

Educational Technology: The 30,000 Feet View

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Educational Technology as both an academic pursuit and applied science continues to evolve through the efforts of dedicated and creative individuals. Growth often comes in predictable areas such as the fields of educational psychology and instructional design. Other times, however, we are lucky enough to stumble upon stimulation in places where we least expect it. This presentation introduces several sources of inspiration and encouragement, and how these ideas can help teachers and curriculum developers make informed choices when deciding whether or not to adopt new technologies for educational settings. A healthy dose of skepticism is encouraged, with regards to adopting new technologies and what the presenter has to offer.

Reading List

Collins, J. (2001). *Good to great: Why some companies make the leap... and others don't*. New York: Harper Collins.

Csikszentmihályi, Mihály (1990). *Flow: The psychology of optimal experience*. New York: Harper and Row.

Heath, C. & Heath, D. (2007). *Made to stick*. New York: Random House.

Honebein, P. & Cammarano, R. (2005). *Creating do-it-yourself customers: How great customer experiences build great companies*. Mason, OH: Thomson.

Pine, B. J. & Gilmore, J.H. (1999). *The experience economy: Work is theatre and every business is a stage*. Boston, MA: Harvard Business School Press.

Pink, D. (2005). *A whole new mind: Why right-brainers will rule the future*. New York: Riverhead Books.

Websites

Made to Stick: Why Some Ideas Survive and Others Die <http://madetostick.com/>

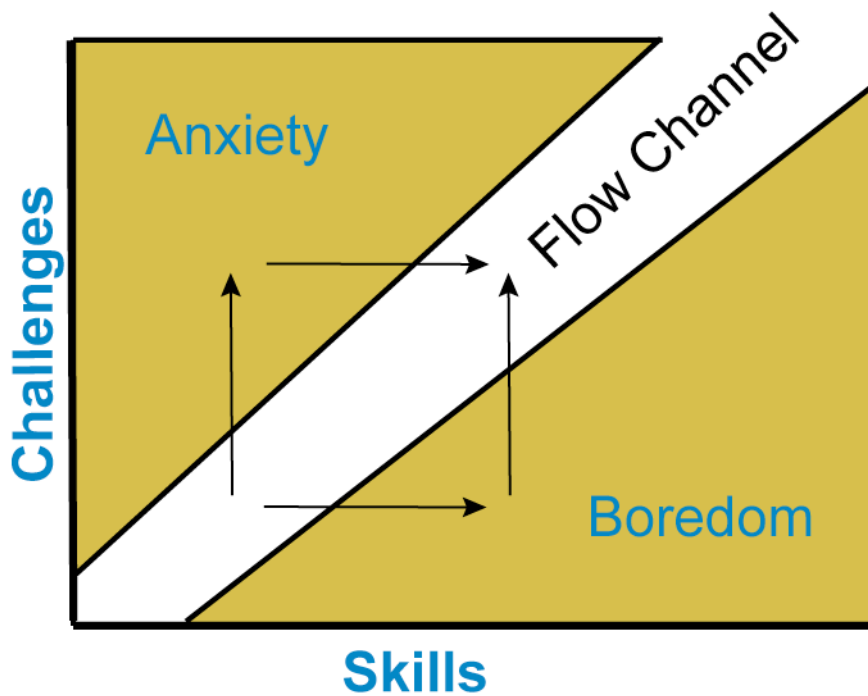
A Whole New Mind www.danpink.com/wnm.html

Creating Do-It-Yourself Customers <http://www.doityourselfcustomers.com/>

Flow: The Psychology of Optimal Experience (Mihaly Csikszentmihalyi)

What is FLOW?

"We have all experienced times when . . . we do feel in control of our actions, masters of our own fate. [At these times] we feel a sense of exhilaration, a deep sense of enjoyment that is long cherished and that becomes a landmark in memory for what life should be like. This is what we mean by optimal experience." (Csikszentmihalyi, 1990)



Where can we find FLOW?

