



Student Engagement *with* Online Learning

Mike Reynolds

World Ranked – Triple Accredited – Award Winning





Student Engagement with Online Learning

Background and Motivation

Method

Results

Background (1)



Flipping of a module

*Taught to **non-economics PG** students*

Asynchronous online video and active live workshops

2016/17: First attempt

2017/18: Revised

One key difference: Videos were shorter in 2017/18

Background (2)

Some signs of improved engagement due to changes

Did the change impact student achievement?

Difficult to say

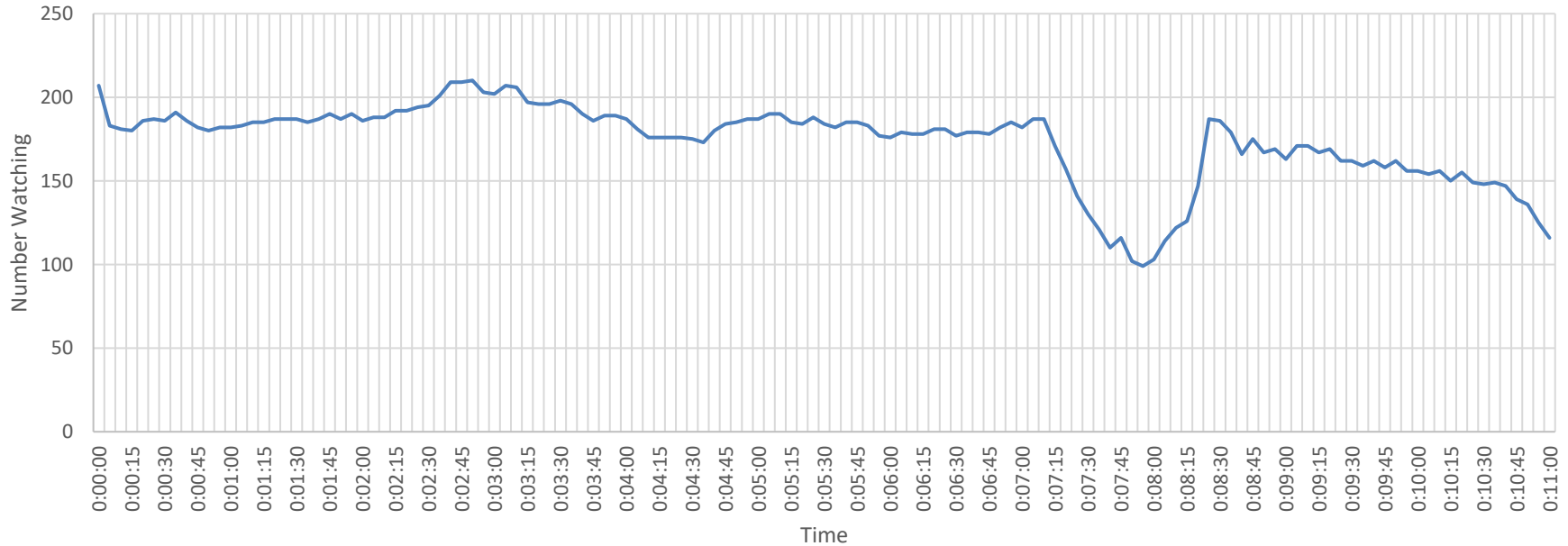
Summative assessment changed too much

Formative assessment: common MCQ questions

Some evidence of 'fatigue' in flipped format



2016/17: Topic 6 Video 2



Fast Forward



Long story short

PG module stopped being delivered

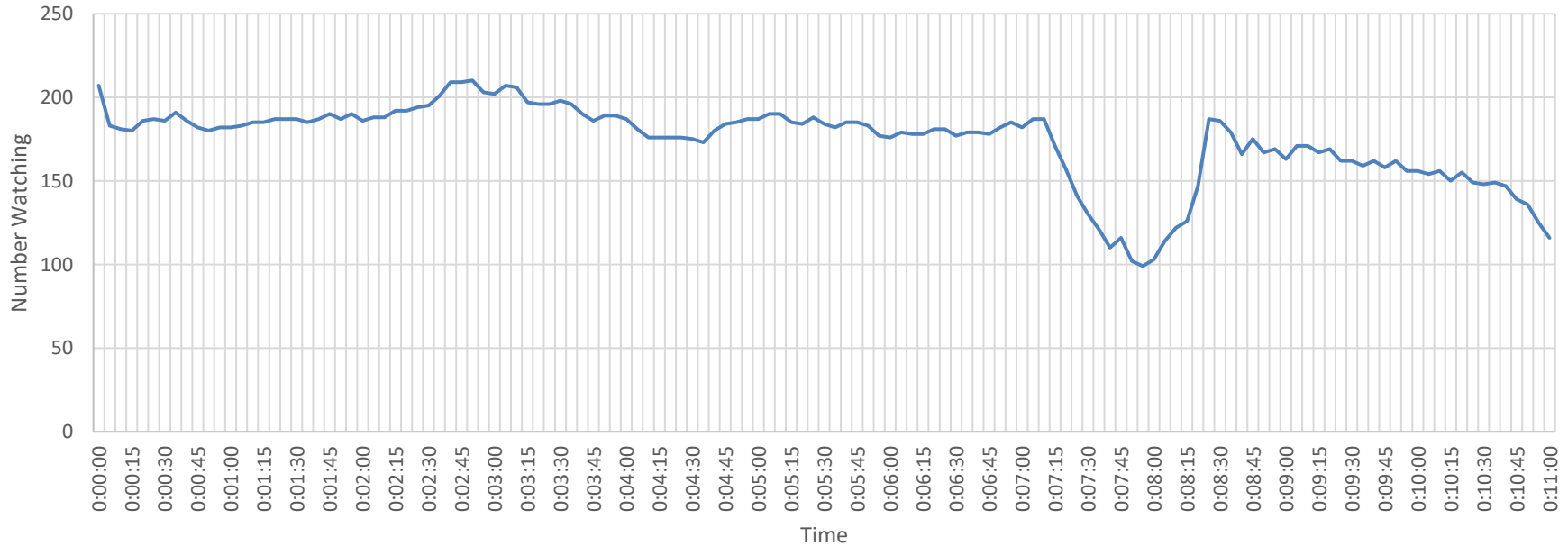
And

Year 2 'Intermediate Microeconomics' delivered entirely online in 2020/21

Lots of data on video views



2016/17: Topic 6 Video 2



Motivation: Lots of Questions

Are shorter videos better?

Limited literature

*Trade off: Shorter videos means **more** videos*

What is the impact of breaks and activities on engagement?

How does engagement change during the semester?

Do module 'events' impact engagement?

Has the pandemic changed how students engage with online video?

Motivation: Lots of Questions

Are shorter videos better?

What is the impact of breaks and activities on engagement?

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Do module 'events' impact engagement?

Has the pandemic changed how students engage with online video?

Module Details

	1A	1B	2
Student No.	214	156	441
Contact Time	2 hours a week (F2F)	2 hours a week (F2F)	1 hour every fortnight + weekly Q&A (online)
No. of Content Videos	41	67	120
Avg Video Length	8:20	5:08	6:52
Video Recording	Slides & voice	+ Annotation	As '1B'
VLE/Minerva	Learning Modules	Learning Modules +	Learning Modules

Module Details

	1A	1B	2
International Students	Majority	Majority	Minority
Assessment	All topics compulsory	Compulsory: T2-6 Optional: 2 from T7-10	Some element of choice for last couple of topics
Monitoring	Heavy	Light	Light(er)
Textbook	All	Topics 1-6	All

Method



Main Content Videos Only

No introduction or seminar videos included

All Views

Semester and exam period

Standardised Video

Module size account for: number of views/students on module

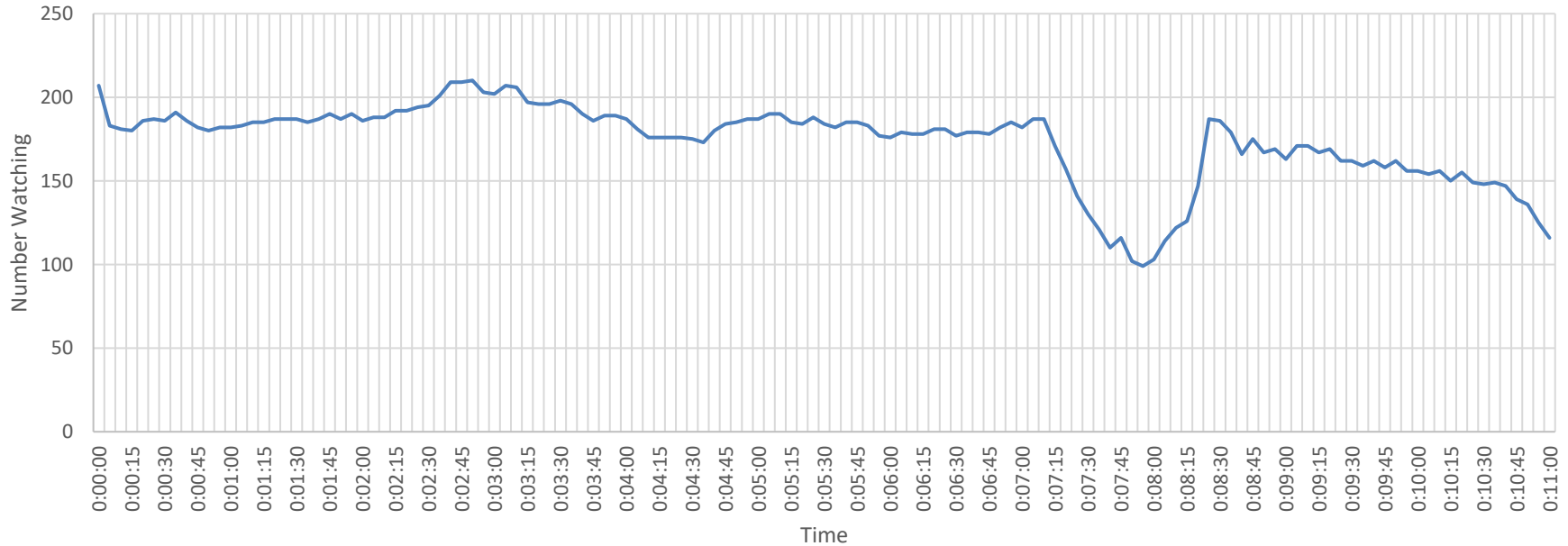
Minutes converted to percentage

Standardisation (1)



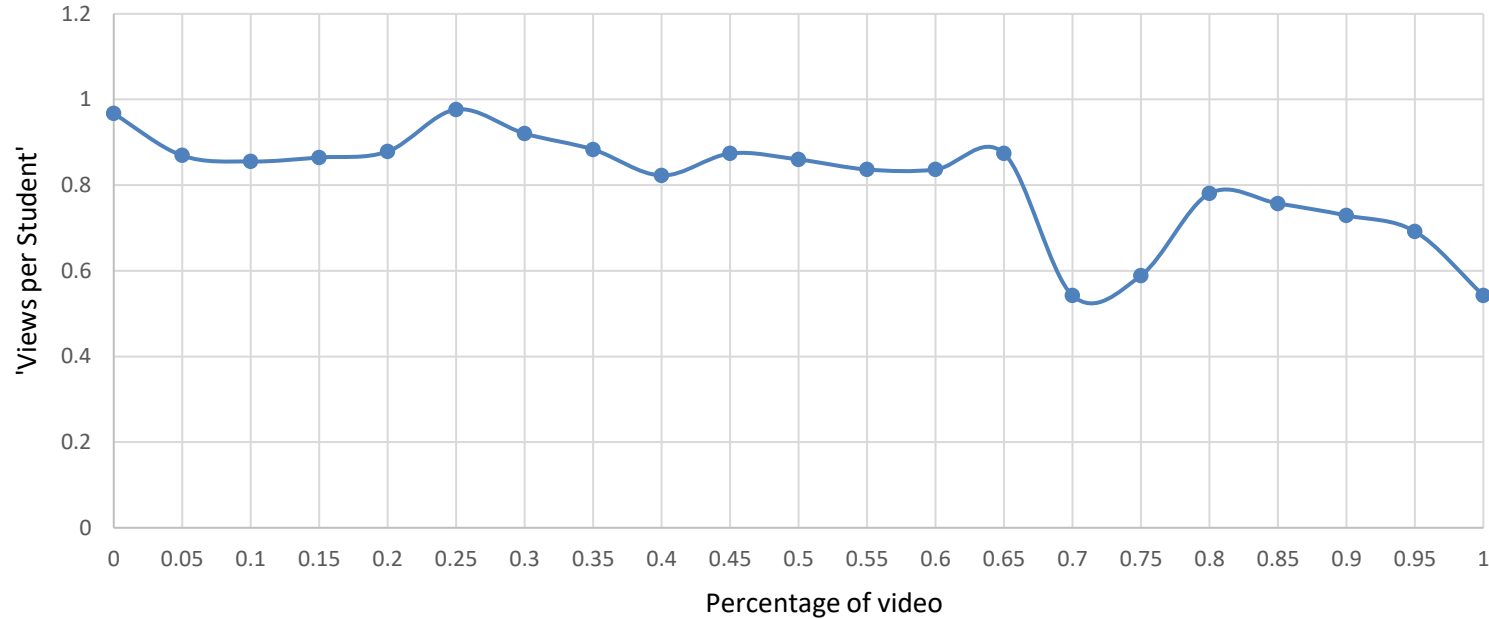
UNIVERSITY OF LEEDS

Module 1A: Topic 6 Video 2





Module 1A: Topic 6 Video 2

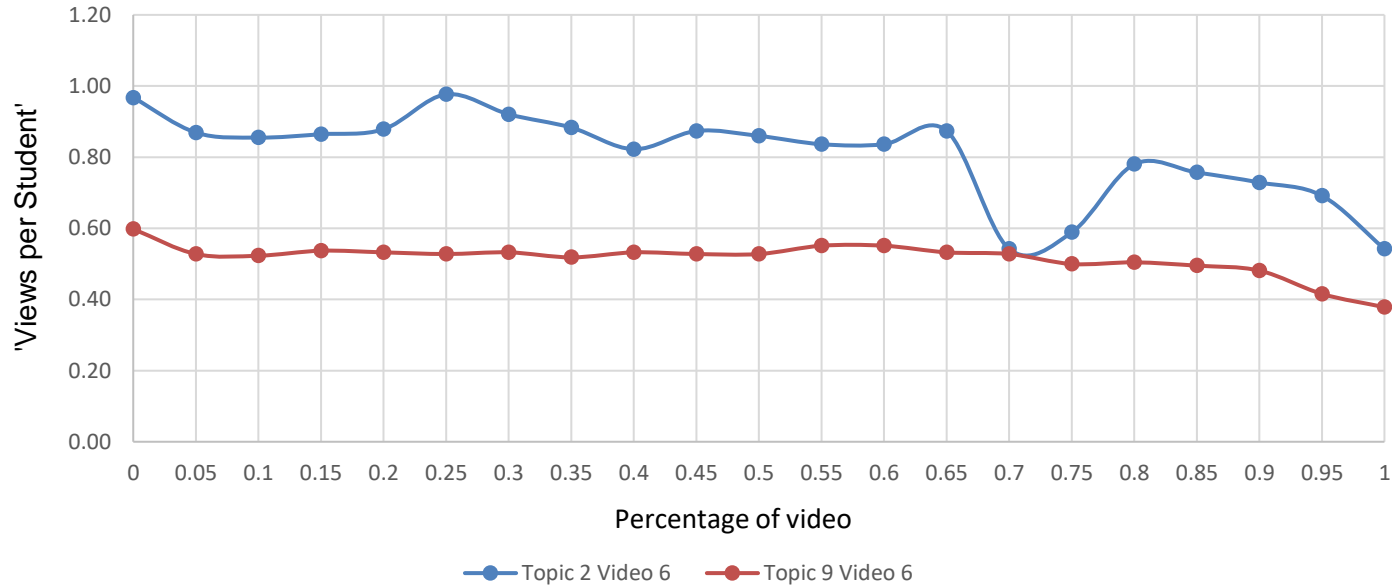


Compare Videos



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Module 1A: Topic 6 Video 2 Versus Topic 9 Video 2



Or...



Aggregate and compare video types

Average video 'views per student' on Module 1A versus Module 1B

Average video 'views per student' of Topic 1 versus Topic 2, 3, 4...

Average video 'views per student' before a break versus after a break

Average video 'views per student' of 'short' videos versus 'long' videos

And much more...

Method

Main Content Videos Only

No introduction or seminar videos included

All Views

Semester and exam period

Standardised Video

Module size account for: number of views/students on module

Minutes converted to percentage

Problems

Assumes Views = Engagement

Data issues

Visual and not statistically robust

So...



What Did I Find?

Oh...

