Book Study Guide

Stratosphere: Integrating Technology, Pedagogy, and Change Knowledge

by Michael Fullan

In Stratosphere, Fullan makes the connection between technology, pedagogy and change knowledge explicit and offers the integration of the three as a solution to the current educational crisis. Arguing that the time is right for educators to capitalize on advances in how we learn, engagement brought about through the integration of technology, and knowledge about how to make change easier, Fullan welcomes readers into the stratosphere – what he refers to as the convergence of these three forces.

The activities described below were designed to prompt discussion based on the ideas in the book. For larger audiences, placing participants in groups consisting of 6-8 people is recommended.

Activity 1 – MINDS ON

Note: Prior to gathering, ask participants to select a quote from the book that resonated with them.

WHAT RESONATED WITH YOU?

The following excerpt is from Harvey Daniels' Literature Circles: Voice and Choice in Book Clubs and Reading Groups. Harvey describes a story about the phenomenon of school book projects, which goes like this: "I am coming to the end of a really great book, lying in bed under my reading light, next to my husband, who is also reading under his own light. As I turn the last page of my book, enjoy the ending, and then close the cover, I don't generally turn to Ken and say, "Honey, will you pass me that shoe box so that I can make my diorama now?" (p. 89).

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"The moral is clear. Real, lifelong readers don't generally make dioramas; they don't sit down and draft "missing scenes" from a freshly finished book; they don't make posters or put on puppet shows. What real readers actually do is find someone to *talk* to, ASAP." (p.90).

Begin the book talk by providing the audience an opportunity to talk about ideas in Stratosphere that excited them – perplexed them – intrigued them.

Provide time for partners or larger groups to share each quote that was selected.

Activity 2 – ACTION!

THE BIG IDEAS

Materials: Cue Cards (see Appendix I)

This activity was designed for groups of 8. Distribute one cue card to each member of the group.

Beginning with the cue card labeled #1, each participant takes a turn:
a)   reading the quote aloud
b)   facilitating a group discussion about the ideas that surface based on the quote

> Are the ideas important? If so, why. If not, why not?
> What are the implications for the group's work?

Activity 3 – CONSOLIDATION

REFLECTING ON OUR WORK

Materials: Enacting the Vision Card (see Appendix II)
Michael Fullan's Video Interview
(Available at: http://learningforwardontario.ca/newsletters/login.php)

Distribute a 'Vision Enactment Card' to each participant. Share the first half of the interview in which Michael Fullan shares the 'big ideas' from Stratosphere. Provide participants time to talk with a partner and record ideas regarding how to enact the vision at an individual level, school level, and/or system level.
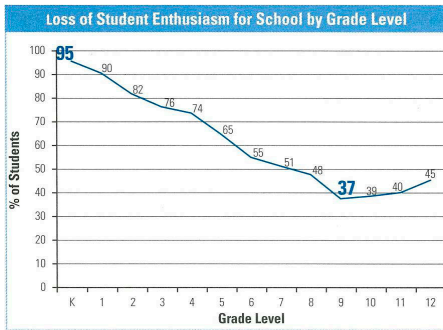
Share the second half of the video in which Michael Fullan talks about next steps. Provide participants time to talk with a partner and record ideas regarding how to enact the vision at an individual level, school level, and/or system level. Ask participants to share one of the next steps on their 'Vision Enactment' card with someone they have not yet connected with during the session.