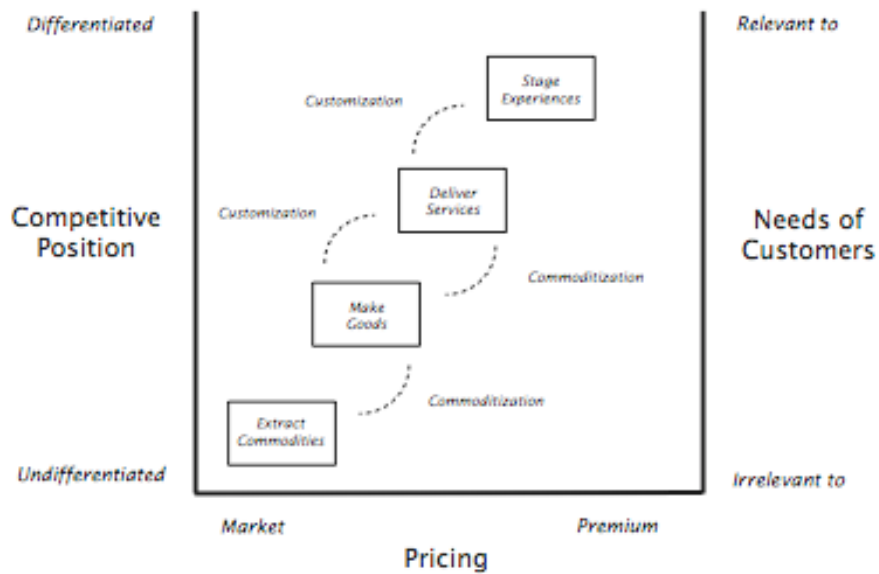
- Challenge requiring skills
- Joining of action and awareness
- Clear goals and feedback
- Concentration (focused attention)
- Sense of control
- Loss of self-consciousness
- Transformation of time

Path to Flow

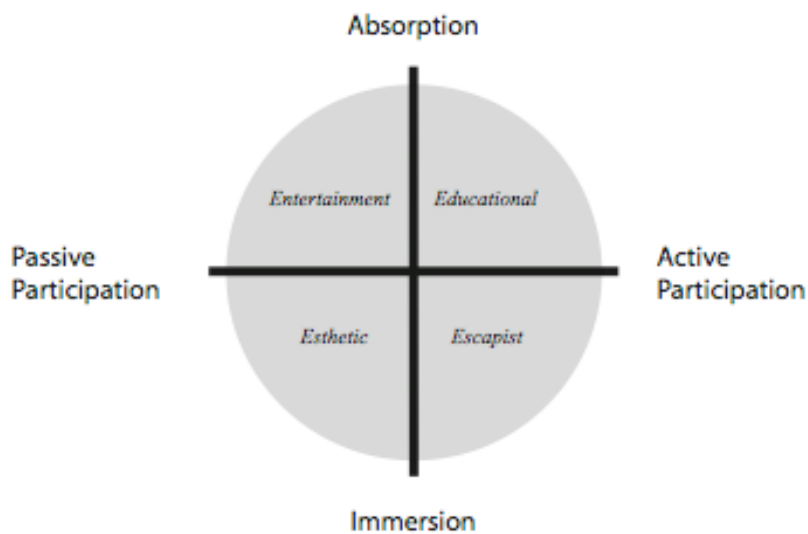
1. Make the task a game. Establish rules, objectives, challenges and rewards
2. Have a powerful goal
3. Focus your attention (no distractions)
4. Let go (enjoy the process)
5. Put everything into the activity
6. Push your limits (creativity, skills, energy)

The Experience Economy (B. Joseph Pine II & James H. Gilmore)

Progression of Economic Value



The Experience Realms



Prescriptive Advice

Set the stage by exploring the possibilities of each realm.

The first step is envisioning a well-defined theme.

Theming an experience means scripting a participative story.

Experience stagers eliminate anything that distracts from the theme.

The more sensory and experience, the more memorable it will be.

Shifting up the progression of economic value.

Made to Stick (Chip Heath & Dan Heath)

PRINCIPLE 1: SIMPLICITY

How do we find the essential core of our ideas? To strip an idea down to its core, we must be masters of exclusion. We must relentlessly prioritize. The Golden Rule is the ultimate model of simplicity: a one-sentence statement so profound that an individual could spend a lifetime learning to follow it.