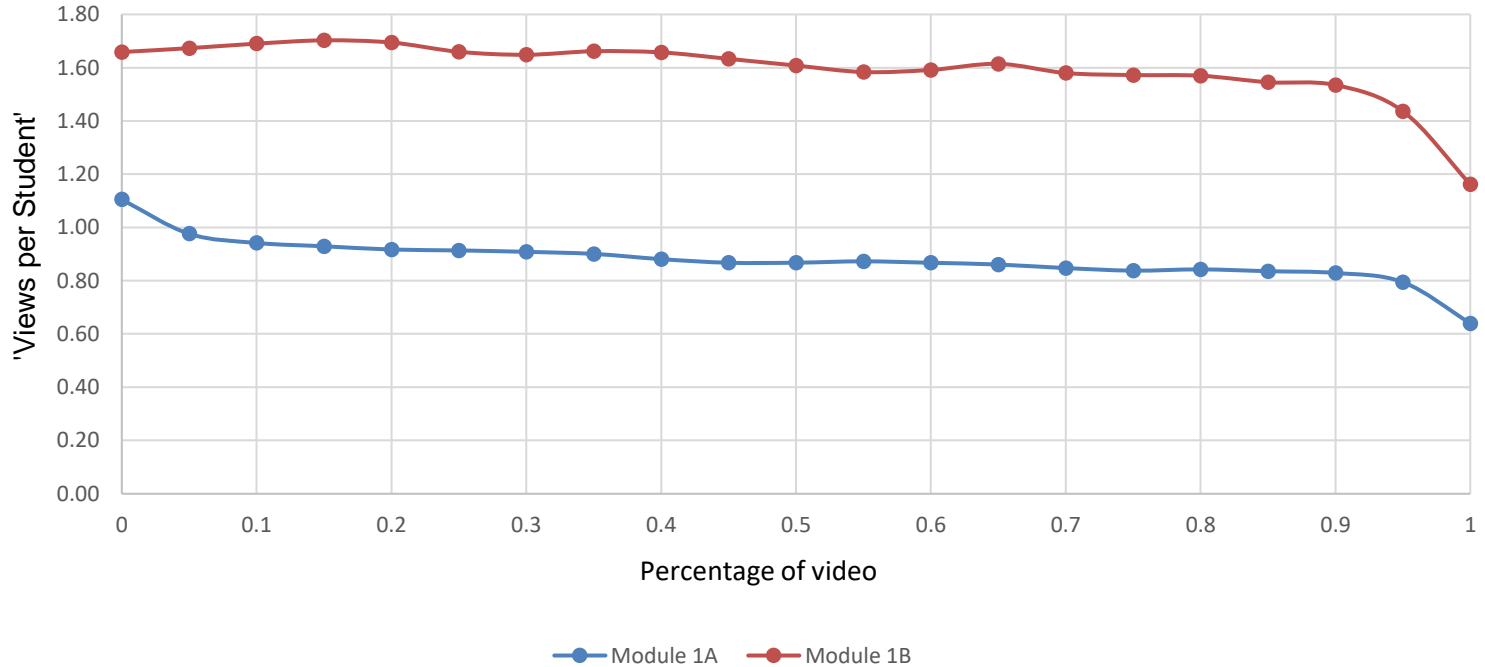
...another motivation

Was all the work I put in on 1A to transform it to 1B worth it?

Yes!



Average 'Views per Student': 1A versus 1B



Hints that...



Shorter videos improve engagement with video

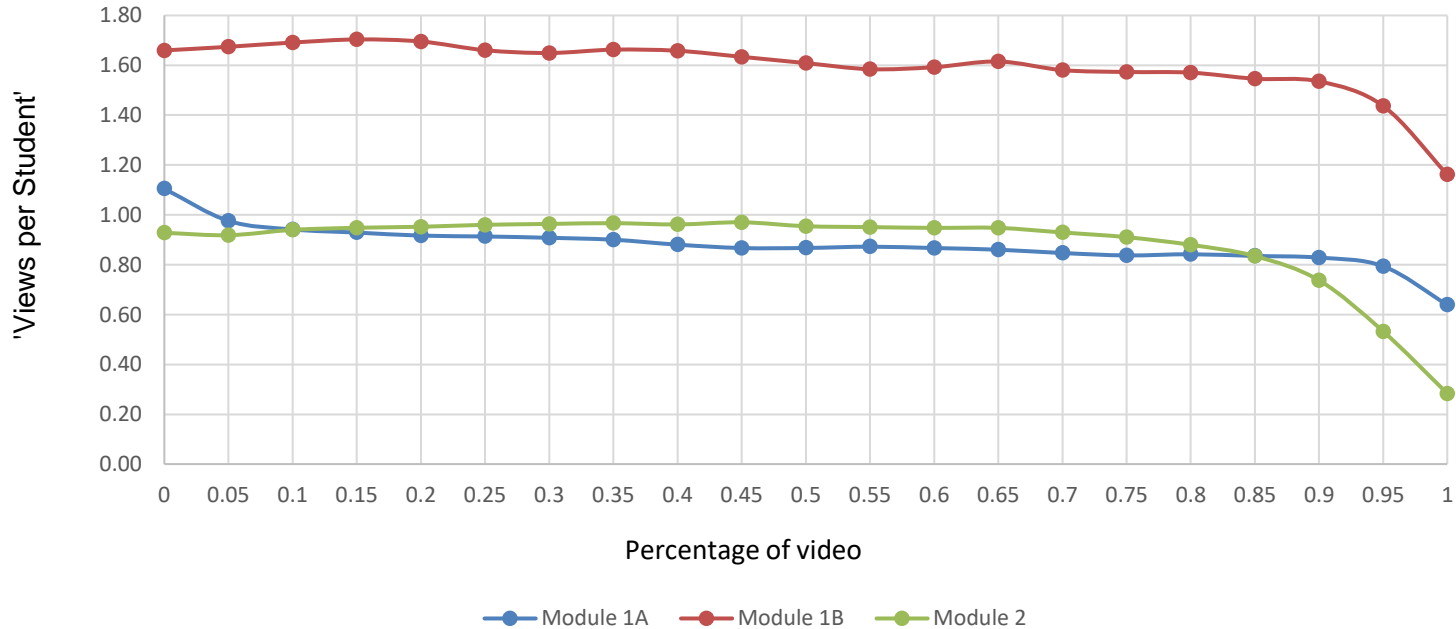
But lots of other things changed too

To be continued...

1A, 1B and 2



Average 'Views per Student': 1A versus 1B versus 2



What Else? (1)

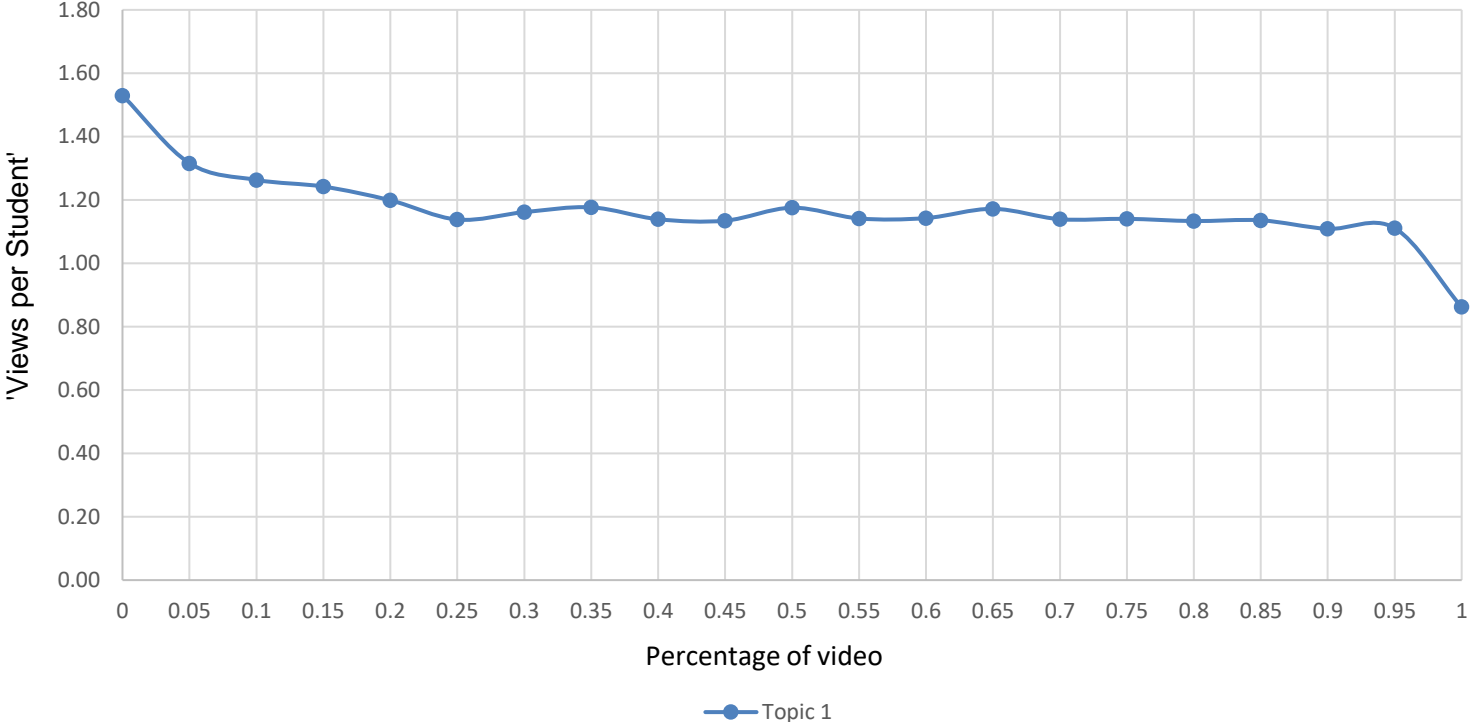
Engagement tends to drop during the semester

Matches anecdotal evidence

Module 1A by Topic



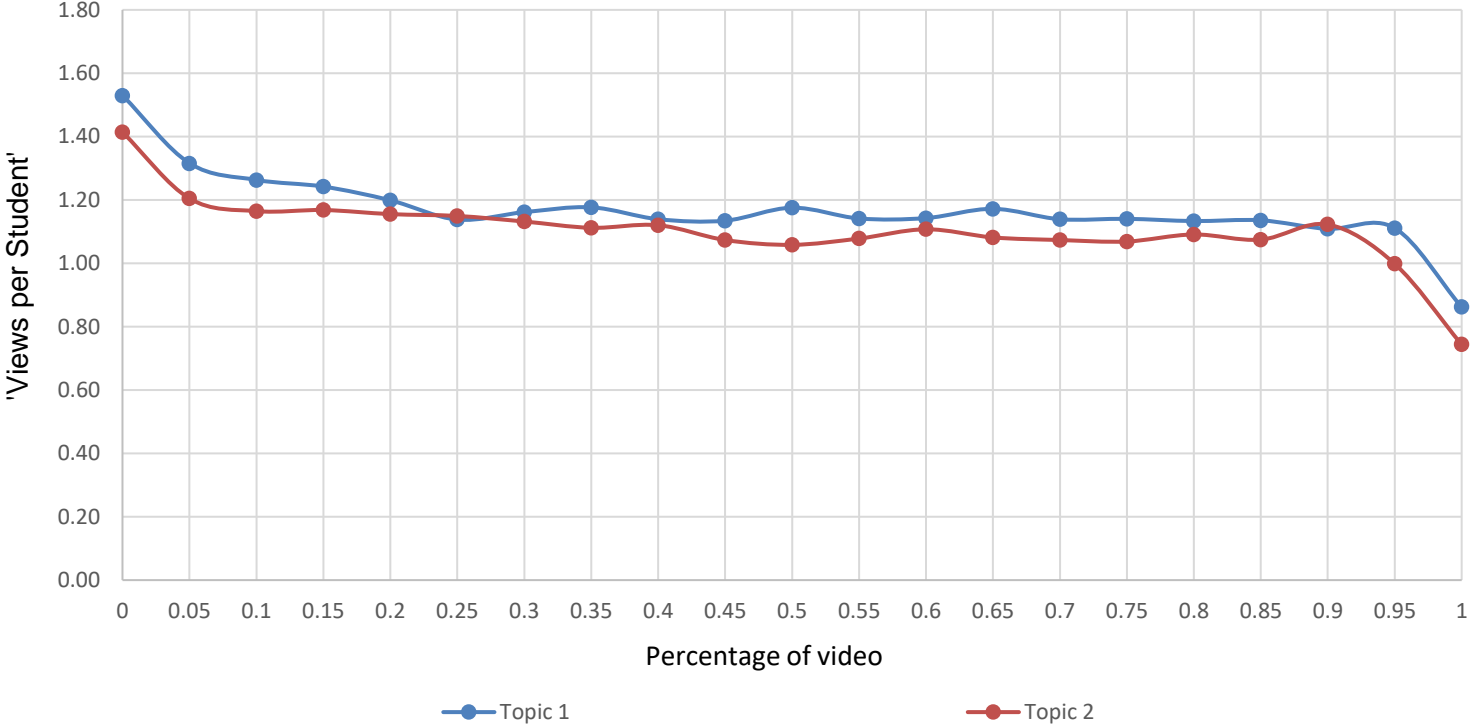
Modules 1A: Average Video Views Per Students by Topic



Module 1A by Topic



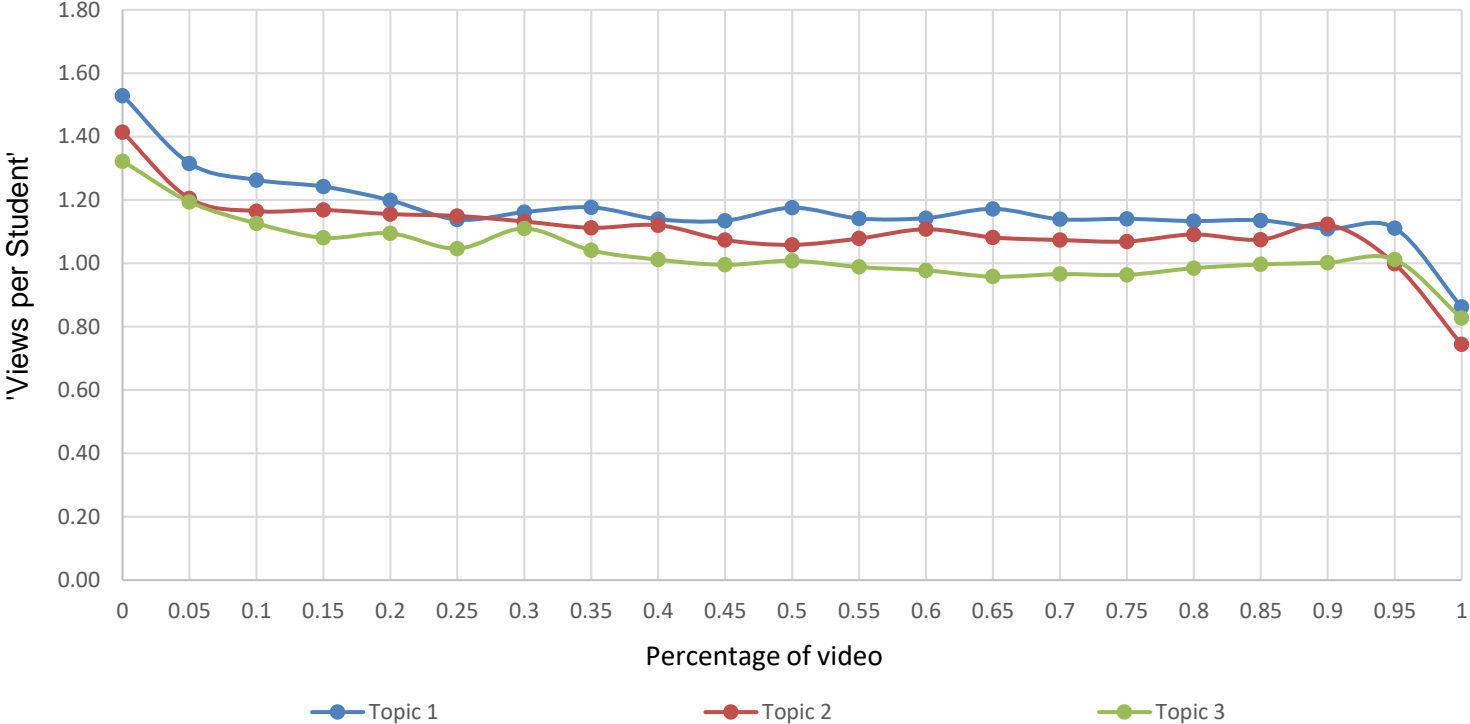
Modules 1A: Average Video Views Per Students by Topic



Module 1A by Topic



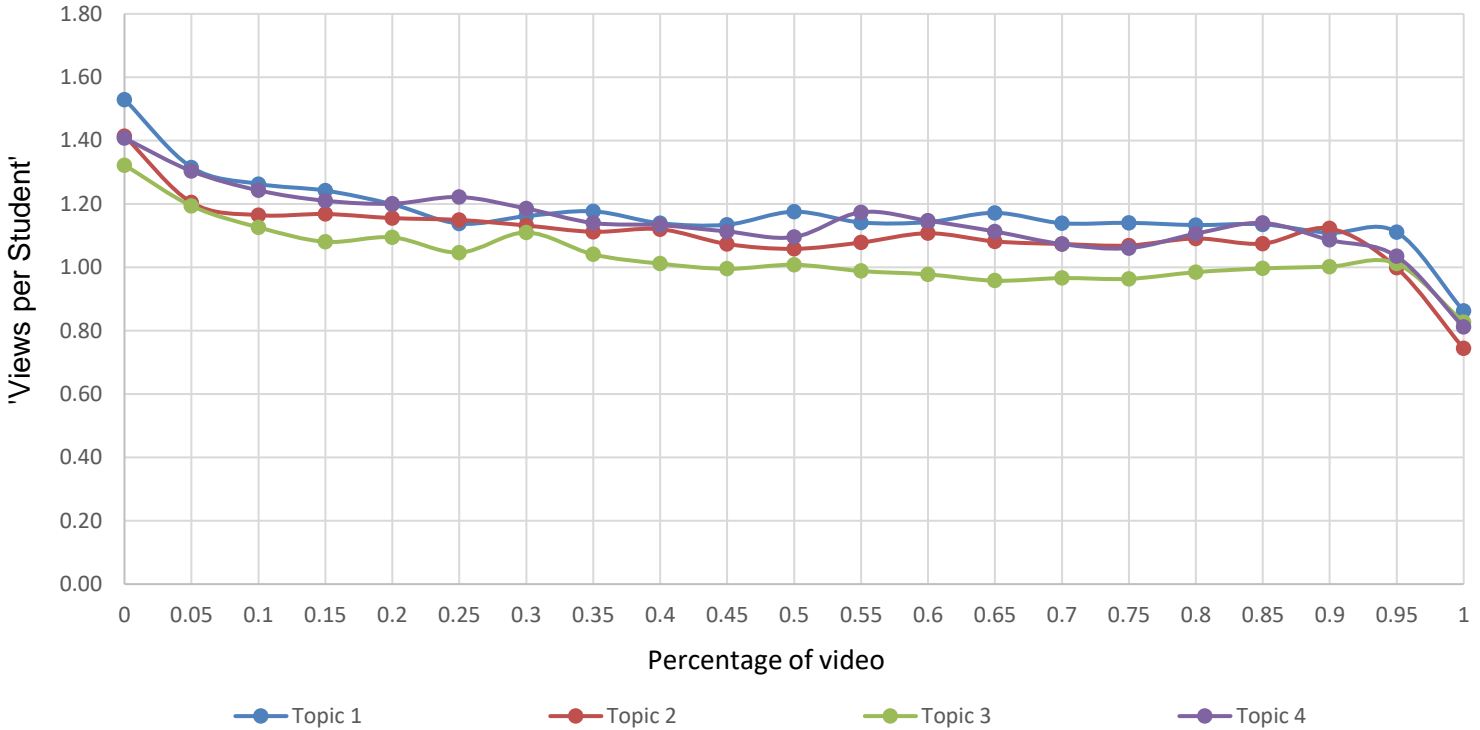
Modules 1A: Average Video Views Per Students by Topic



