

INNOVATE

/ˈɪnəˈvæt/ verb

Making Things Better

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Greatest Innovation (in the last 30 years)

Which of the following innovations provided the **most** and **least** *impact on the world*?

1. Web/Internet (1)
2. Micro Processor (7)
3. Office Software (9)
4. GPS (14)
5. ATMs (27)

Today's Mantra: **Making Things Better**

Innovation

https://www.youtube.com/watch?v=ziOG_GHNVq0

What Do We Mean by Innovation?

- Innovation is the action required to create new ideas, processes, or products which when implemented lead to positive effective change. (Marc Chason, Motorola Labs)
- Innovation is creating new value. Value is the key word, stressing the difference between innovation and invention. (Victor Fernandes, Natura)
- Innovation pairs ideas with action....It's not enough just to have a good idea. Only when you *act*, when you *implement*, do you truly innovate. (Tom Kelly, IDEO, *The Art of Innovation*, 2001, *The Ten Faces of Innovation*, 2005)

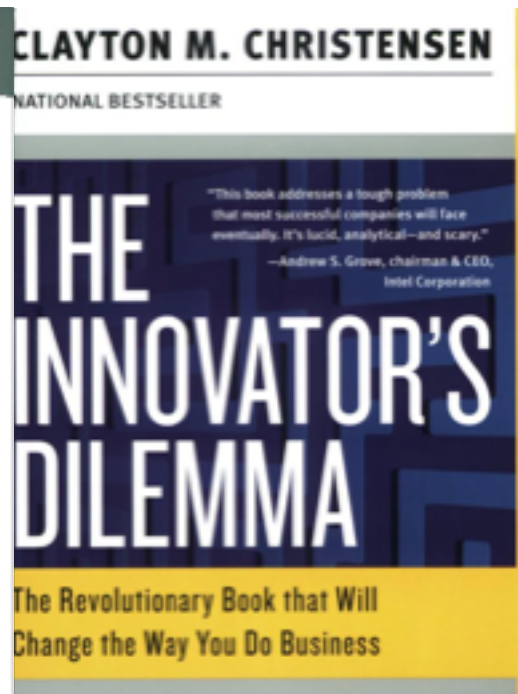
What Do We Mean by Innovation?

Three Attributes of Innovation

Create New → Implement → Positive Outcome



Making Things Better



Available at **amazon** 1-12 of 70,977 results for Books : **"innovation"**





Google

innovation



Scholar

About 3,350,000 results (0.04 sec)

Google

educational innovations



Scholar

About 1,250,000 results (0.06 sec)

Stand on the shoulders of giants

Charles Leadbeater:

Education innovation in the slums

TEDSalon London 2010 · 18:58 · Filmed Apr 2010

29 subtitle languages
View interactive transcript



Linda Hill:

How to manage for collective creativity

TEDxCambridge · 17:17 · Filmed Sep 2014

21 subtitle languages
View interactive transcript



Gever Tulley:

Life lessons through tinkering

TED2009 · 4:05 · Filmed Feb 2009

41 subtitle languages
View interactive transcript



Nirmalya Kumar:

India's invisible innovation

TEDxLondonBusinessSchool · 15:12 · Filmed Apr 2012

View interactive transcript



“innovation”

1 - 12 of 1663 results

Anil Gupta:

India's hidden hotbeds of invention

TEDIndia 2009 · 22:55 · Filmed Nov 2009

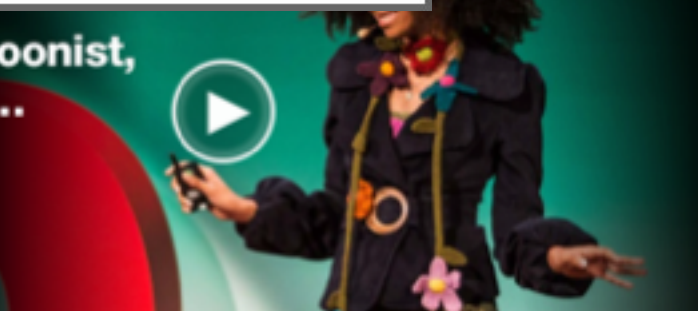
25 subtitle languages
View interactive transcript



Meet a young entrepreneur, cartoonist, designer, activist ...

