



Avoid falling for Bullshit.

Statistical Bullshit, the new norm.

**Develop Critical Thinking &
Data Science Skills.**

Stiftung für kritisches Denken: Critical Thinking

Die Definition:

Kritisches Denken ist jene Art des Denkens (gültig für alle Gegenstände, Inhalte oder Probleme), bei der eine Person die Qualität ihres Denkens steigert, indem sie es sich zur Pflicht macht, die inhärenten Strukturen des Denkens sachkundig zu befolgen und sie an intellektuellen Normen zu messen.

Das Ergebnis:

Wer über ein gut ausgebildetes kritisches Denken verfügt,

- stellt vitale Fragen zur Diskussion und formuliert sie klar und exakt;
- sammelt und sichtet relevante Information und interpretiert sie wirkungsvoll mit Hilfe abstrakter Ideen;
- kommt zu durchdachten Schlussfolgerungen/Lösungen und misst diese an objektiven Kriterien und Normen;
- tritt abweichenden Denkweisen mit offenem Geist gegenüber und behandelt/beurteilt deren Annahmen, Folgen und Konsequenzen sachgerecht;
- kommuniziert gut, um Lösungen für komplexe Probleme zu ermöglichen.

Video: Critical Thinking: Why, How Examples, 2020

Critical Thinking in the Classroom

Introduction

Education



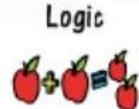
Multiple Uses



Beliefs



Deduction
Reasoning



Analyze Information and make reasonable judgements

Instruction

Educators should foster critical thinking in students



Intellectual
Skepticism



Bloom's
Taxonomy



Assessment
Incorporation



Argument
Analysis

SUBSCRIBE  

Definition

Evaluate Rational Skill Self-Regulatory



Critical Thinking has been defined in many ways

Development

Student can develop critical thinking in several ways



Follow Evidence



Be Inquisitive



Metacognition

Examples

Class
Debates



Think Pair Share



Inventions

Riddles



Gap Fill-in



Create Cartoons



Forms

Verbal
Reasoning



Probabilistic Reasoning

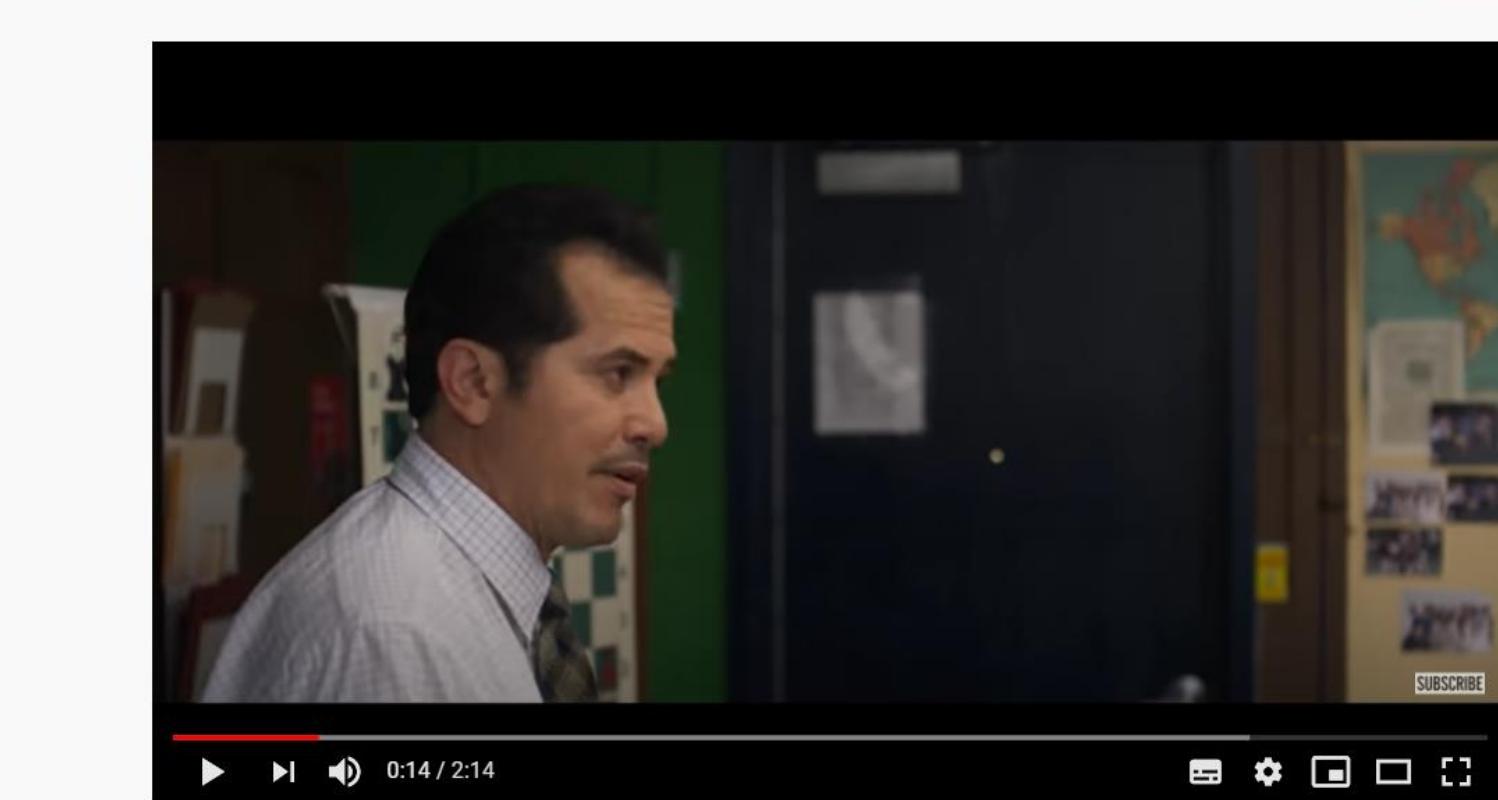


Scientific
Reasoning



Critical thinking may take on three different forms

Movie “Critical Thinking” – Coming Soon



A screenshot of a YouTube video player showing a scene from the movie "Critical Thinking". The video frame shows a man with short dark hair and a mustache, wearing a light-colored button-down shirt, looking off to the side with a serious expression. He is standing in what appears to be a classroom or office setting, with bulletin boards and children's artwork visible in the background. The YouTube interface includes a navigation bar at the top with back, forward, and refresh icons, a URL bar showing "youtube.com/watch?v=A6QT76ISJVU", and various user interface elements like a search bar, a 'Suchen' button, and a 'SUBSCRIBE' button in the bottom right corner of the video frame. Below the video frame is a control bar with a play button, a progress bar showing "0:14 / 2:14", and other standard video controls.