Cue Card #1

Loss of Student Enthusiasm for School by Grade Level

% of Students plotted against Grade Level (K, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12): 95, 90, 82, 76, 74, 65, 55, 51, 48, 37, 39, 40, 45

Exhibit 3.1

Chapter 3: *Pedagogy and Change: Essence as Easy* 29

"Even with the best teachers, says Prensky, kids "still say with consistency they're bored 50-70 percent of the time" —p.30

Cue Card #2

To get a PDA (personal digital assistant) in every child's hands seems so evidently desirable. Another silver bullet wasted if you don't concentrate on best pedagogy. —p.59

The next time you marvel at your 18-month-old granddaughter working away through some iPad apps and routines, remind yourself that it may be no more impressive than what an ape can do (this still may be a compliment). —p.60

Ever since the first laptop emerged almost 40 years ago, technology has been winning the race over pedagogy: technology gets better and better, while instruction doesn't.
Technology will be a dramatic accelerator if we can put instruction and skilled, motivated teachers and students in the lead. Once this instructional–digital powerhouse gets under way, students will motivate teachers as much as the other way around. This is the necessary impetus to reverse the trend of technology racing ahead of pedagogy: learning and instruction will become the driving forces, so we will ride the technology wave instead of being at the mercy of a powerful, but intrinsically aimless, phenomenon.
Reference: Fullan, M. (2011). *Choosing the wrong drivers for whole system reform*. Centre for Strategic Education, Summary of Seminar Series Paper No. 204.

Cue Card #3

Hattie strongly argues that the most important aspect that a teacher must get good at is to know what impact he or she has on every student. —p.48

In a follow-up book Hattie stresses that the main preoccupation of teachers must be to constantly figure out how "to know thine impact." —p.67

STUDENT

TASK

TEACHER — CONTENT
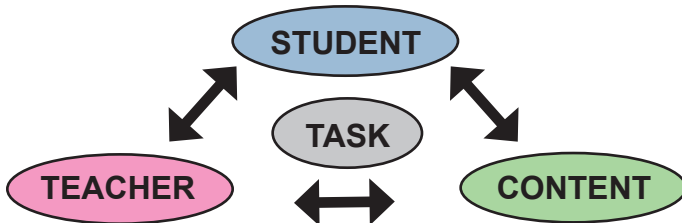
Cue Card #4

"

Prensky also finds, as did Wagner, that collaboration or peer-to-peer learning (designed by a change agent teacher) is an enormous "free resource" dramatically aided by technology. We need to inspire teachers as well as students. Unleashing the creative energy of both is essential for any solution to have depth and longevity. —pg.25

In short, technology and pedagogy must be integrated around the roles of both students and teachers. —pg.68

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Cue Card #5

"What you study is not that important. Knowing how to find those things that you are interested in is way, way more important." —p.23

"empowerment means students can go out and apply what they've learned to the problems that they've never seen before with parts that they've never used before." —p.23

↓ ↓ ↓

Learn. Apply. Achieve.

↑ ↑ ↑

Cue Card #6

"In spite of the fact that young people demonstrate a facility with online tools, many students lack the skills they need to use those tools effectively for learning…

There is also a real propensity on the part of students to take what they find online as given." —p.37

<table>
<tr><td colspan="3">Criteria for Integrating Technology and Pedagogy</td><td>Cue Card #7</td></tr>
<tr><td>1</td><td>irresistibly engaging</td><td colspan="2">Irresistibly engaging is what it means to be rapt, or in a state of "flow" where time has no meaning.</td></tr>
<tr><td>2</td><td>elegantly efficient</td><td colspan="2">...these new products must be elegantly easy to use simple to get hooked on and natural to use...</td></tr>
<tr><td>3</td><td>technologically ubiquitous</td><td colspan="2">...the first two criteria cannot be met unless technology is at our disposal 24/7.</td></tr>
<tr><td>4</td><td>steeped in real-life problem solving</td><td colspan="2">…these experiences must be steeped in real- life problem solving projects — learning that creates the conditions for individual and group success on a global scale.</td></tr>
</table>

Wagner makes the case that young people by and large want to make an impact but that their potential lies dormant or often gets thwarted by traditional schooling. What would it mean, he wonders, If we were to intentionally develop the entrepreneurial and innovative talents of all young people — to nurture their initiative, curiosity, imagination, creativity and collaborative skills, as well as their analytical abilities, along with essential qualities of character such as persistence, empathy and strong moral foundation? —p.49

Appendix II

Stratosphere
Enacting the Vision

Individual	School Level	System Level