TEDWomen 2013 · 7:16 · Filmed Dec 2013

38 subtitle languages
View interactive transcript



Mariana Mazzucato:

Government — investor, risk-taker, innovator

TEDGlobal 2013 · 14:04 · Filmed Jun 2013

20 subtitle languages
View interactive transcript



Robert Gordon:

The death of innovation, the end of growth

TED2013 · 12:14 · Filmed Feb 2013

28 subtitle languages
View interactive transcript





Corporate Titles

- Chief Innovation Officer
- Vice President, Innovation Services
- Director, Innovation and Research

Academic Titles

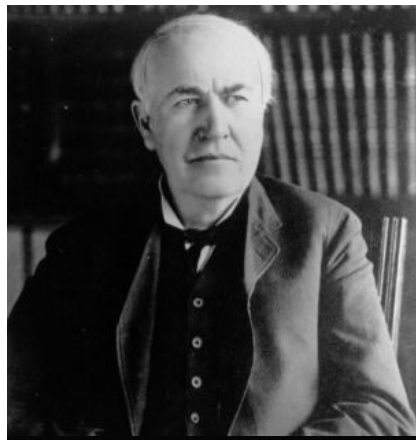
- Associate VP for Innovation
- Vice Chancellor for Innovation
- Director of Innovation

Consultant Titles

- Innovation Strategist
- Innovation Leader
- Innovation Coach

Trying-Too-Hard Titles

- Innovator Instigator
- Innovator Provocateur
- Chief Innovation Evangelist



Thomas Edison
Phonograph,
Light Bulb, etc.

Shirley Jackson
Physicist
RPI President

Wright Brothers
Aviation
Pioneers

Grace Hopper
First Compiler
for Programming

Marie Curie
Research Method
Po, Ra, & U

1. Innovation occurs at different levels of scale – local to global.
2. Innovation is determined by the user, not the innovator.

Resources

Peter Doolittle
Int'l Jnl of T&L in
Higher Education

Technologies

Justin Miller
One Button
Studio

People

Caitlin Crawford
MakerSpace
(Science Library)

Strategies

Mitzi Vernon
FORM: Line-
Plane-Solid

Leadership

Eddie Watson
Open Educational
Resources



ISETL



PSU



UGA



VT



UGA

Innovation - In

<https://www.youtube.com/watch?v=6wqclq0dx3U>

To Innovate: 5 Principles

Making Things Better

1. Solve a Problem

What's Your Problem?