Module 1A by Topic



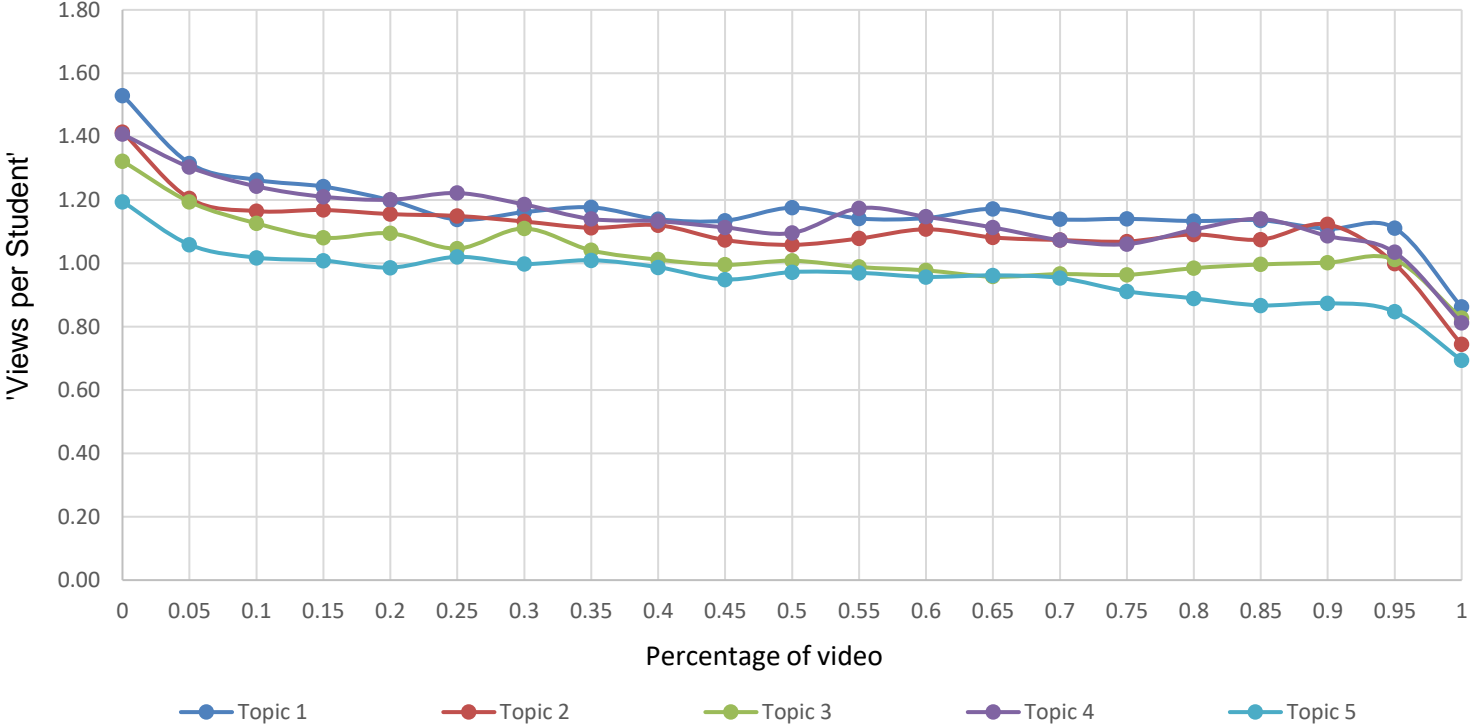
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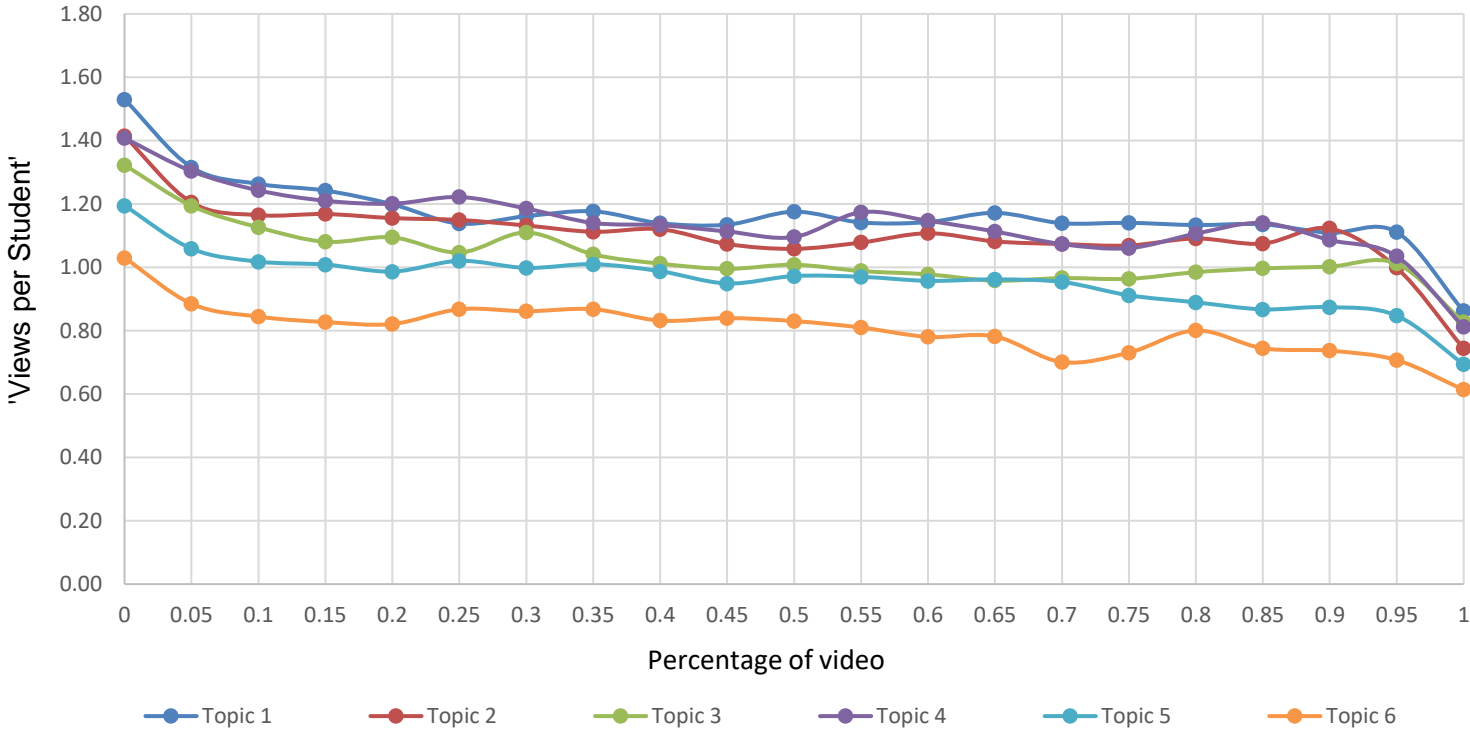
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Module 1A by Topic



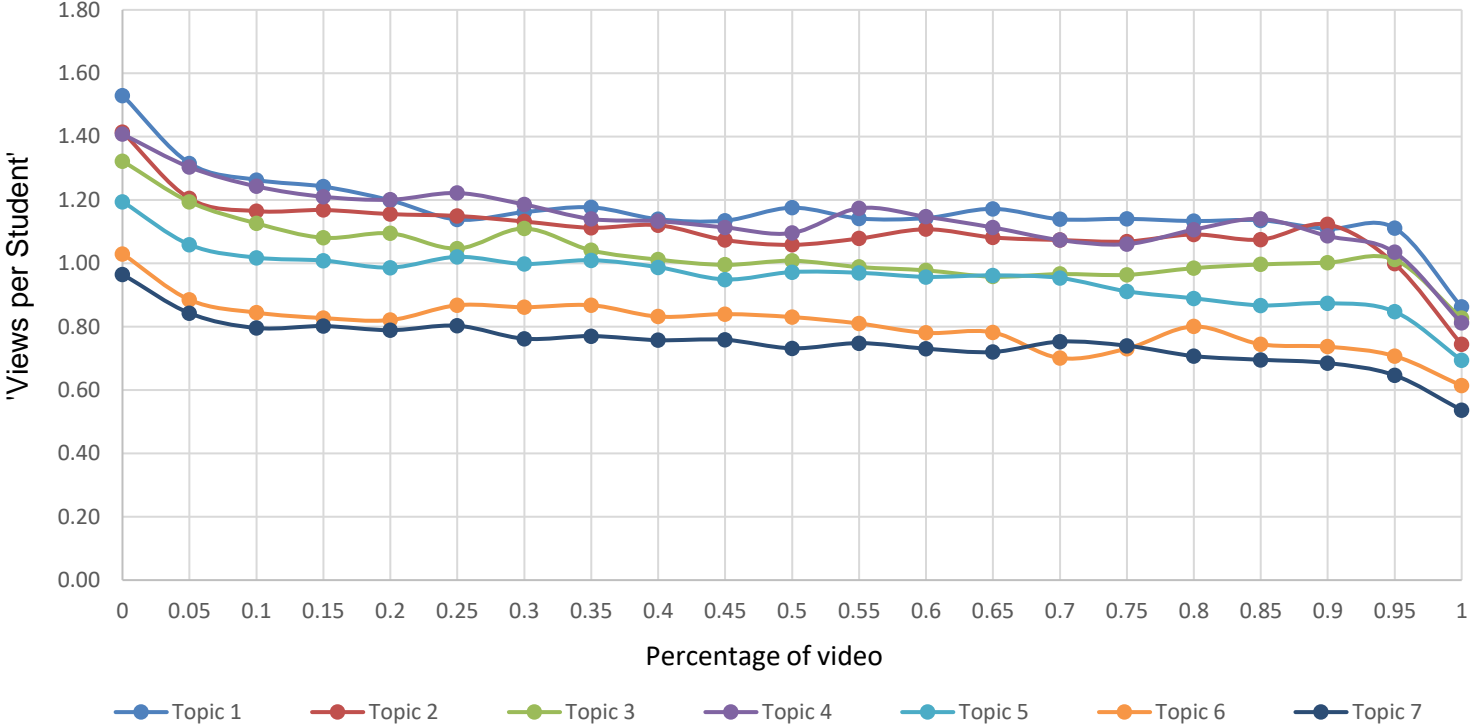
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Module 1A by Topic



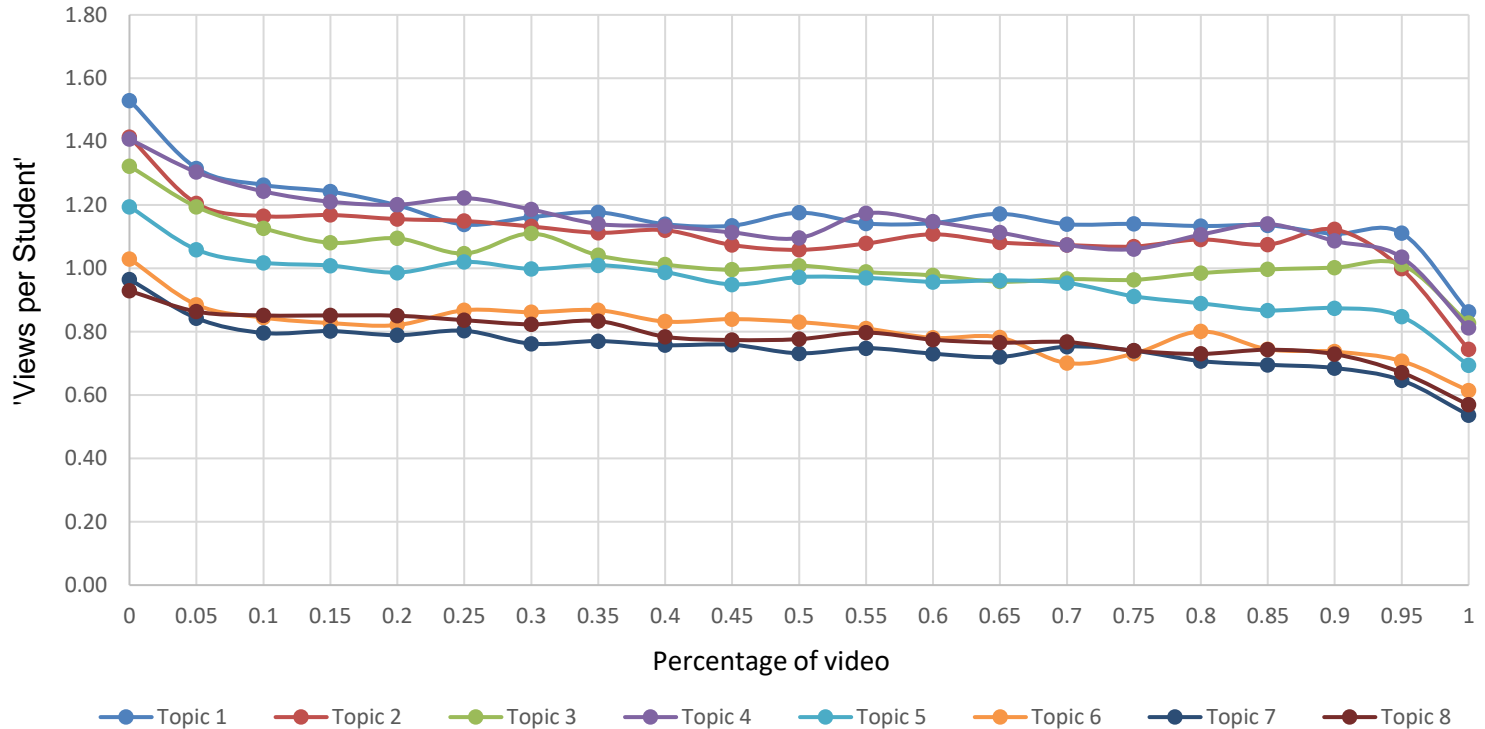
Modules 1A: Average Video Views Per Students by Topic