PRINCIPLE 2: UNEXPECTEDNESS

How do we get our audience to pay attention to our ideas, and how do we maintain their interest when we need time to get the ideas across? We need to violate people's expectations. We need to be counterintuitive. For our idea to endure, we must generate interest and curiosity. We can engage people's curiosity over a long period of time by systematically "opening gaps" in their knowledge – and then filling those gaps.

PRINCIPLE 3: CONCRETENESS

How do we make our ideas clear? We must explain our ideas in terms of human actions, in terms of sensory information. Naturally sticky ideas are full of concrete images because our brains are wired to remember concrete data. In proverbs, abstract truths are often encoded in concrete language: "A bird in hand is worth two in the bush."

PRINCIPLE 4: CREDIBILITY

How do we make people believe our ideas? Sticky ideas have to carry their own credentials. We need ways to help people test our ideas for themselves – a "try before you buy" philosophy for the world of ideas.

PRINCIPLE 5: EMOTIONS

How do we get people to care about our ideas? We make them feel something. Research shows that people are more likely to make a charitable gift to a single needy individual than to an entire impoverished region. We are wired to feel things for people, not for abstractions. Sometimes the hard part is finding the right emotion to harness.

PRINCIPLE 6: STORIES

How do we get people to act on our ideas? We tell stories. Firefighters naturally swap stories after every fire, and by doing so they multiply their experience; after years of hearing stories, they have a richer, more complete mental catalog of critical situations they might confront during a fire and the appropriate responses to those situations. Hearing stories acts as a kind of mental flight simulator, preparing us to respond more quickly and effectively.

Creating Do-It-Yourself Customers (P. C. Honebein & R. F. Cammarano)



Tactics for improving the customer's vision focus on:

- Appropriate goals for what customers should accomplish
- Clear customer expectations describing the measurable outcomes of activities
- Succinct plans that provide customers a script upon which they can act
- Fluid feedback that lets customers know how they are doing

Tactics for facilitating customer access focus on:

- Articulating company policies that establish rules for customer performance
- Specifying procedures that affect customer experiences
- Identifying the people, both employees and customers, who are best suited for the experience
- Developing tools that enable customers to do more work
- Designing interfaces that make the work customers do easy
- Creating information customers need to make decisions
- Coordinating nuances that influence the customer's natural reflexes

Tactics for structuring customer incentive focus on:

- Conceiving rewards that encourage desirable behaviors
- Crafting punishments that discourage undesirable behaviors

Tactics for enhancing customer expertise focus on:

- Creating basic tools to orient customers to goods and services
- Planning problem tools to hand-hold customers during usage
- Developing premium tools to teach customers high-level skills
- Publishing support tools to guide choice and usage
- Integrating embedded tools into goods and services themselves

A Whole New Mind: Why right-brainers will rule the future (Daniel H. Pink)

High Concept, High Touch

To survive in this age, individuals and organizations must examine what they're doing to earn a living and ask themselves three questions: 1. Can someone overseas do it cheaper? 2. Can a computer do it faster? 3. Is what I'm offering in demand in an age of abundance?

If your answer to question 1 or 2 is yes, or if your answer to question 3 is no, you're in deep trouble. Mere survival today depends on being able to do something that overseas knowledge workers can't do cheaper, that powerful computers can't do faster, and that satisfies one of the nonmaterial, transcendent desires of an abundant age.

That is why high tech is no longer enough. We'll need to supplement our well-developed high-tech abilities with abilities that are high concept and high touch.

How can we prepare ourselves for the Conceptual Age? In a world tossed by abundance, Asia and automation, in which L-Directed Thinking remains necessary but no longer sufficient, we must become proficient in R-Directed Thinking and master aptitudes that are high concept and high touch. We must perform work that overseas knowledge workers can't do cheaper; that computers can't do faster; and that satisfies the aesthetic, emotional and spiritual demands of a prosperous time. But on another level, that answer is inadequate. What exactly are we supposed to do?

