

Adrift in a Sea of Video Tutorials (Discussion)

Patrick Reynolds, UNB

CMEF, Ottawa

2 May 2014

The growth of online video instruction

- 2002 MIT OpenCourseware launches
- 2005 Salman Khan creates video tutorials for his cousins, later posts them to YouTube
- 2006 TED.com makes talks freely available online
- 2007 Online math videos proliferate (MathTV 2007, PatrickJMT 2008, Video Math Tutor 2009, James Tanton 2010, etc)
- 2009 Khan Academy is founded

Worldwide number of Web servers doubles between Aug 2007 and Aug 2009 (Hobbes Internet Timeline)

The growth of online video instruction

- 2002 MIT OpenCourseware launches
- 2005 Salman Khan creates video tutorials for his cousins, later posts them to YouTube
- 2006 TED.com makes talks freely available online
- 2007 Online math videos proliferate (MathTV 2007, PatrickJMT 2008, Video Math Tutor 2009, James Tanton 2010, etc)
- 2009 Khan Academy is founded

Worldwide number of Web servers doubles between Aug 2007 and Aug 2009 (Hobbes Internet Timeline)

The growth of online video instruction

- 2002 MIT OpenCourseware launches
- 2005 Salman Khan creates video tutorials for his cousins, later posts them to YouTube
- 2006 TED.com makes talks freely available online
- 2007 Online math videos proliferate (MathTV 2007, PatrickJMT 2008, Video Math Tutor 2009, James Tanton 2010, etc)
- 2009 Khan Academy is founded

Worldwide number of Web servers doubles between Aug 2007 and Aug 2009 (Hobbes Internet Timeline)

The growth of online video instruction

- 2002 MIT OpenCourseware launches
- 2005 Salman Khan creates video tutorials for his cousins, later posts them to YouTube
- 2006 TED.com makes talks freely available online
- 2007 Online math videos proliferate (MathTV 2007, PatrickJMT 2008, Video Math Tutor 2009, James Tanton 2010, etc)
- 2009 Khan Academy is founded

Worldwide number of Web servers doubles between Aug 2007 and Aug 2009 (Hobbes Internet Timeline)

The growth of online video instruction

- 2002 MIT OpenCourseware launches
- 2005 Salman Khan creates video tutorials for his cousins, later posts them to YouTube
- 2006 TED.com makes talks freely available online
- 2007 Online math videos proliferate (MathTV 2007, PatrickJMT 2008, Video Math Tutor 2009, James Tanton 2010, etc)
- 2009 Khan Academy is founded

Worldwide number of Web servers doubles between Aug 2007 and Aug 2009 (Hobbes Internet Timeline)

The growth of online video instruction

- 2002 MIT OpenCourseware launches
- 2005 Salman Khan creates video tutorials for his cousins, later posts them to YouTube
- 2006 TED.com makes talks freely available online
- 2007 Online math videos proliferate (MathTV 2007, PatrickJMT 2008, Video Math Tutor 2009, James Tanton 2010, etc)
- 2009 Khan Academy is founded

Worldwide number of Web servers doubles between Aug 2007 and Aug 2009 (Hobbes Internet Timeline)

Further growth, and hype

- 2010 Bill Gates raves about Khan Academy at the Aspen Ideas Festival
- 2010–11 Quadrupling of monthly unique Khan Academy views (TechCrunch.com)
- 2012 “Year of the MOOC”, hype and scrutiny

Further growth, and hype

- 2010 Bill Gates raves about Khan Academy at the Aspen Ideas Festival
- 2010–11 Quadrupling of monthly unique Khan Academy views (TechCrunch.com)
- 2012 “Year of the MOOC”, hype and scrutiny

Further growth, and hype

- 2010 Bill Gates raves about Khan Academy at the Aspen Ideas Festival
- 2010–11 Quadrupling of monthly unique Khan Academy views (TechCrunch.com)
- 2012 “Year of the MOOC”, hype and scrutiny

2012: Heightened scrutiny

The Washington Post

Posted at 11:20 AM ET, 07/23/2012

Khan Academy: The hype and the reality

By [Valerie Strauss](#)

Posted at 10:50 AM ET, 07/27/2012

How well does Khan Academy teach?