Module 1A by Topic

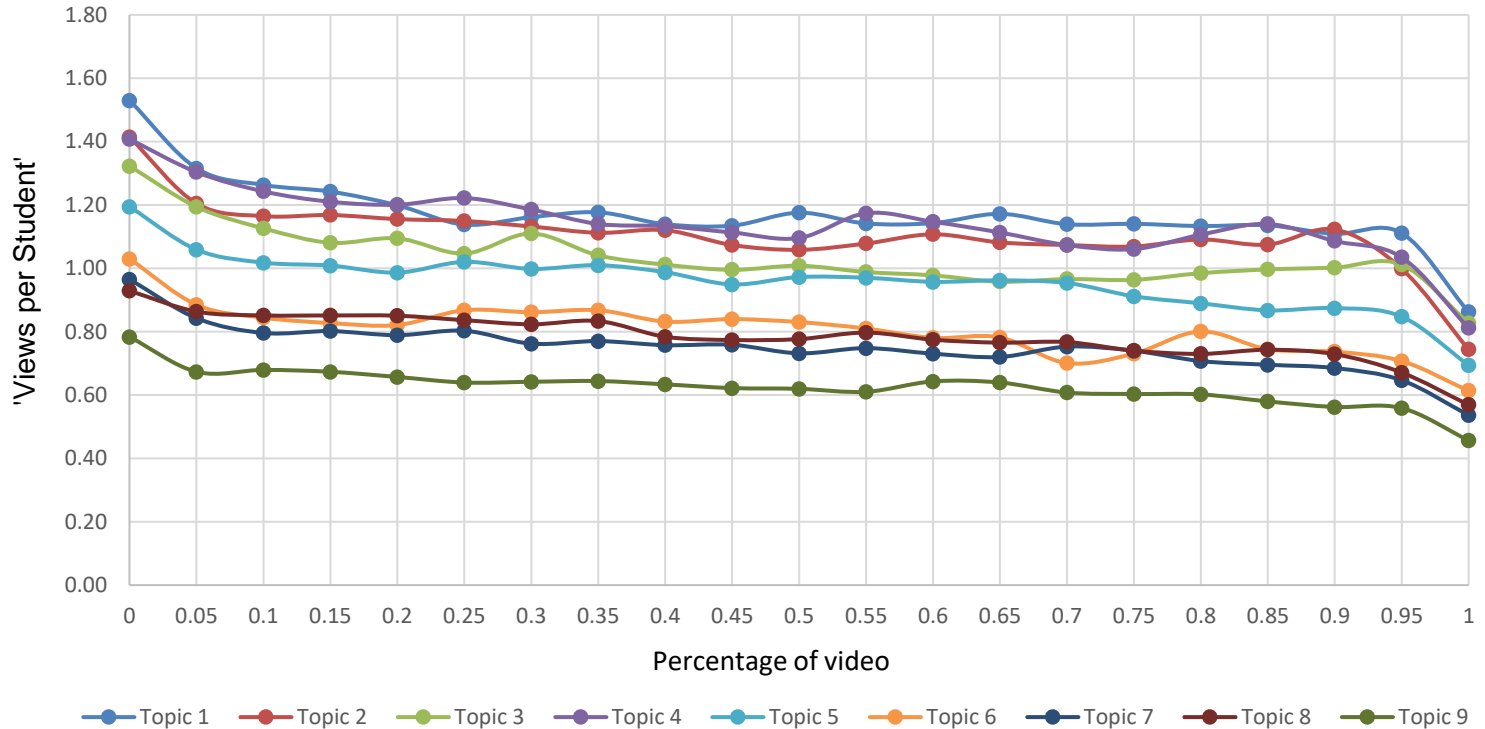


Modules 1A: Average Video Views Per Students by Topic



Module 1A by Topic

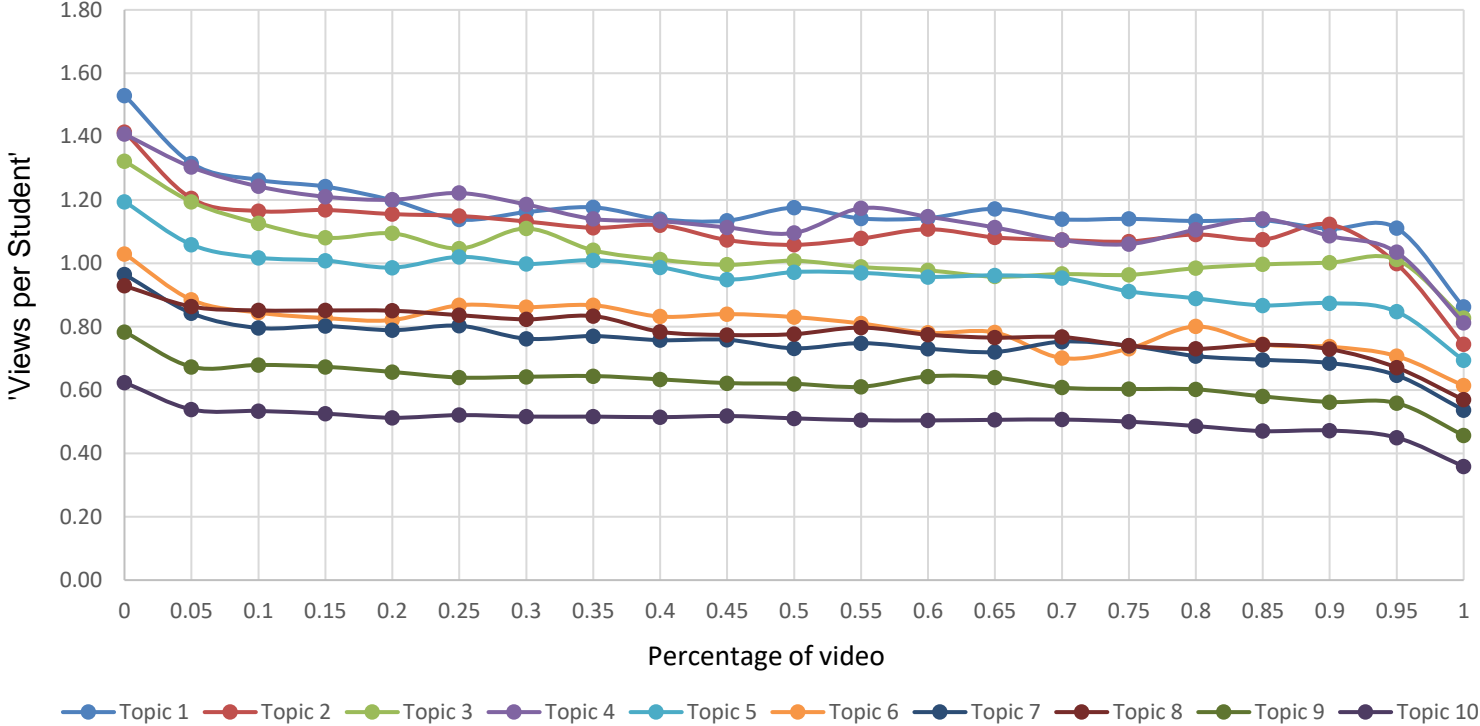
Modules 1A: Average Video Views Per Students by Topic



Module 1A by Topic



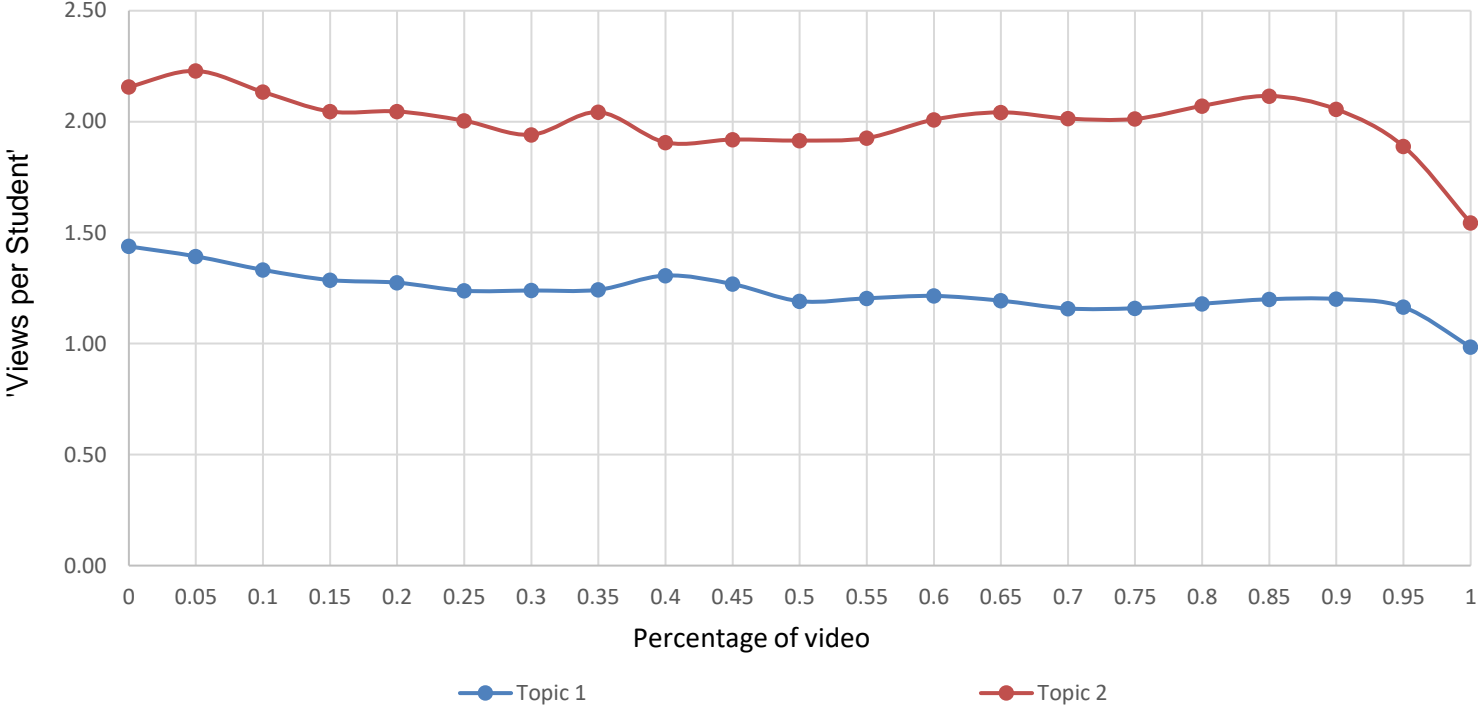
Modules 1A: Average Video Views Per Students by Topic



Module 1B by Topic



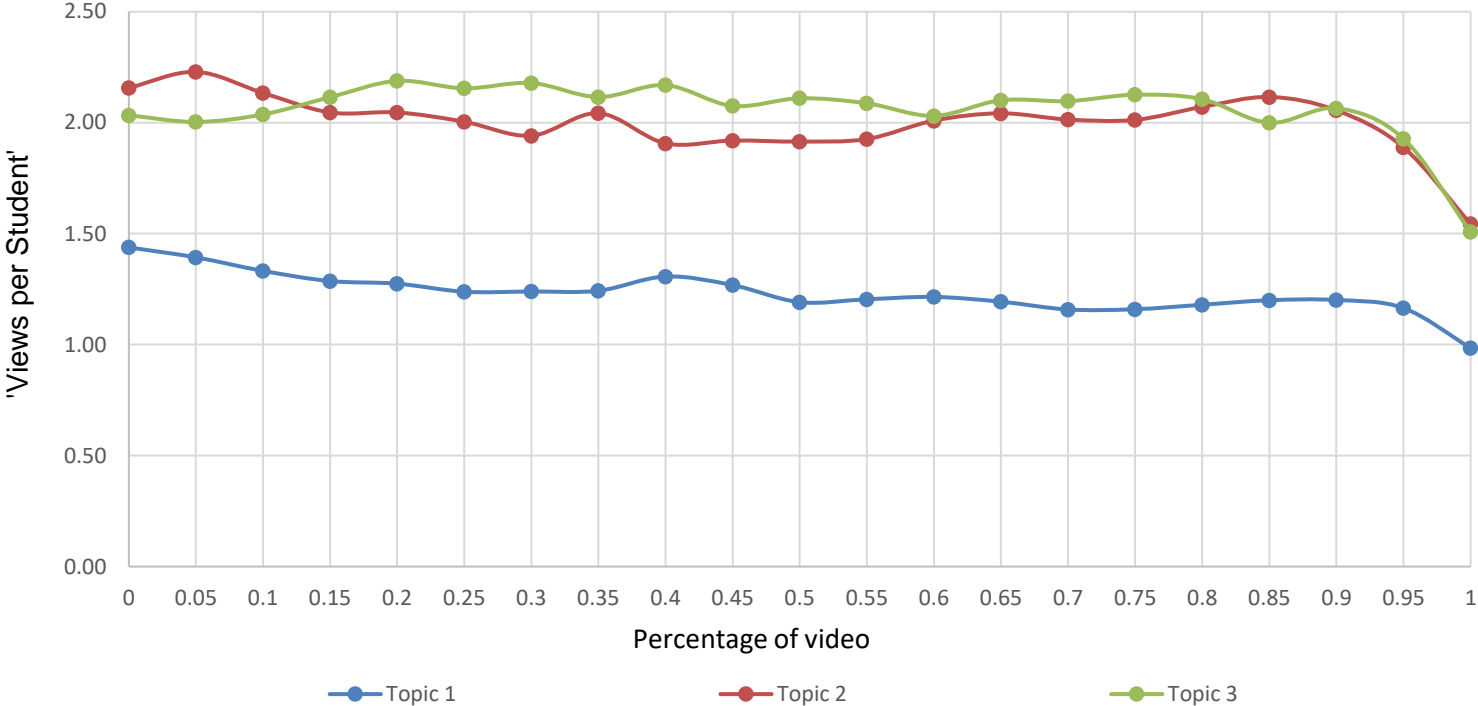
Modules 1B: Average Video Views Per Students by Topic



Module 1B by Topic



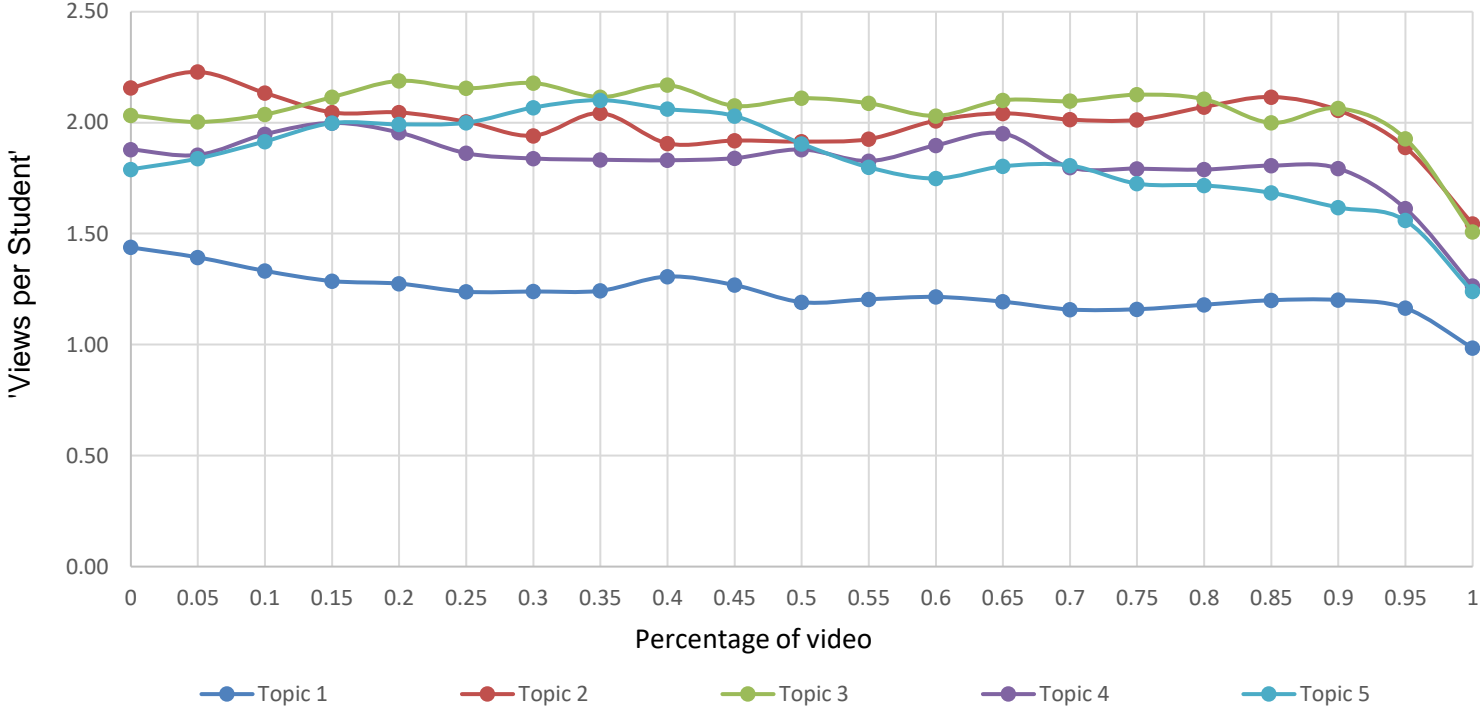
Modules 1B: Average Video Views Per Students by Topic



Module 1B by Topic



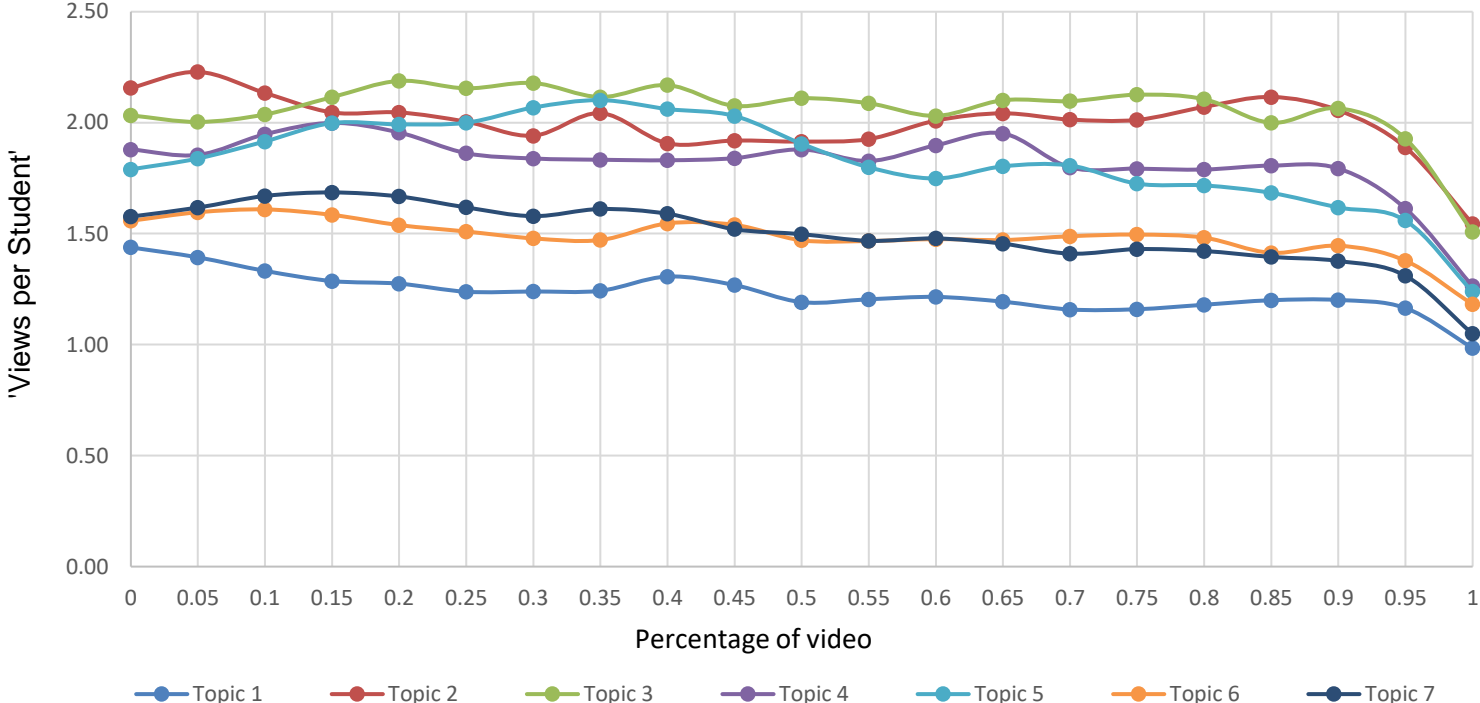
Modules 1B: Average Video Views Per Students by Topic