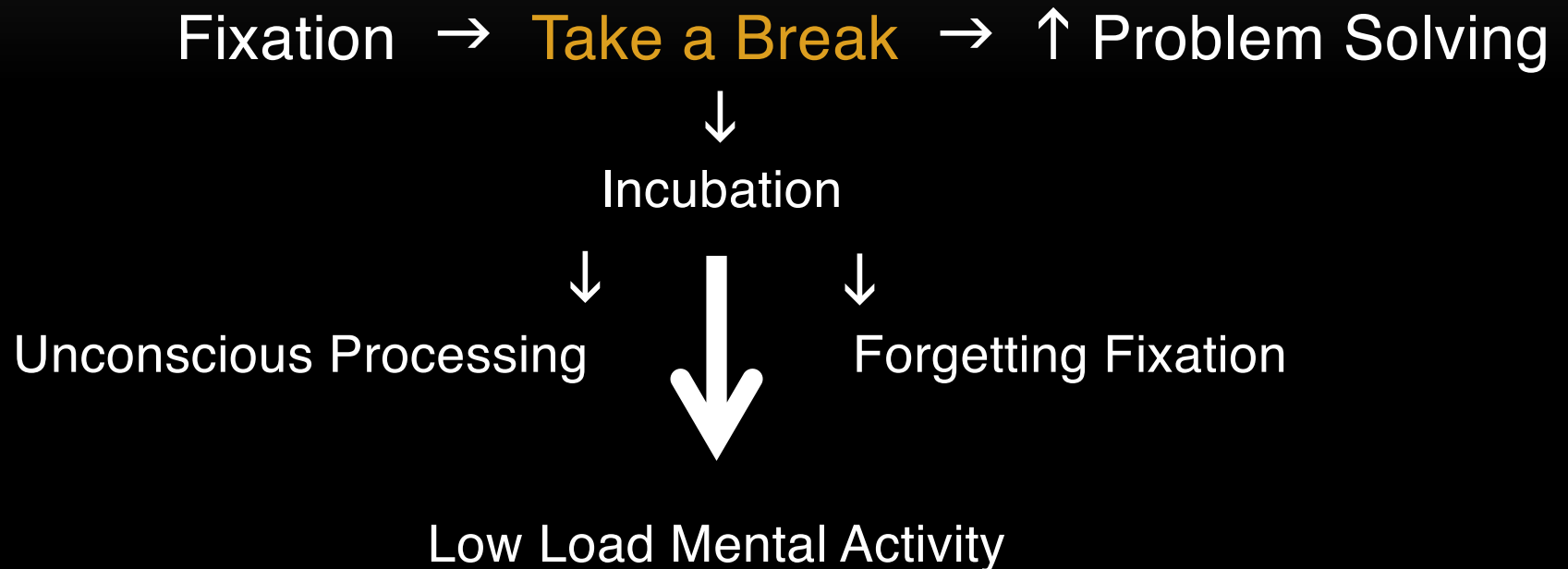
Constructivism and Education

How do I get students to <i>read</i> ?	1999	MC Quizzes
	2000	MC Quizzes
	2001	na
	2002	1-Page Papers
	2003	1-Page Papers
	2004	1-Page Papers
	2005	na
	2006	MC Quizzes
	2007	MC Quizzes

How do I get students to *think*?

<https://www.youtube.com/watch?v=6wqclq0dx3U>

2. I'm Stuck! Walk Away.



- Breaks work better for divergent tasks, than convergent tasks
- More preparation before a break → ↑ problem solving
- A longer break → ↑ problem solving

2. I'm Stuck! Walk Away.

Constructivism and Education

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2007 MC Quizzes

How do I get students to *think*? 2012 25-Word Summaries

2013 25-Word Summaries

2014 25-Word Summaries

2015 25-Word Summaries

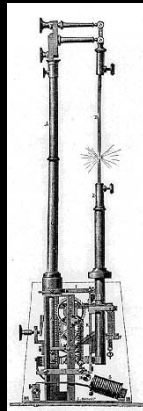
End of Publishing

https://www.youtube.com/watch?v=Weq_sHxghcg

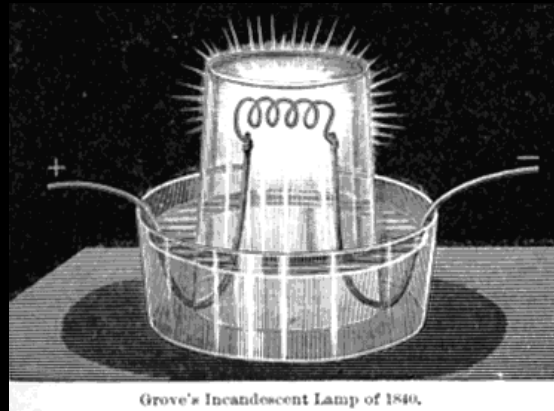
1. Solve a Problem
2. Stuck? Walk Away.