Critical Thinking Trailer #1 (2020) | Movieclips Trailers

189.498 Aufrufe • 05.08.2020

3439 140 TEILEN SPEICHERN

- 
1. Motivation
 2. Context Data Science
 3. Basics of Bullshit
 4. Old School Bullshit
 5. New School Bullshit
 6. Bullshit in Science
 7. Correlation / Causation
 8. Bullshit in AI / ML
 9. Summary



We are drowning in Bullshit.

Statistical Bullshit is the new norm.

Avoid falling for Bullshit.

Society needs Critical Thinking & Data Science Skills more than ever.

Critical Thinking!

Think Better. Be Better. Become a Champion.



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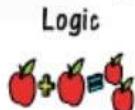
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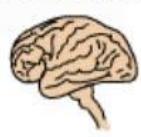
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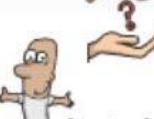


Inventions

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Gap Fill-in



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Probabilistic Reasoning



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Critical thinking may take on three different forms

Movie Tip: “Critical Thinking” – Coming Soon

A screenshot of a YouTube video player. The video frame shows a man with dark hair and a mustache, wearing a light-colored button-down shirt and a patterned tie, looking slightly to his right. He appears to be in an office or classroom setting, with a dark filing cabinet and a bulletin board with various items pinned to it in the background. The YouTube interface includes a search bar at the top with the word "Suchen", a magnifying glass icon, and a "ANMELDEN" button. Below the video frame, there is a control bar with a play button, a volume icon, and a timestamp of "0:14 / 2:14". To the right of the timestamp are several other video player controls.

Critical Thinking!

What about Opinions & Beliefs?



1 Bullshit with Data

- The Art of Skepticism in a Data-Driven World

(1) Motivation



Critical Thinking!
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1 Bullshit with Data

- The Art of Skepticism in a Data-Driven World

Todays Content:

- 1. Motivation**
- 2. Context Data Science**
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- 9. Summary**

- We are **drowning** in **Bullshit**.
- **Statistical Bullshit** is the **new norm**.
- Avoid **falling** for **Bullshit**.
- Society needs **Critical Thinking & Data Science Skills** more than ever.