Module 1B by Topic



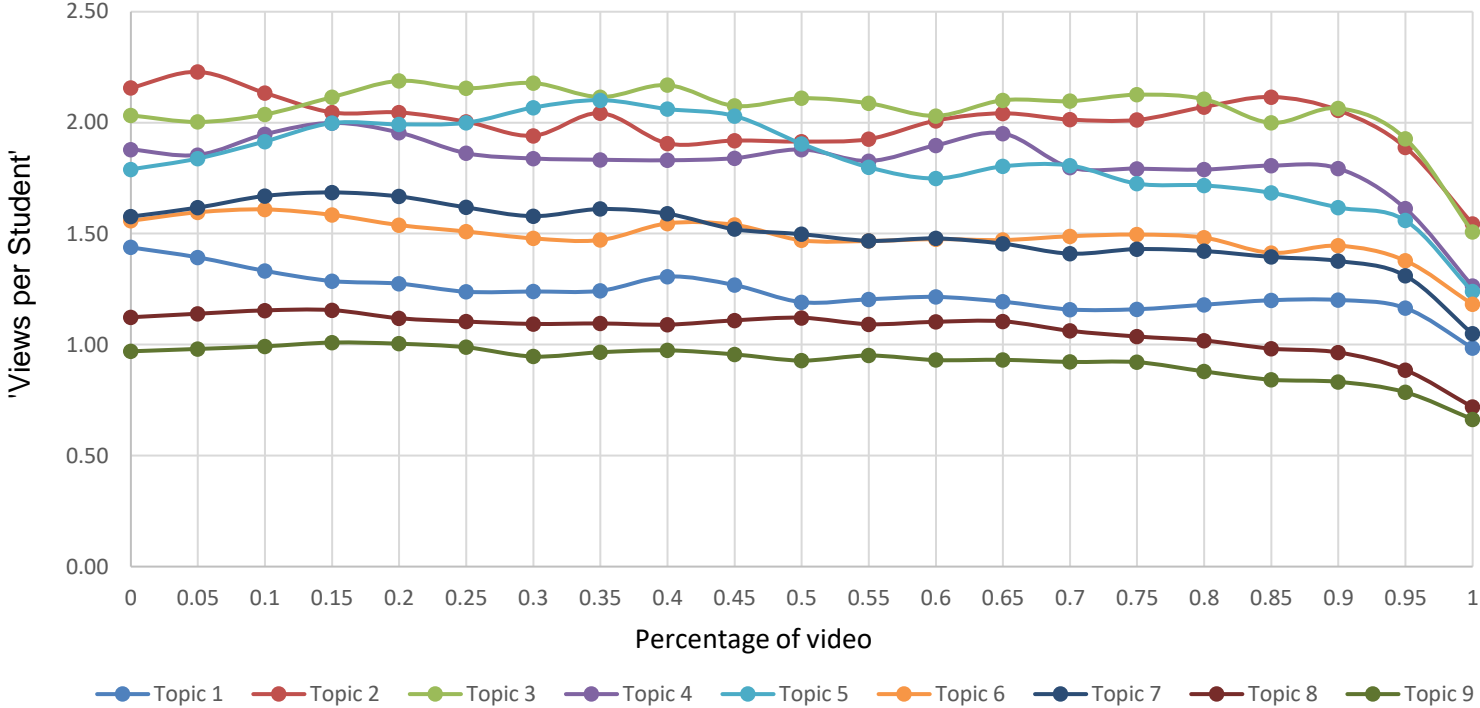
Modules 1B: Average Video Views Per Students by Topic



Module 1B by Topic



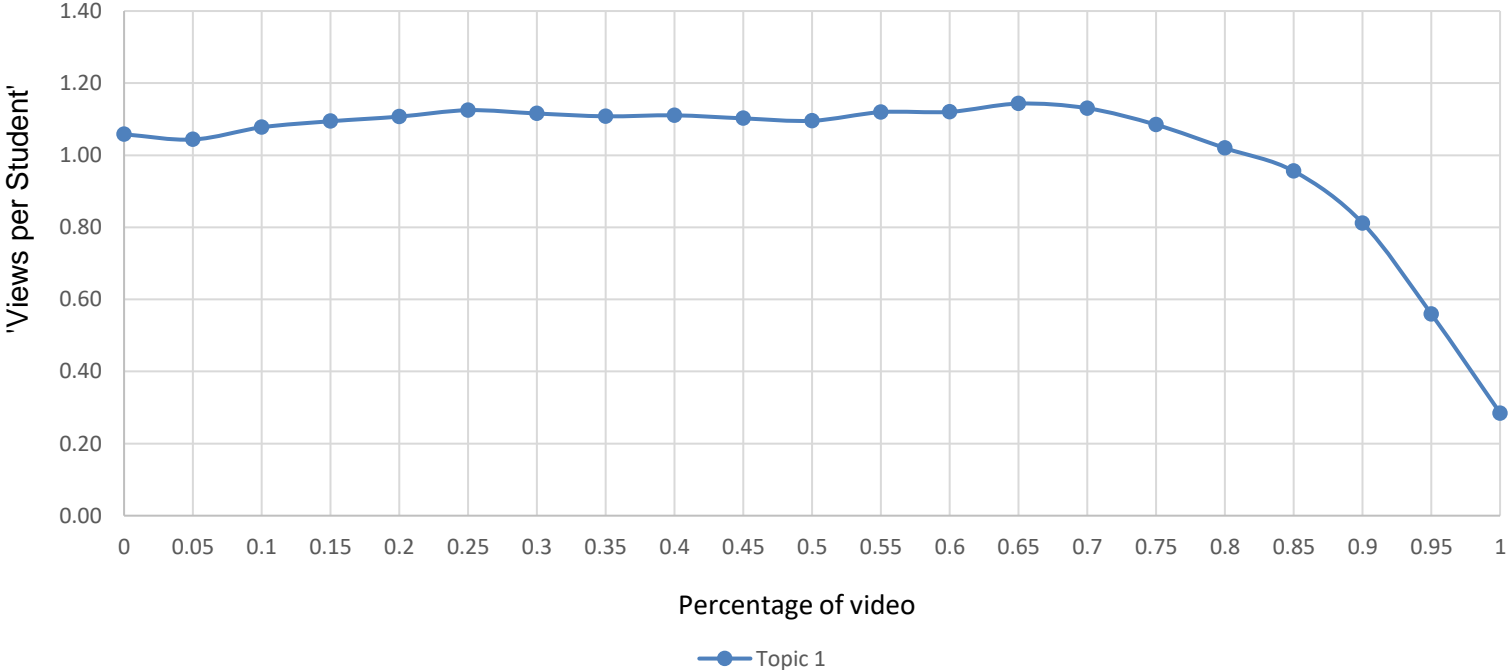
Modules 1B: Average Video Views Per Students by Topic



Module 2 by Topic



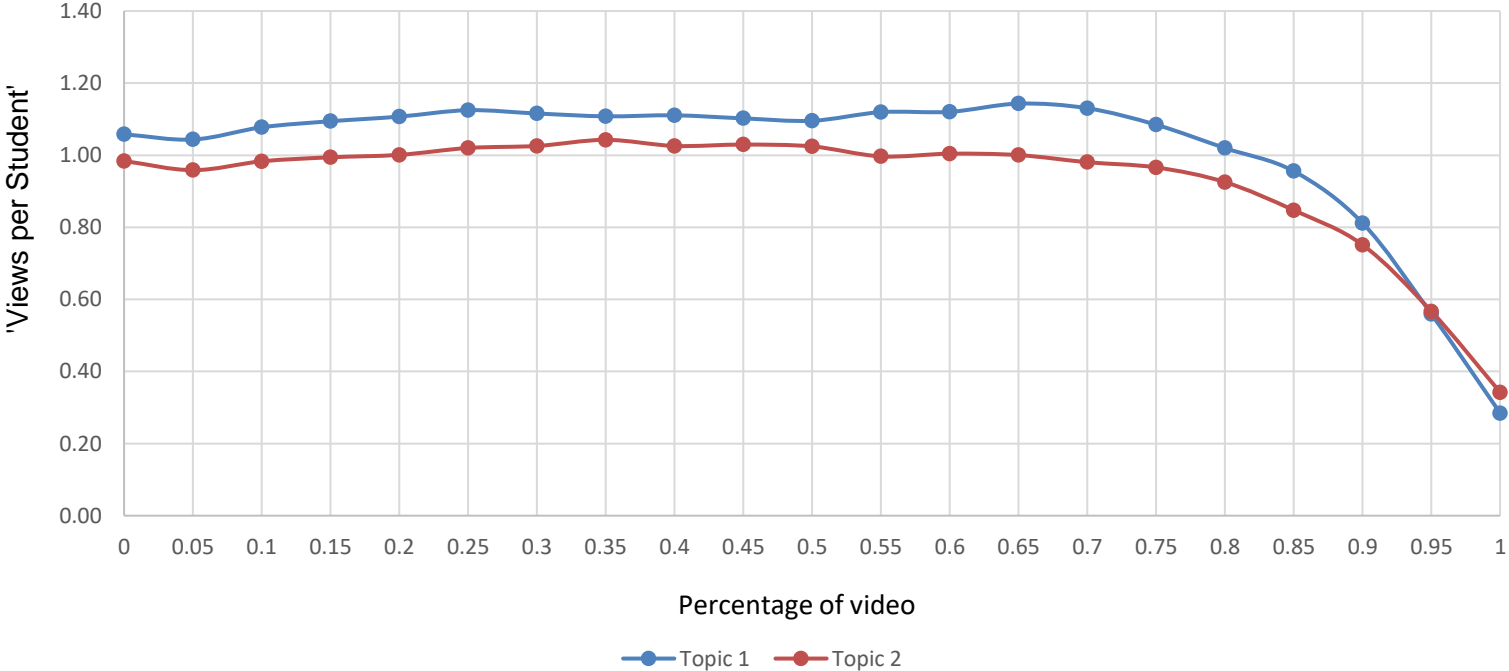
Modules 2: Average Video Views Per Students by Topic



Module 2 by Topic



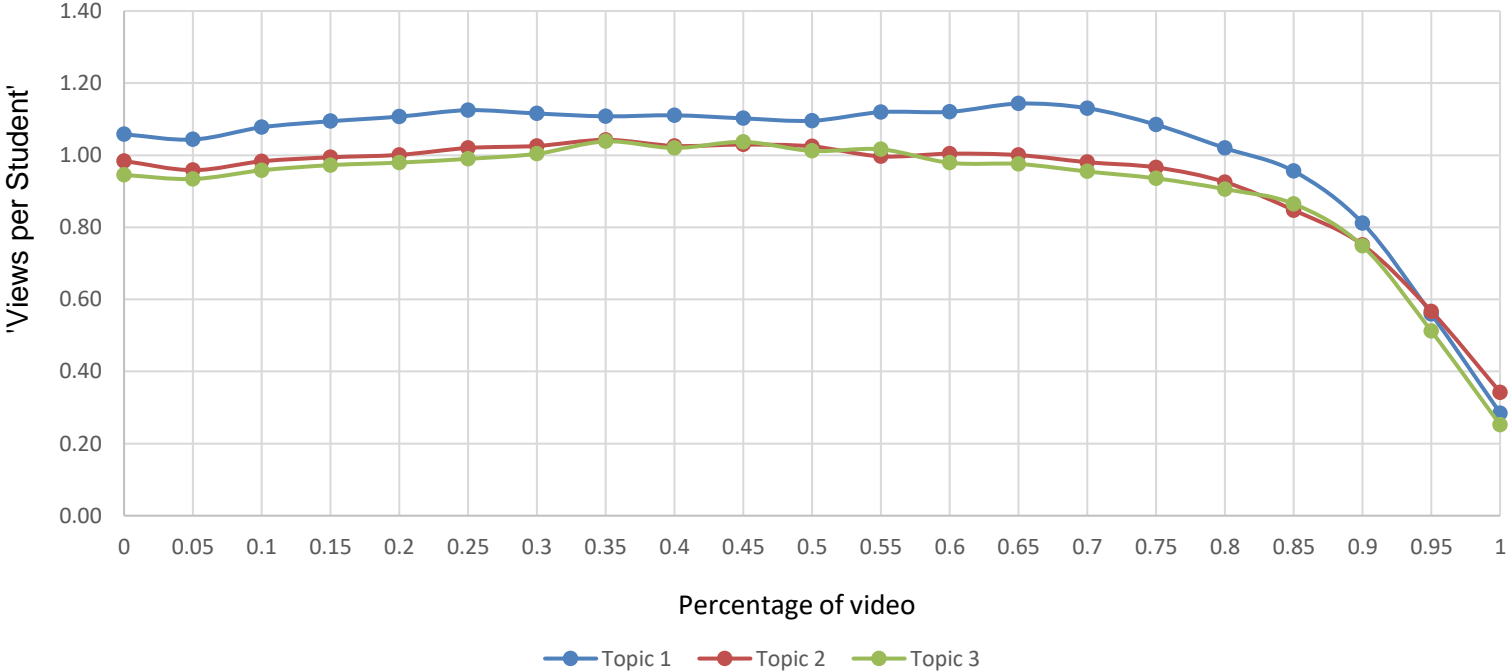
Modules 2: Average Video Views Per Students by Topic



Module 2 by Topic



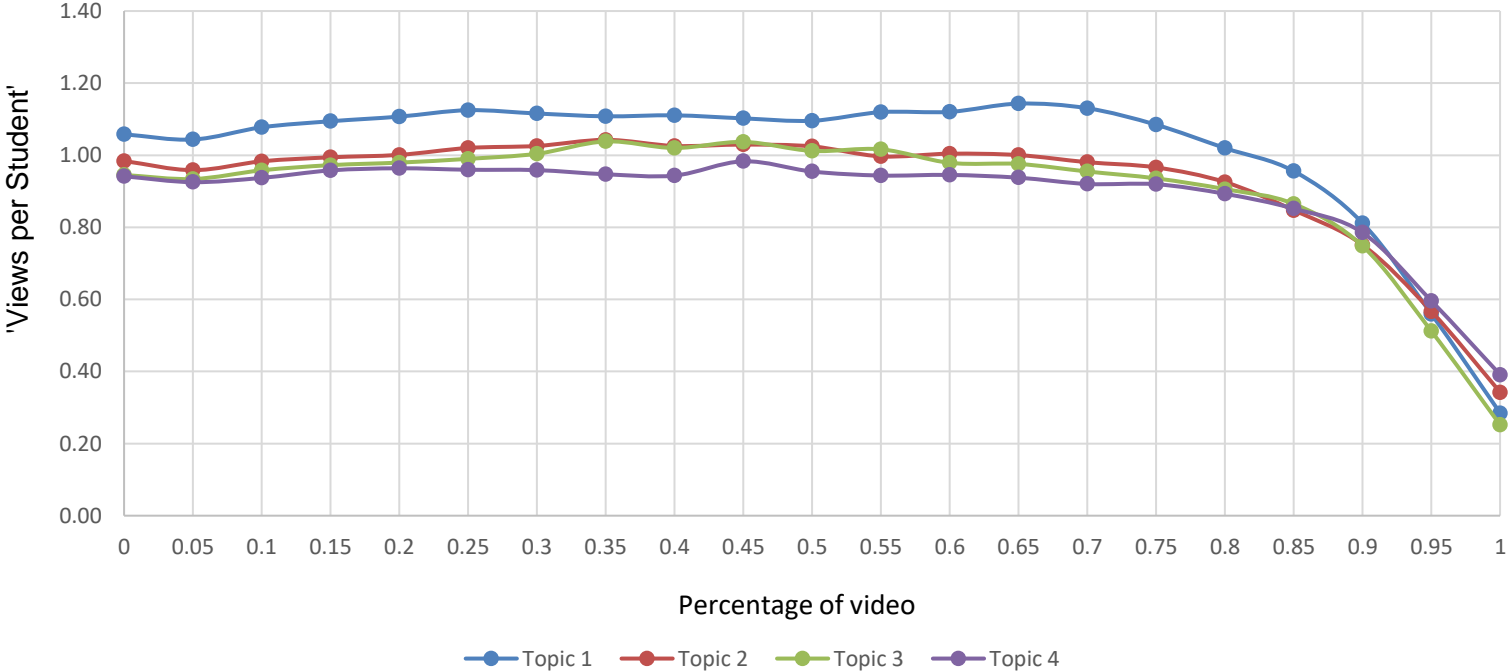
Modules 2: Average Video Views Per Students by Topic



Module 2 by Topic



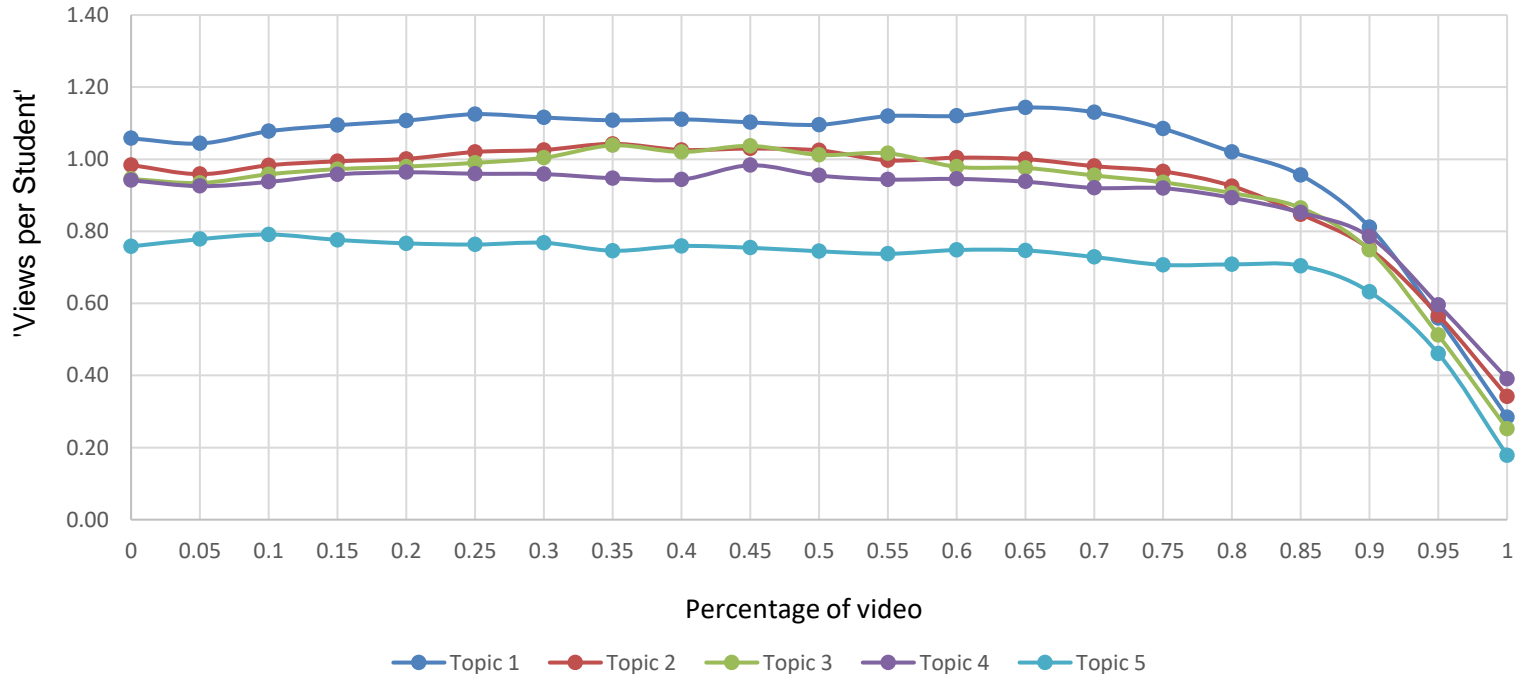
Modules 2: Average Video Views Per Students by Topic