By [Valerie Strauss](#)

#mtt2k

D. Coffey and J. Golden critique a KA fraction video [▶ Link](#)

... as does D. Borkovitz [▶ Link](#)

... and D. Meyer, via Angry Birds [▶ Link](#)

#mtt2k

D. Coffey and J. Golden critique a KA fraction video [▶ Link](#)

... as does D. Borkovitz [▶ Link](#)

... and D. Meyer, via Angry Birds [▶ Link](#)

#mtt2k

D. Coffey and J. Golden critique a KA fraction video [▶ Link](#)

... as does D. Borkovitz [▶ Link](#)

... and D. Meyer, via Angry Birds [▶ Link](#)

Evidence-based suggestions

D. Muller (Veritasium) conducts a video-based experiment, finds increased confidence but poorer performance after watching clear, concise video. [▶ Link](#)

M. Pershan asks “What if Khan Academy was made in Japan?”, citing TIMSS study [▶ Link](#)

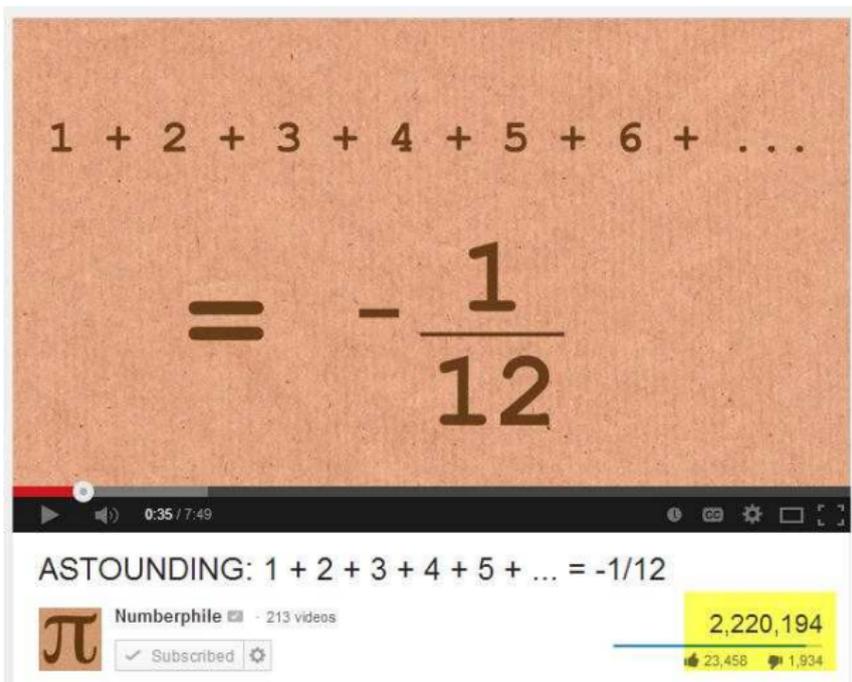
Evidence-based suggestions

D. Muller (Veritasium) conducts a video-based experiment, finds increased confidence but poorer performance after watching clear, concise video. [▶ Link](#)

M. Pershan asks “What if Khan Academy was made in Japan?”, citing TIMSS study [▶ Link](#)

Popular math

People sure do love mathematical entertainment. . . [▶ Link](#)



1 + 2 + 3 + 4 + 5 + 6 + ...

$$= -\frac{1}{12}$$

ASTOUNDING: 1 + 2 + 3 + 4 + 5 + ... = -1/12

 Numberphile - 213 videos

2,220,194

✓ Subscribed

23,458 1,934

Anecdotes from my teaching

- ▶ “What is this called?”
- ▶ “I watched 4 hours of Khan Academy and still bombed this exam”
- ▶ “That was exactly the video I wanted, I just didn’t know how to find it”

Anecdotes from my teaching

- ▶ “What is this called?”
- ▶ “I watched 4 hours of Khan Academy and still bombed this exam”
- ▶ “That was exactly the video I wanted, I just didn’t know how to find it”