The answer can be distilled to six specific high-concept and high-touch aptitudes that have become essential in this new era. These aptitudes are "the six senses": Design, Story, Symphony, Empathy, Play and Meaning.

Introducing the Six Senses

In the Conceptual Age, we will need to complement our left-directed reasoning by mastering six essential right-directed aptitudes. Together these six high-concept, high-touch senses can help develop the whole new mind this era demands:

1. Not just function but also DESIGN. Today it's economically crucial and personally rewarding to create something that is beautiful, whimsical, or emotionally engaging.
2. Not just argument but also STORY. The essence of persuasion, communication and self-understanding has become the ability also to fashion a compelling narrative.
3. Not just focus but also SYMPHONY. What's in greatest demand today isn't analysis but synthesis — seeing the big picture and, crossing boundaries, being able to combine disparate pieces into an arresting new whole.
4. Not just logic but also EMPATHY. What will distinguish those who thrive will be their ability to understand what makes their fellow woman and man tick, to forge relationships, and to care for others.
5. Not just seriousness but also PLAY. Too much sobriety can be bad for your career and worse for your general well-being. In the Conceptual Age, we all need to play.
6. Not just accumulation but also MEANING. A world of material plenty has freed us to pursue more significant desires: purpose, transcendence, and spiritual fulfillment.

Good to Great: Why Some Companies Make the Leap ... and Others Don't. (Jim Collins, 2001)

Chapter 1 - Good is the Enemy of Great

Chapter 2 - Level 5 Leadership

Chapter 3 - First Who ... Then What

Chapter 4 - Confront the Brutal Facts (Yet Never Lose Faith)

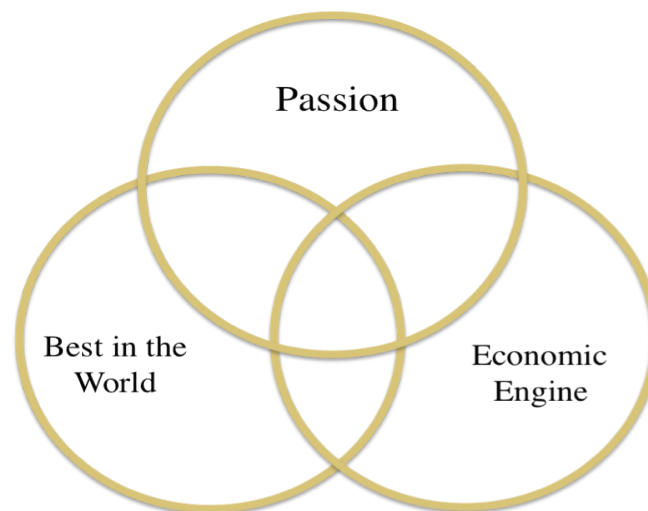
Chapter 5 - The Hedgehog Concept (Simplicity within the Three Circles)

Chapter 6 - A Culture of Discipline

Chapter 7 - Technology Acceleration

Chapter 8 - The Flywheel and the Doom Loop

Hedgehog Concept is a simple crystalline concept that flows from deep understanding about the intersection of the following three circles (Collins, 2001. p. 95 - 96):



When used right, technology becomes an accelerator of momentum, not a creator of it. The good-to-great companies never began their transitions with pioneering technology, for the simple reason that you cannot make good use of technology until you know which technologies are relevant. And which are those? Those - and only those - that link directly to the three intersecting circles of the Hedgehog Concept" (Collins, 2001, p. 153).

Indeed, thoughtless reliance on technology is a liability, not an asset. Yes when used right - when linked to simple, clear, and coherent concept rooted in deep understanding - technology is an essential driver in accelerating forward momentum. But when used wrong - when grasped as an easy solution, without deep understanding of how it links to a clear and coherent - technology simply accelerates you own self-created demise" (Collins, 2001, p. 159).

The good-to-great companies used technology as an accelerator of momentum, not a creator of it. None of the good-to-great companies began their transformations with pioneering technology once they grasped how to fit with their three circles and after they hit breakthrough" (Collins, 2001, p. 162).