Module 2 by Topic



Modules 2: Average Video Views Per Students by Topic



What Else? (2)



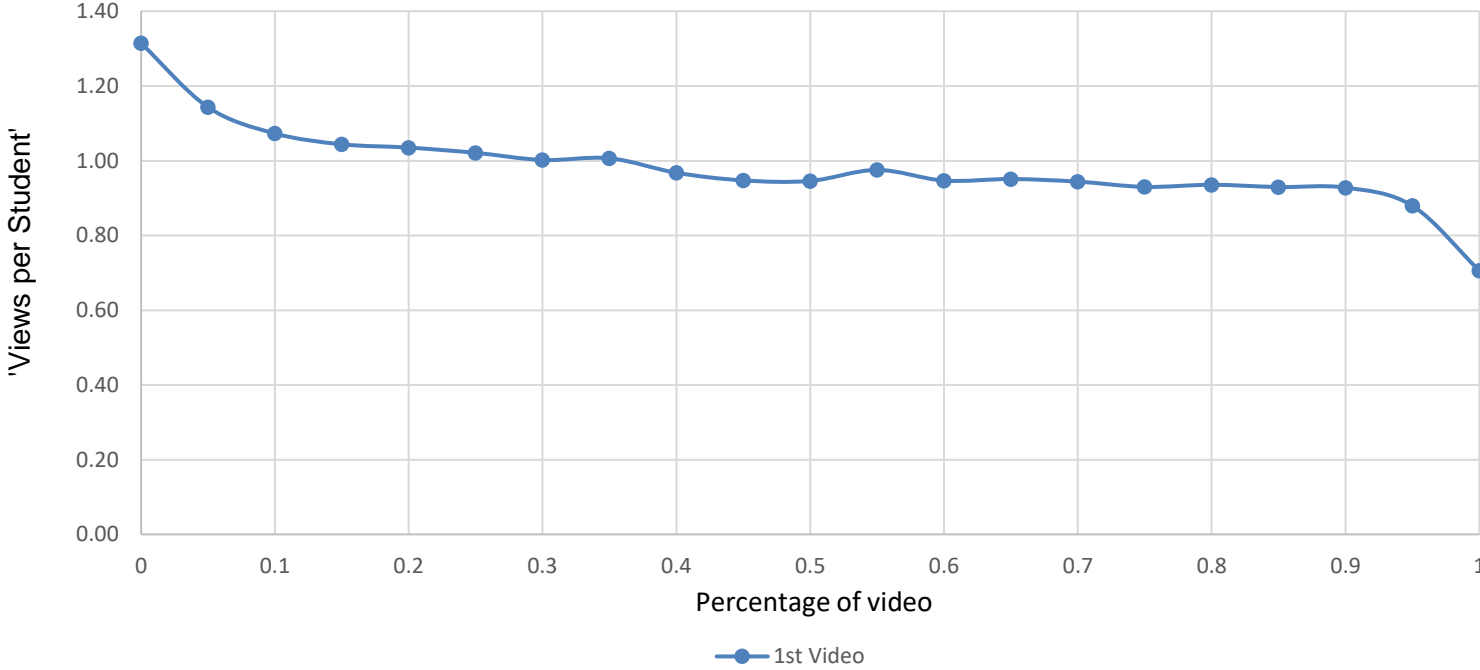
The more videos in a topic, the more engagement tends to drop

Seems sensible

Module 1A by Video Number



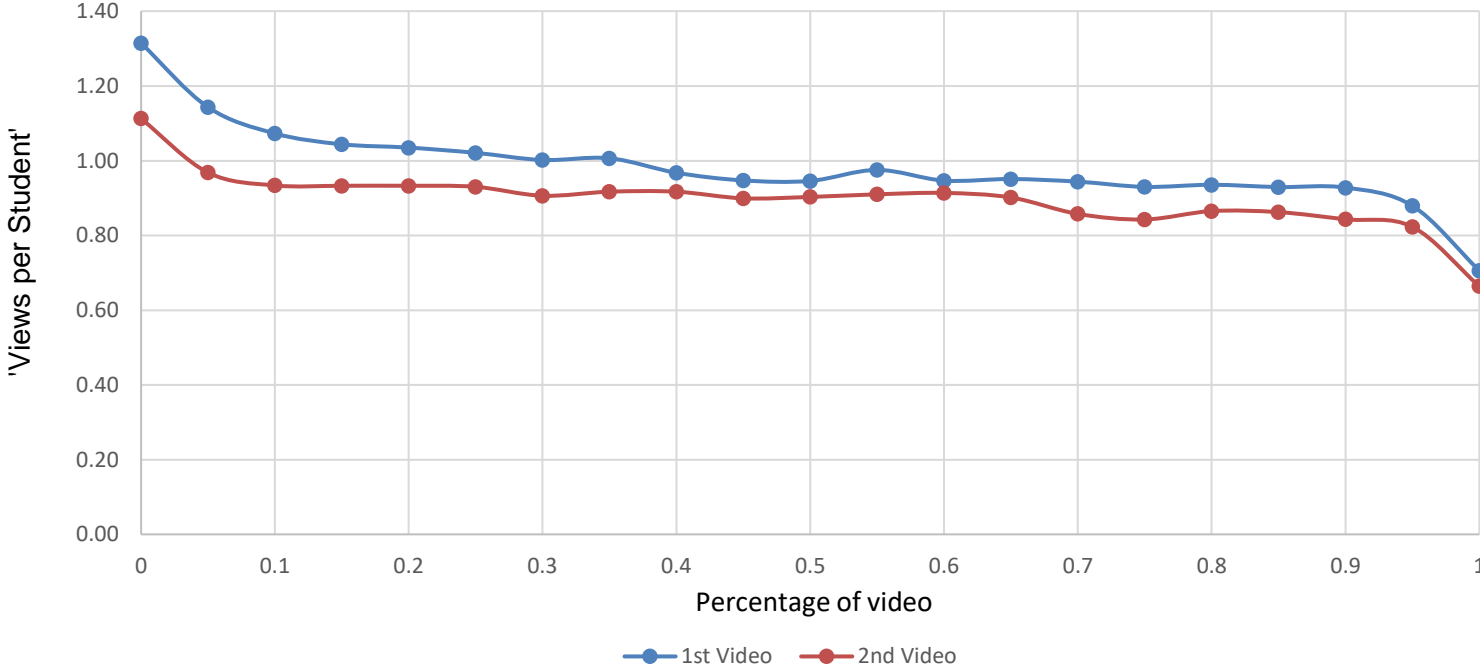
Module 1A: Average Video Views By Video Number



Module 1A by Video Number



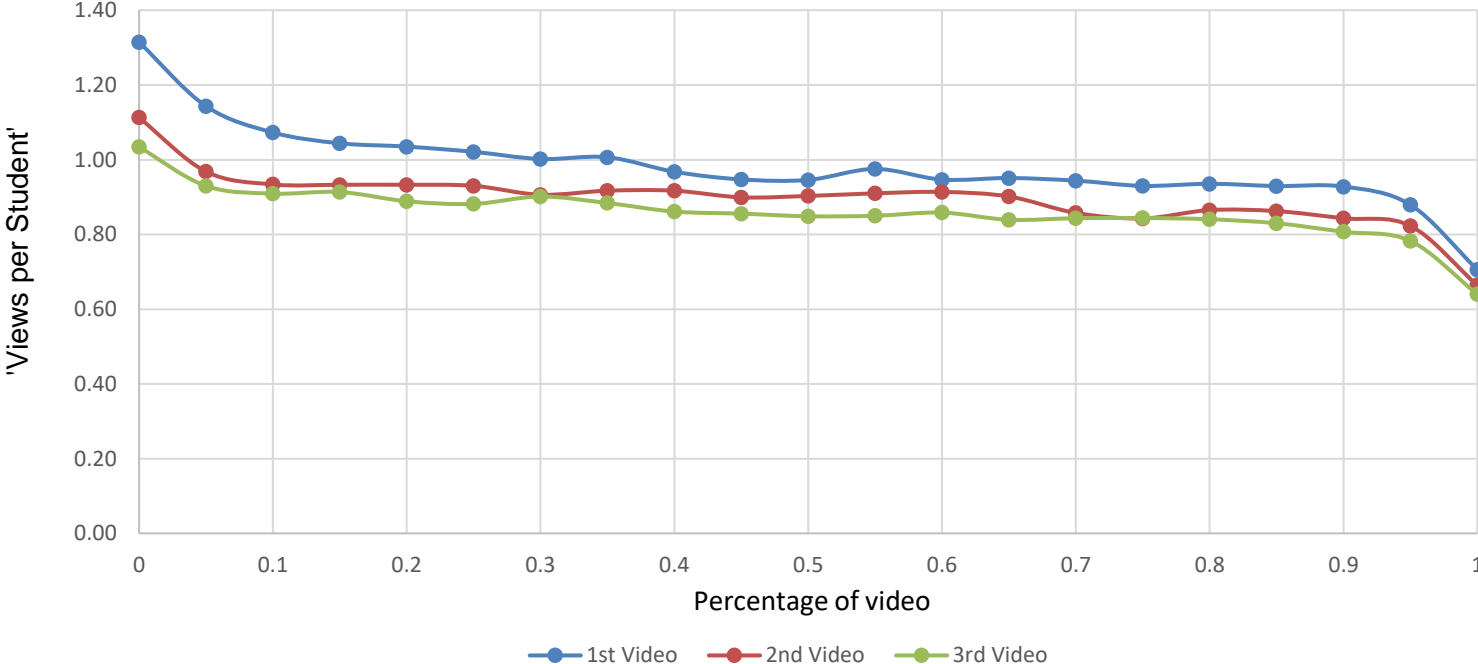
Module 1A: Average Video Views By Video Number



Module 1A by Video Number



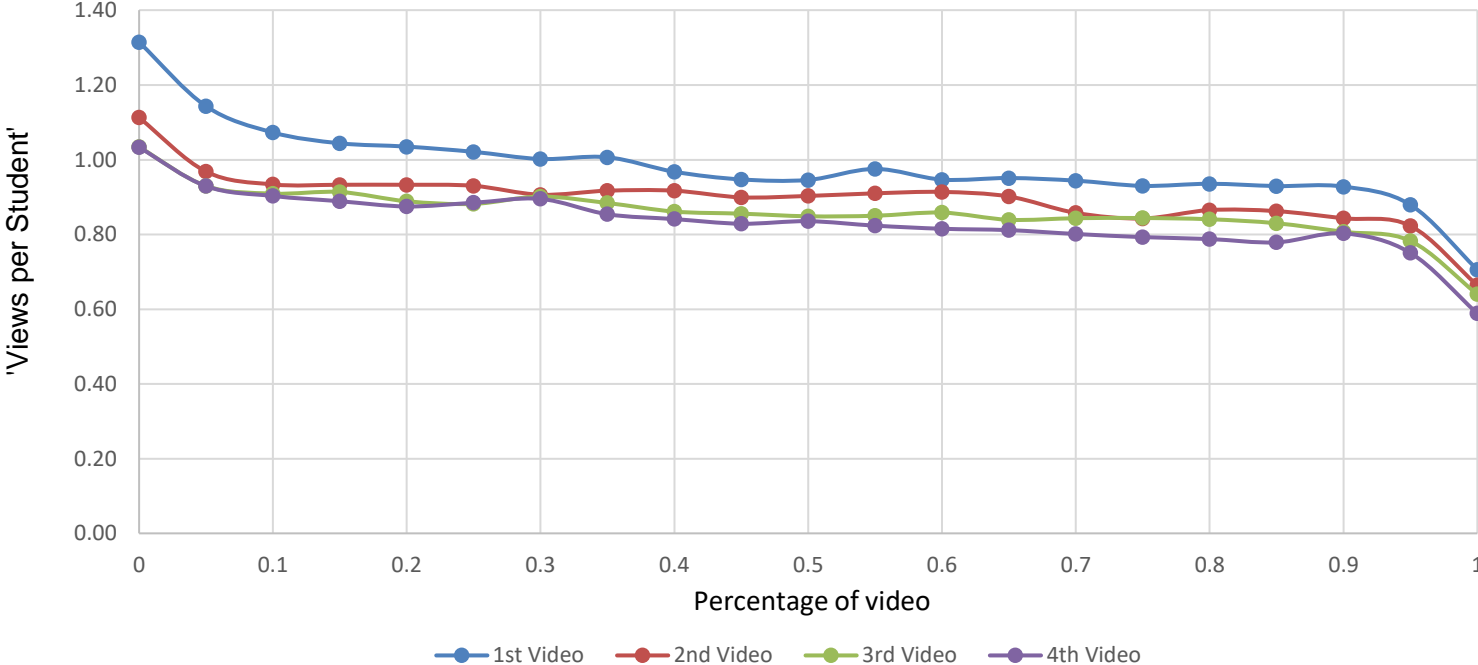
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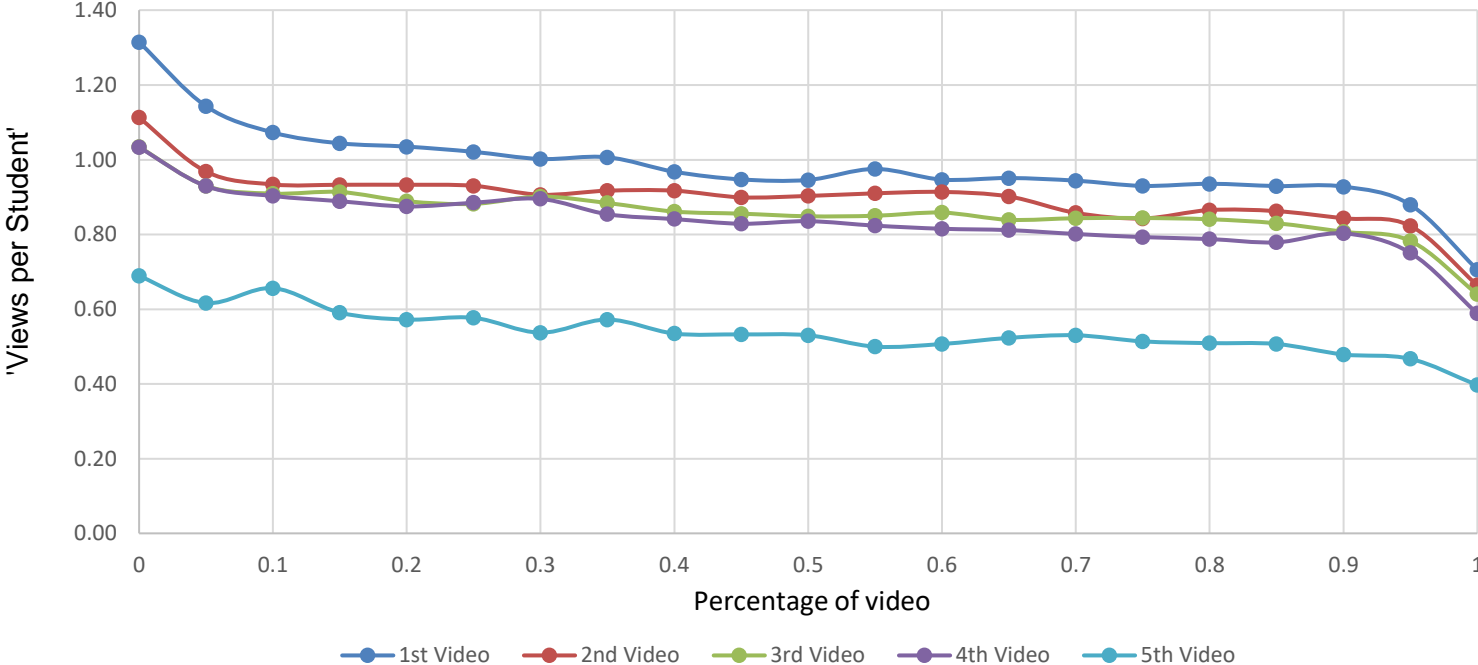
Module 1A: Average Video Views By Video Number