Anecdotes from my teaching

- ▶ “What is this called?”
- ▶ “I watched 4 hours of Khan Academy and still bombed this exam”
- ▶ “That was exactly the video I wanted, I just didn’t know how to find it”

Parameters of the discussion

I'd like to restrict our attention to:

- ▶ **Short videos (1–30 minutes),**
- ▶ created by we-the-math-educators, for our students,
- ▶ which can be shared online (with our students, or even others' students),
- ▶ and are low-cost to create, possibly even with a mobile device

Parameters of the discussion

I'd like to restrict our attention to:

- ▶ Short videos (1–30 minutes),
- ▶ created by we-the-math-educators, for our students,
- ▶ which can be shared online (with our students, or even others' students),
- ▶ and are low-cost to create, possibly even with a mobile device

Parameters of the discussion

I'd like to restrict our attention to:

- ▶ Short videos (1–30 minutes),
- ▶ created by we-the-math-educators, for our students,
- ▶ which can be shared online (with our students, or even others' students),
- ▶ and are low-cost to create, possibly even with a mobile device

Parameters of the discussion

I'd like to restrict our attention to:

- ▶ Short videos (1–30 minutes),
- ▶ created by we-the-math-educators, for our students,
- ▶ which can be shared online (with our students, or even others' students),
- ▶ and are low-cost to create, possibly even with a mobile device

Talking points

The online video medium has potential beyond “Let ME show YOU how to do [technique]” [▶ Link](#) [▶ Link](#)

Hundreds of math educators creating “Chain Rule Example” videos is an ineffective use of our time and talents.

“I learned more watching 10 mins of Khan than in 1 hr of lecture.”

What features of videos appeal to you, as an educator? As a content creator? (e.g. length, interactivity???, narration)

Would there be any value in “How Not To” videos?

Talking points

The online video medium has potential beyond “Let ME show YOU how to do [technique]” [▶ Link](#) [▶ Link](#)

Hundreds of math educators creating “Chain Rule Example” videos is an ineffective use of our time and talents.

“I learned more watching 10 mins of Khan than in 1 hr of lecture.”

What features of videos appeal to you, as an educator? As a content creator? (e.g. length, interactivity???, narration)

Would there be any value in “How Not To” videos?

Talking points

The online video medium has potential beyond “Let ME show YOU how to do [technique]” [▶ Link](#) [▶ Link](#)

Hundreds of math educators creating “Chain Rule Example” videos is an ineffective use of our time and talents.

“I learned more watching 10 mins of Khan than in 1 hr of lecture.”

What features of videos appeal to you, as an educator? As a content creator? (e.g. length, interactivity???, narration)

Would there be any value in “How Not To” videos?

Talking points

The online video medium has potential beyond “Let ME show YOU how to do [technique]” [▶ Link](#) [▶ Link](#)

Hundreds of math educators creating “Chain Rule Example” videos is an ineffective use of our time and talents.

“I learned more watching 10 mins of Khan than in 1 hr of lecture.”

What features of videos appeal to you, as an educator? As a content creator? (e.g. length, interactivity???, narration)

Would there be any value in “How Not To” videos?

Talking points

The online video medium has potential beyond “Let ME show YOU how to do [technique]” [▶ Link](#) [▶ Link](#)

Hundreds of math educators creating “Chain Rule Example” videos is an ineffective use of our time and talents.

“I learned more watching 10 mins of Khan than in 1 hr of lecture.”

What features of videos appeal to you, as an educator? As a content creator? (e.g. length, interactivity???, narration)

Would there be any value in “How Not To” videos?

Talking points

The online video medium has potential beyond “Let ME show YOU how to do [technique]” [▶ Link](#) [▶ Link](#)

Hundreds of math educators creating “Chain Rule Example” videos is an ineffective use of our time and talents.

“I learned more watching 10 mins of Khan than in 1 hr of lecture.”

What features of videos appeal to you, as an educator? As a content creator? (e.g. length, interactivity???, narration)

Would there be any value in “How Not To” videos?