl91/te-highlight-booklet-v101

Using a theory of social change as a backbone for the emergent future meant the narrative dynamic was built in from the start

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