Module 1A by Video Number



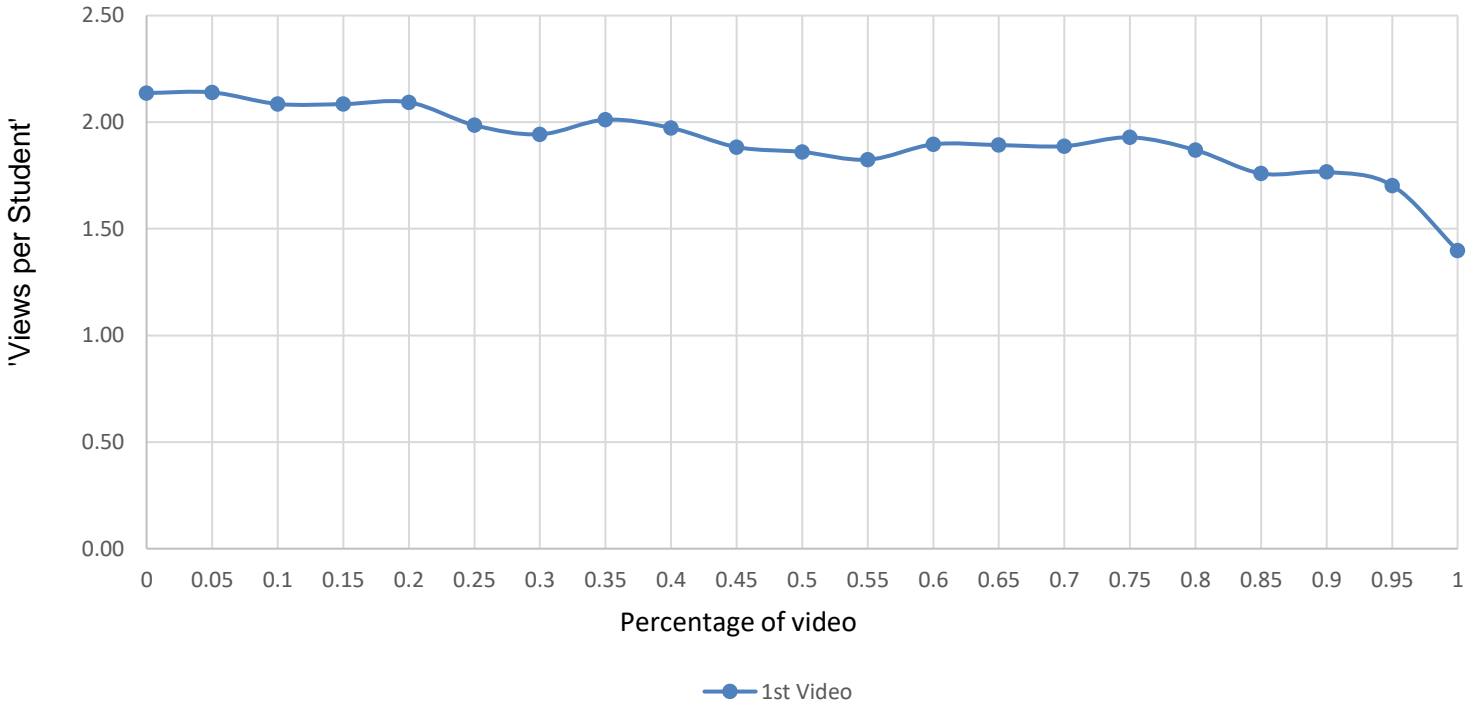
Module 1A: Average Video Views By Video Number



Module 1B by Video Number



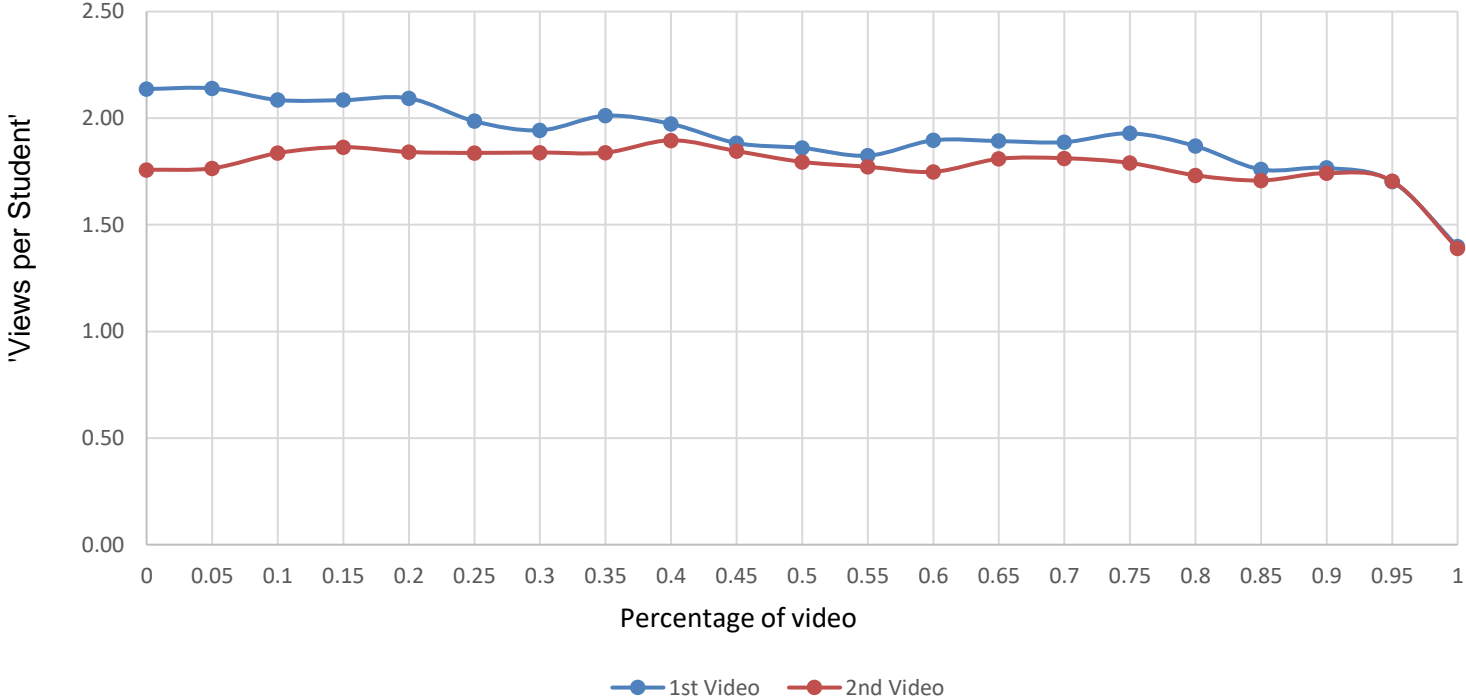
Module 1B: Average Video Views By Video Number



Module 1B by Video Number



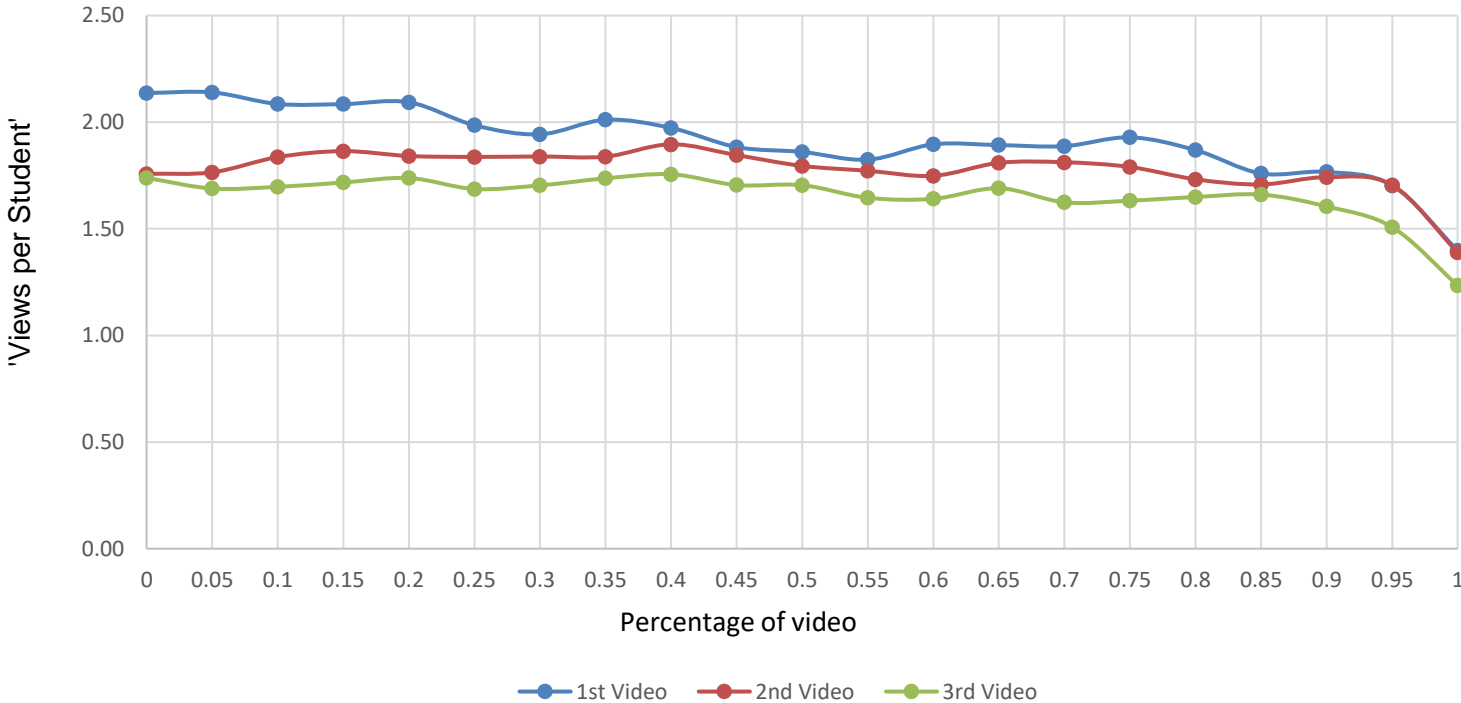
Module 1B: Average Video Views By Video Number



Module 1B by Video Number



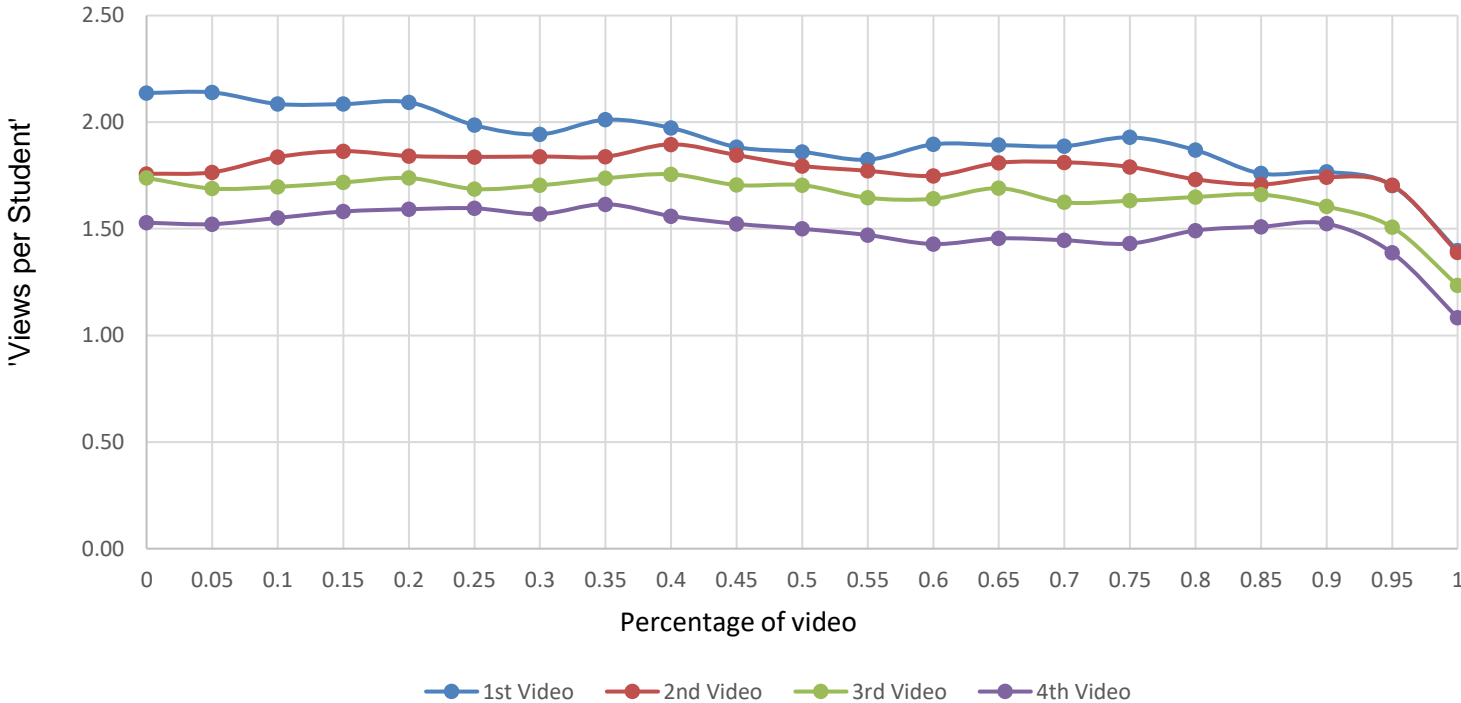
Module 1B: Average Video Views By Video Number



Module 1B by Video Number



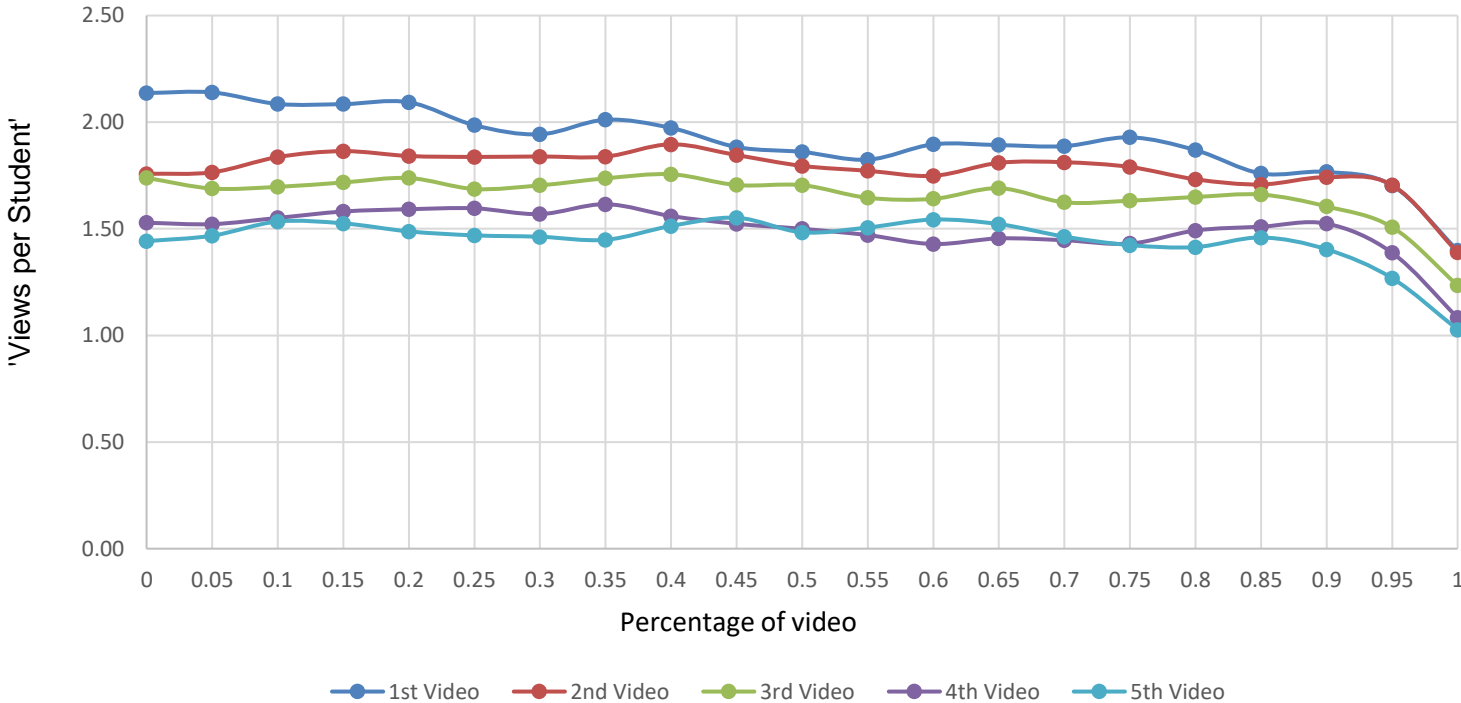
Module 1B: Average Video Views By Video Number



Module 1B by Video Number



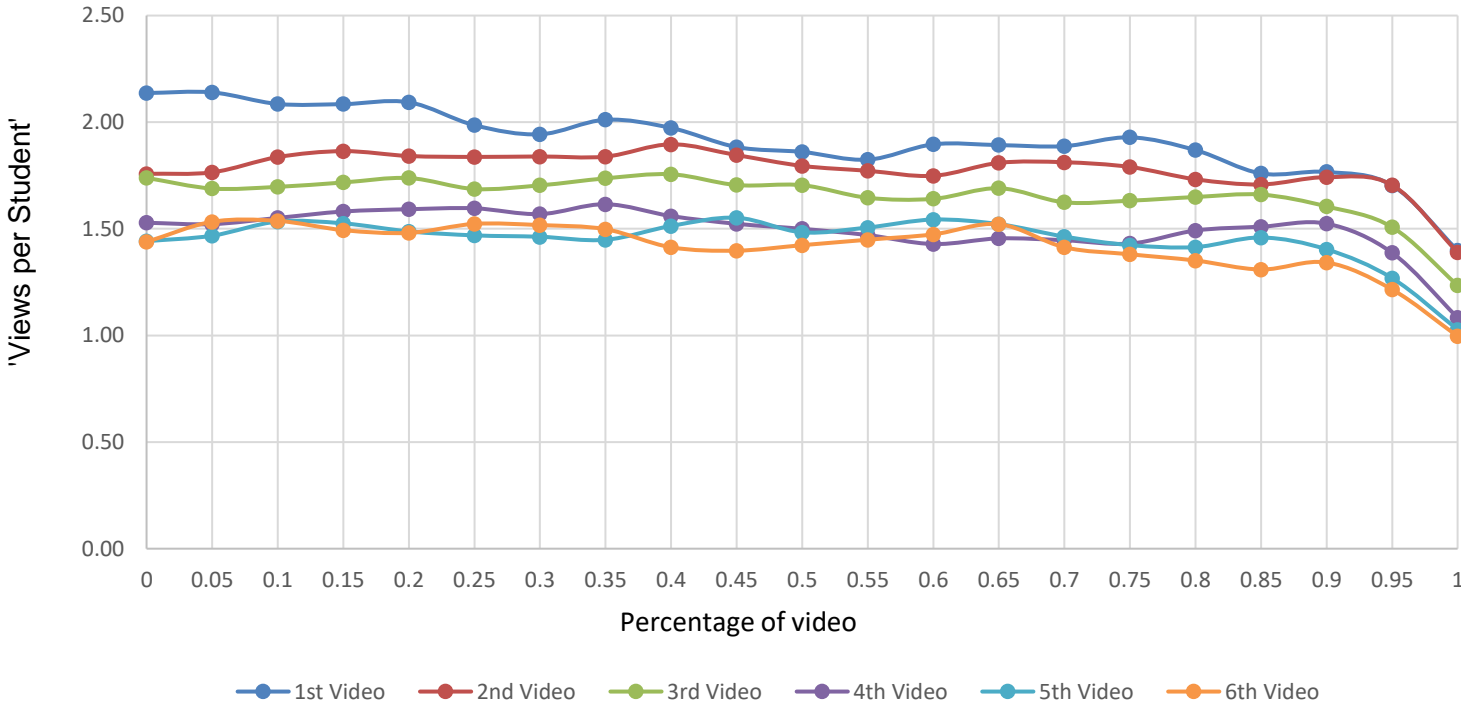
Module 1B: Average Video Views By Video Number