3. Build On Others

Edison didn't "invent" the light bulb. He made it better.



Davy
1802



Grove
1840



Edison
1880s

1. Solve a Problem
2. Stuck? Walk Away.

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Nat'l Ed TV 1951	Sesame Street 1968	MIT OpenCourseWare 2002	YouTube 2005	Khan Academy 2006	MOOCs 2012
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Video-based Learning

If we're free from the burden of trying to be completely original, we can stop trying to make something out of nothing.

-- Austin Kleon, *Steal Like an Artist* (2012)

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Constructivism and Education

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How do I get students to *think*? 2012 25-Word Summaries
2013 25-Word Summaries
2014 25-Word Summaries
2015 25-Word Summaries

Tom Sherman
Existing Literature
- 25 Word Sum
- Summarizing

4. Work Hard. No Aha!

1. Solve a Problem
2. Stuck? Walk Away.
3. Build On Others

Journalists have always asked me what the crucial idea was or what the singular event was that allowed the Web to exist one day when it hadn't before. They are frustrated when I tell them there was no Eureka moment...it was a process of accretion.

-- Tim Berners-Lee, *Weaving the Web* (1999)

Innovations are built,
not discovered.

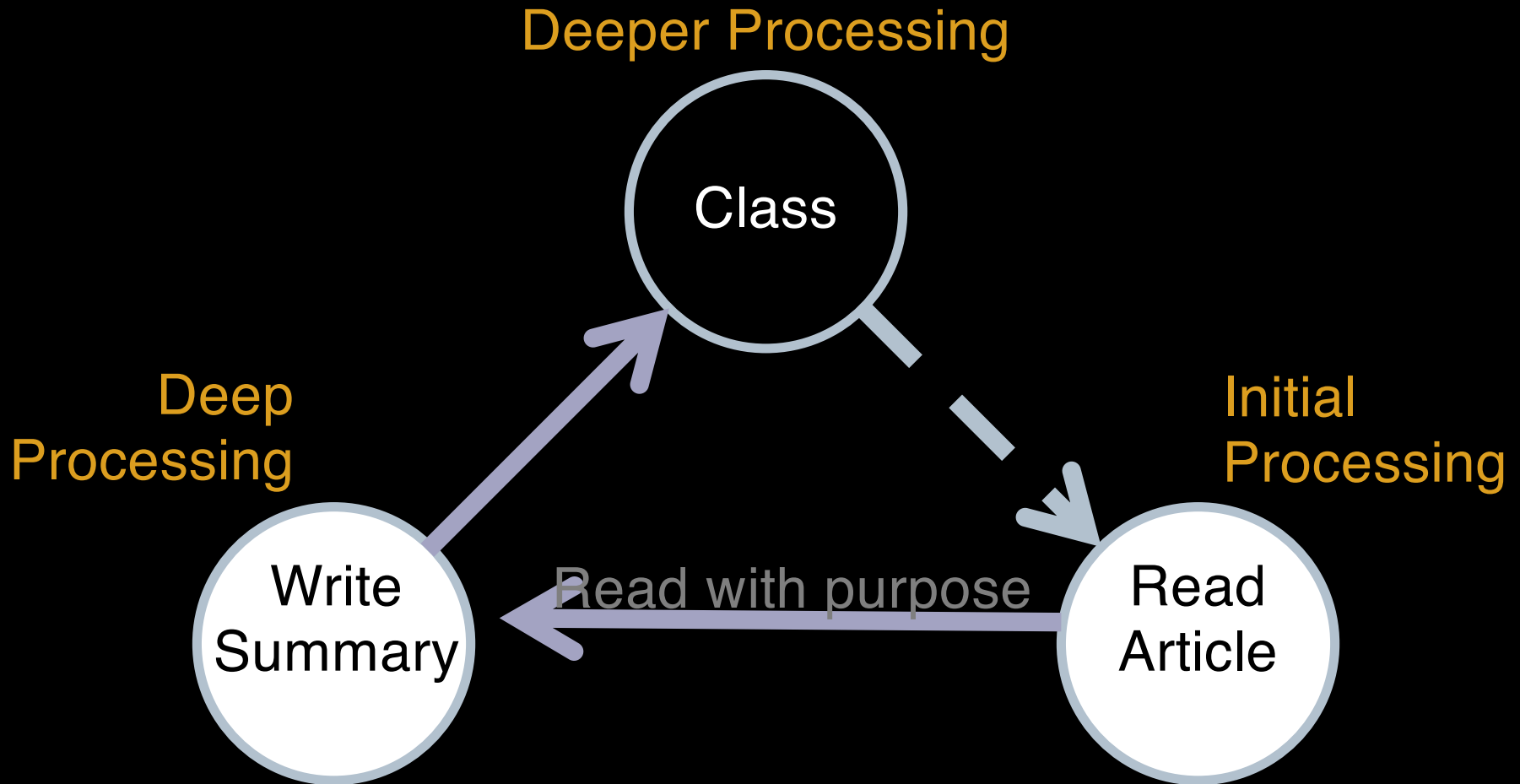
4. Work Hard. No Aha!