Module 1B by Video Number



Module 1B: Average Video Views By Video Number



What Else? (2)



The more videos in a topic, the more engagement tends to drop

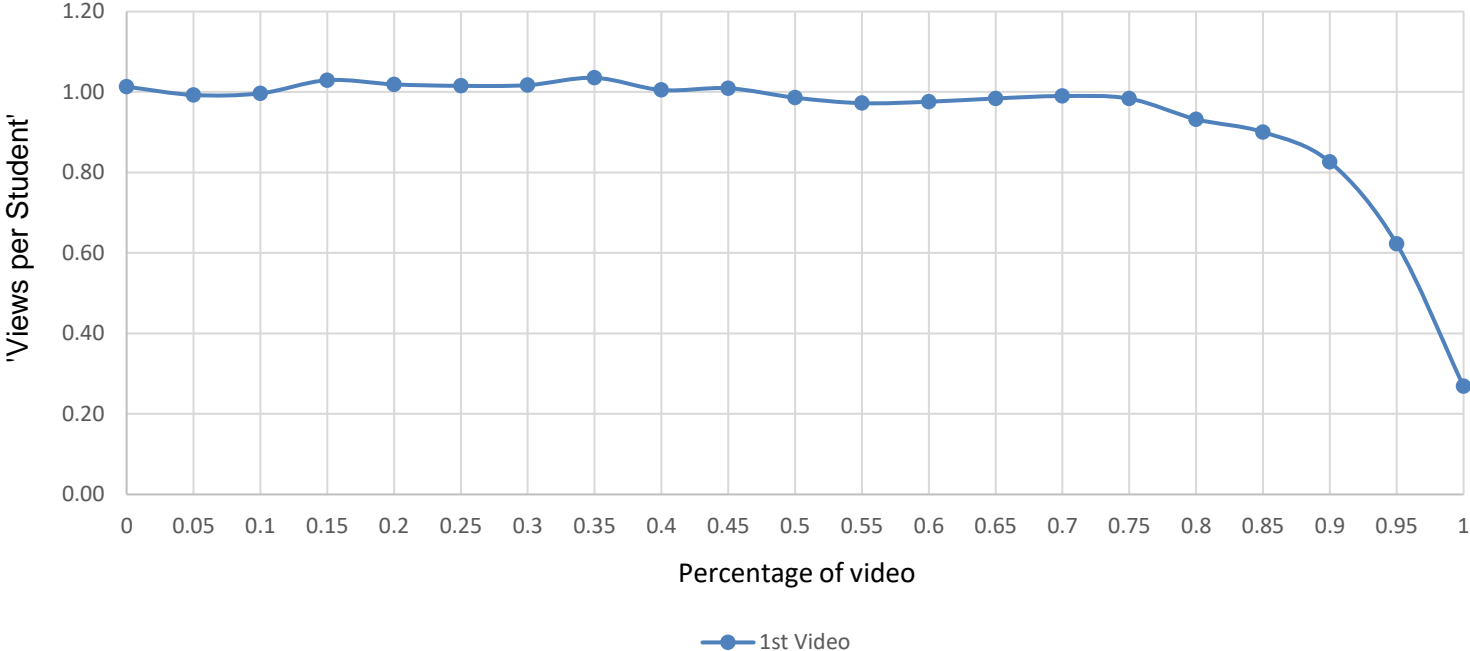
But this is not inevitable

Depends on how you present content

Module 2 by Video Number



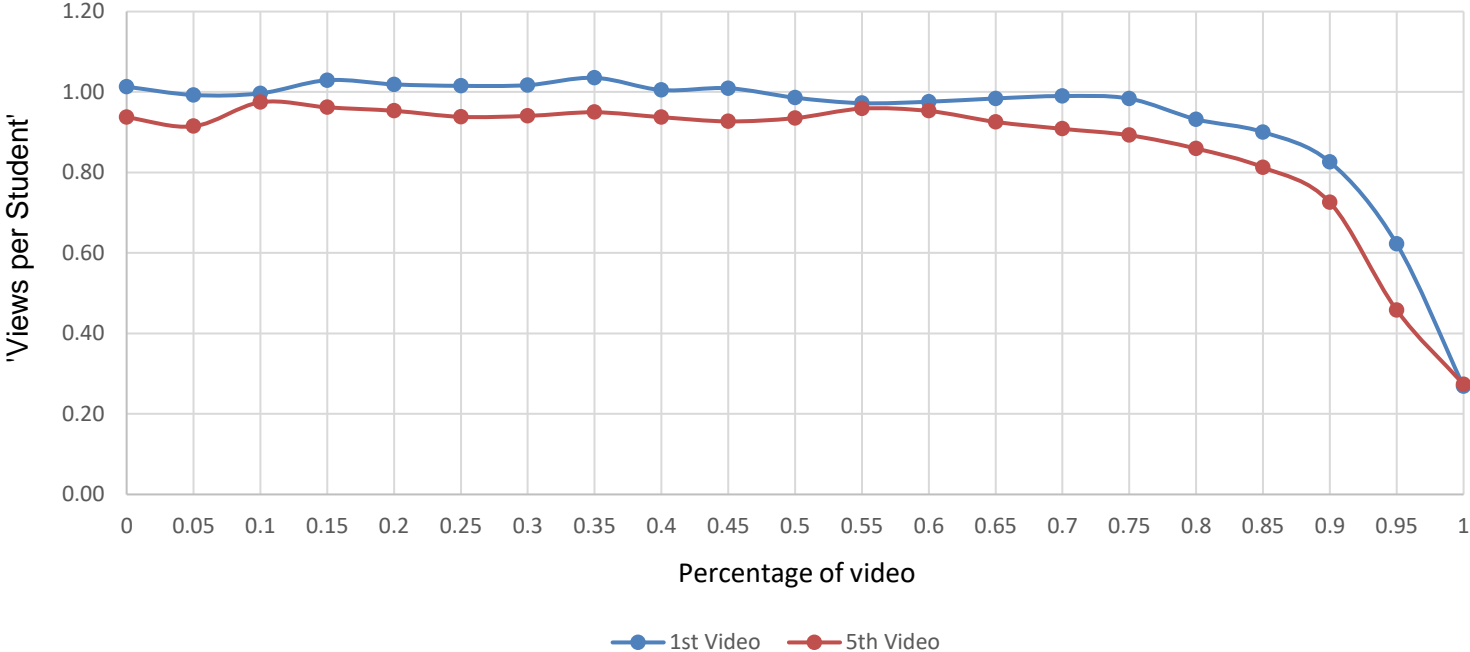
Module 2: Average Video Views By Video Number



Module 2 by Video Number



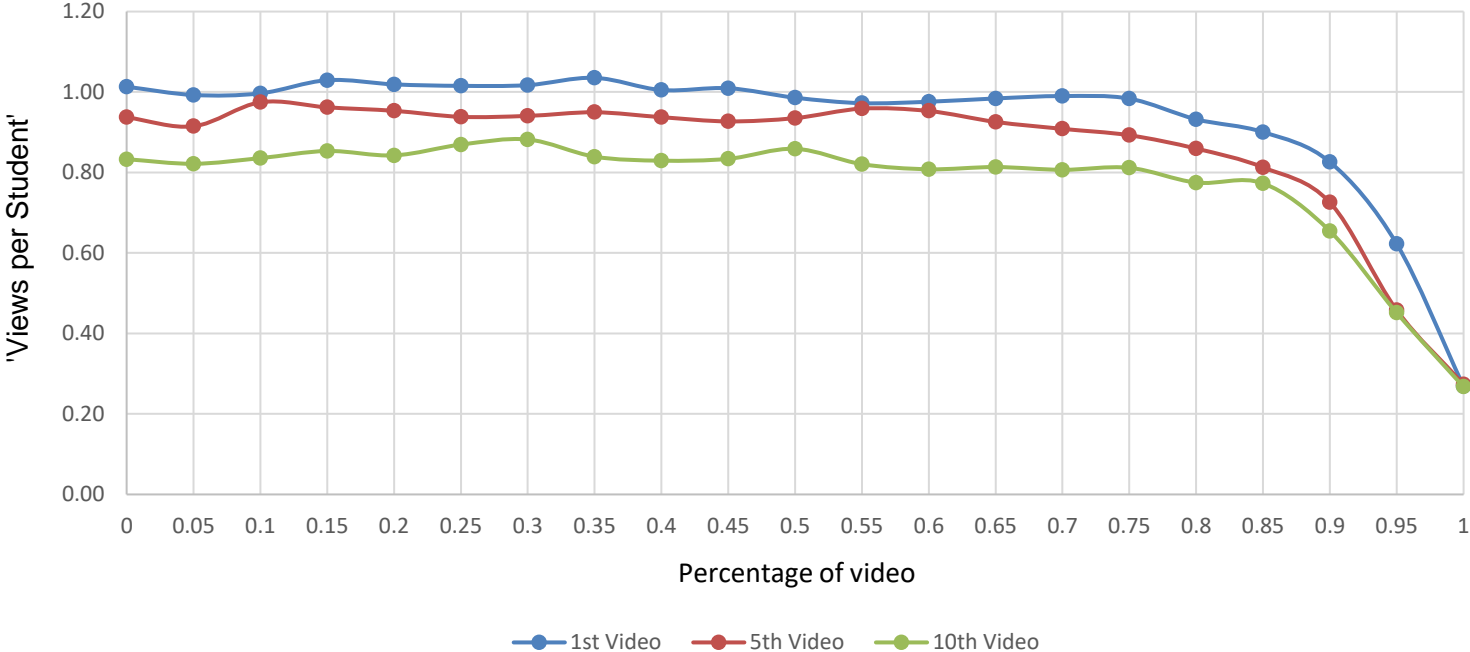
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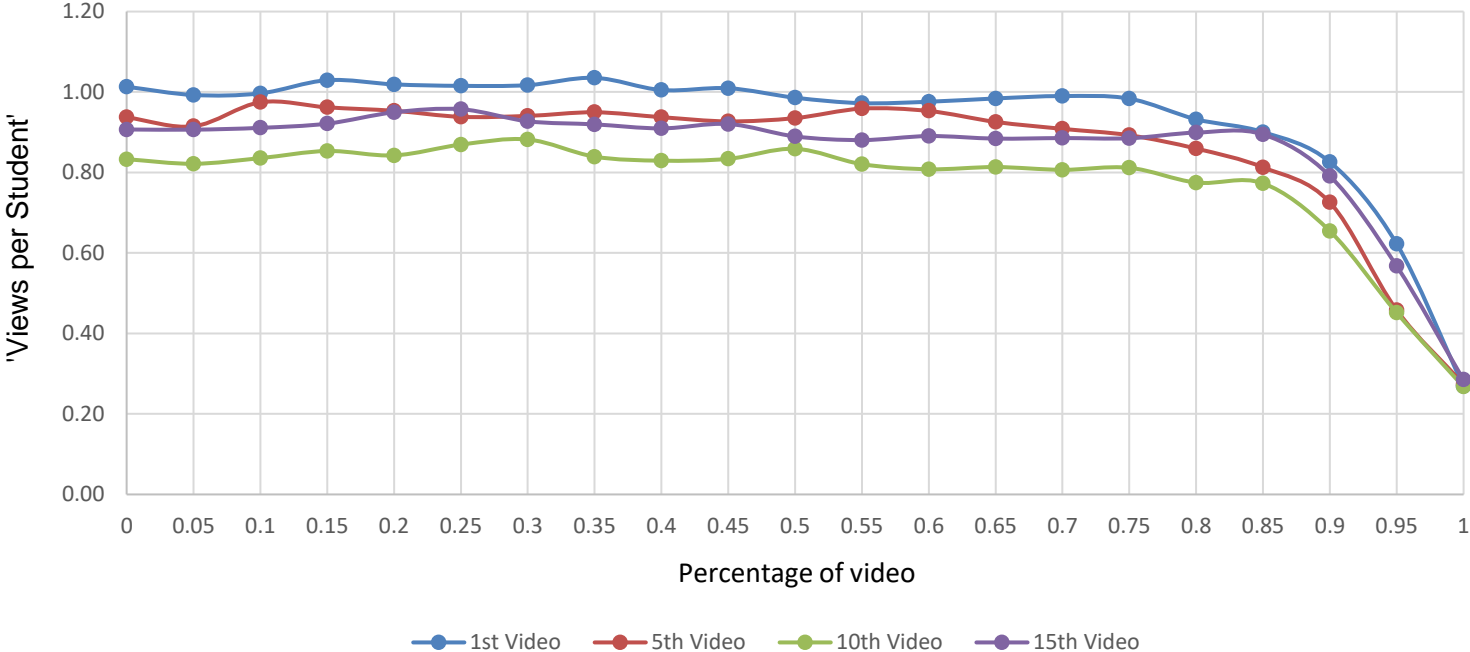
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Module 2 by Video Number



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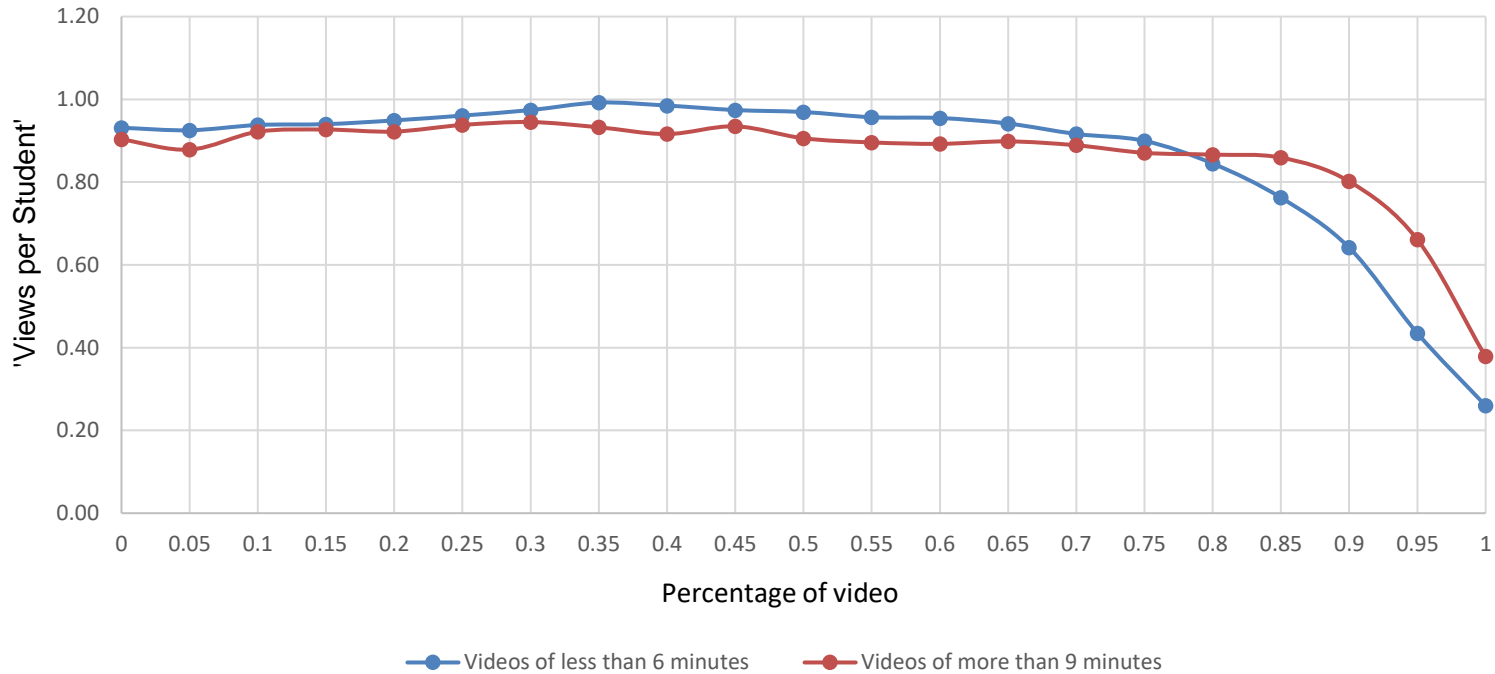
Module 2 had more videos, more activities and more parts in each topics

Hard to isolate due to 'other changes'

Module 2: 'Long' and 'Short' Videos



Modules 2: 'Long' Videos Versus 'Short' Videos



Summary: Answering Those Questions

Are shorter videos better?

Some evidence that shorter videos have more engagement

More videos is not necessarily bad

What is the impact of breaks and activities on engagement?

Some evidence but...

How does engagement change during the semester?

Evidence that engagement falls

Summary: What Next

Very Early Analysis

Some interesting observations but needs work

Hard to disentangle all the variables

Matching and differencing

Needs more elegant analysis

Regressions Analysis

Dependent variable?

Further Analysis

More modules and possible aggregation

Survival analysis

Module events

One More Thing

If you want to reduce engagement

Add the words 'introduction' or 'summary' to the video title

Module 2: 'Long' and 'Short' Videos



Module 2: Average Video versus Introduction/Summary Video