1. Solve a Problem
2. Stuck? Walk Away.
3. Build On Others

<http://www.proactiveteaching.org/temp/innovationDNA.mov>

4. Work Hard. No Aha!

1. Solve a Problem
2. Stuck? Walk Away.
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4. Work Hard. No Aha!

1. Solve a Problem
2. Stuck? Walk Away.
3. Build On Others

- Components of a 25-Word Summary
 1. Engage in reflective and critical thinking
 2. Annotate, annotate, annotate
 3. Determine **intent**, **meaning**, or **purpose**
 4. Craft an expression of the intent, meaning, or purpose
 5. Revise, Revise, Revise

4. Work Hard. No Aha!

1. Solve a Problem
2. Stuck? Walk Away.
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- Scoring Guide

1. Structural Format 5 pts
2. Clarity of Thought and Expression 10 pts
3. Delineation of Core Message 10 pts

5. Don't Wait. Do It.

1. Solve a Problem
2. Stuck? Walk Away.
3. Build On Others
4. Work Hard. No Aha!

Do it, fix it, try it.

-- Tom Peters & Bob Waterman
In Search of Excellence (1982)

Don't worry, be crappy.

-- Guy Kawasaki, ex-Apple
TEDxBerkeley (2014)

Give them the third-best to go on with;
the second best comes too late,
and the best never comes

-- Robert Watson-Watt, Air Ministry, UK
(also Arnold Wilkins)

5. Don't Wait. Do It.

1. Solve a Problem
2. Stuck? Walk Away.
3. Build On Others
4. Work Hard. No Aha!

<https://www.youtube.com/watch?v=pii8tTx1UYM>

5. Don't Wait. Do it.

1. Solve a Problem
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- **Doolittle's** guidelines for constructing a summary
 1. Look for and write all the main points.
 2. Write main points as sentences or phrases, not terms.
 3. Review and add/subtract main points as needed.
 4. Combine similar main points to shorten the list without losing meaning.
 5. Organize main points around similar concepts.
 6. Write your summary from this organization and list.

5. Don't Wait. Do it.

1. Solve a Problem
2. Stuck? Walk Away.
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- **Students'** guidelines for constructing a summary
 1. Provide time to read, annotate, write, and rewrite
 2. Provide time between reading/annotating and writing
 3. Develop a strategy for annotating (notetaking)
 4. Look for important details while reading
 5. Read the entire article before committing to main ideas
 6. Every word counts – write and rewrite
 7. Writing summaries develops over time

To innovate is to make things better.

1. Solve a Problem.
2. Build on Others.
3. Work Hard. Don't Aha!
4. I'm Stuck! Walk Away.
5. Don't Wait. Do It.

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