

Integrating Ethics into K12 AI Learning Experiences

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Stacey Forsyth, Ellie Haberl

@ Teaching AI in K12 Symposium, 11/9/2019

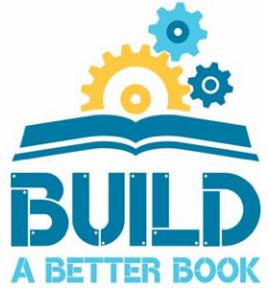


Maker Education

Maker Education

+

Empathy?



Build a Better Book

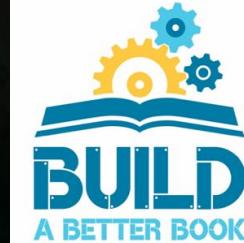


Page 5
"How many discovered something amazing?"
"What have we stopped?" asked Leontine.
"There are some amazing sound right here," said Mohn.
"A wind blowing through trees is a very nice sound."
"I heard a bird singing in the water and it sounds amazingly
beautiful," said Leontine.
"Then Mohn told Leontine about a song
she had heard in the forest."





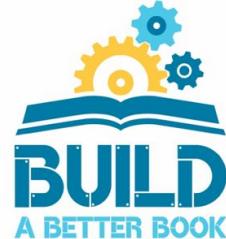
Build a Better Book Workshop



Teacher Development Workshops



“We are excited to have a real-world purpose for our Makerspace... That has a lot of value for us.”

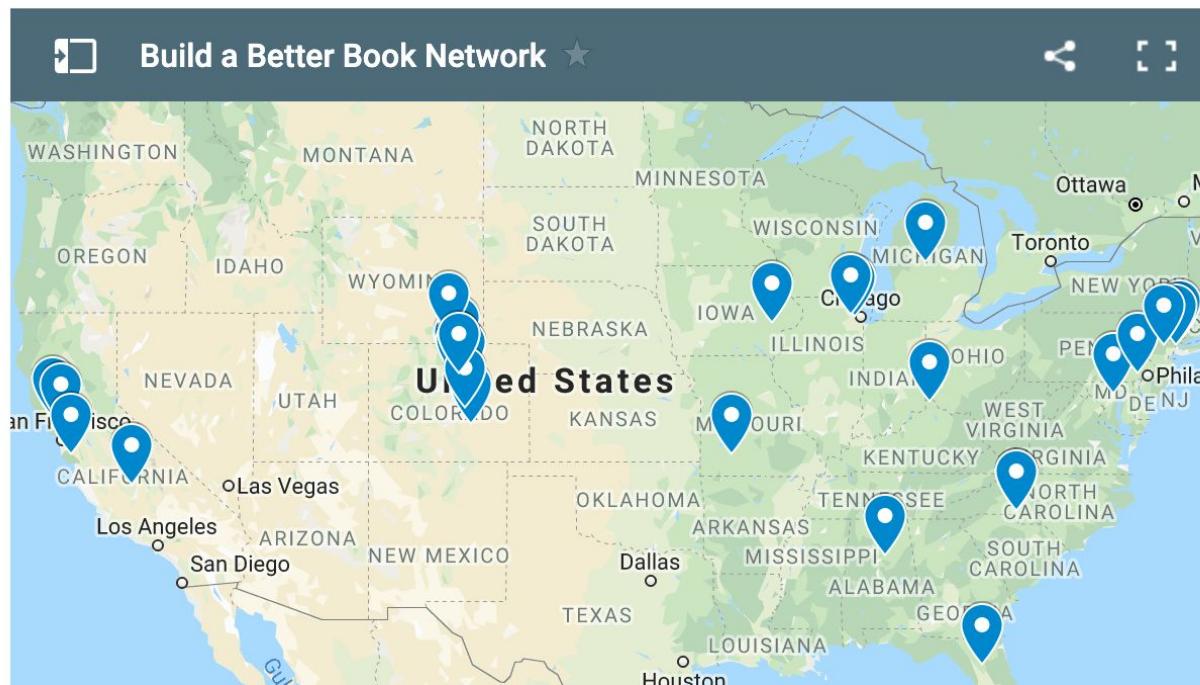


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Integration >> Demolition

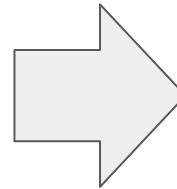
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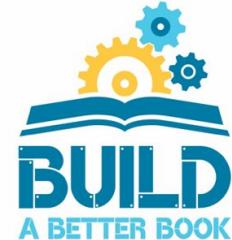
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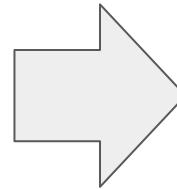
AI Education

+

Empathy



Maker Education



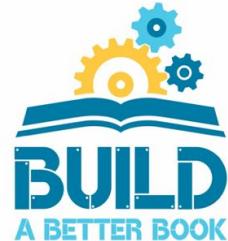
AI Education

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Empathy

Ethics?

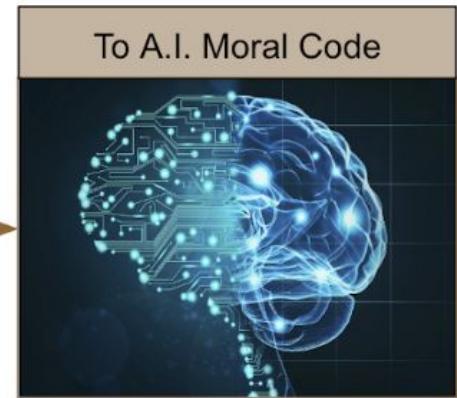


Introduction - Matthew Turner

Artificial Intelligence Ethics Teacher



What is The Ethics of A.I. Truly?



Does the concept of teaching
A.I. and ethics go deeper than
just A.I.'s impact?

If all of humanity could create the perfect
ethical code, and encode this into a
machine, what would that code be?

Lotus School for Excellence



Amazing Diversity!
Over 46 Countries
40 Different Languages Spoken



Conference on Explainable Artificial Intelligence: Can We Hold Machines Accountable?



Silicon
Flatirons



Pre-Collegiate Development Summer Program



Imperfect Match

By Ellie Haberl

AI Story Series Editors: Bridget Dalton and Tom Yeh

University of Colorado - Boulder

June 2019

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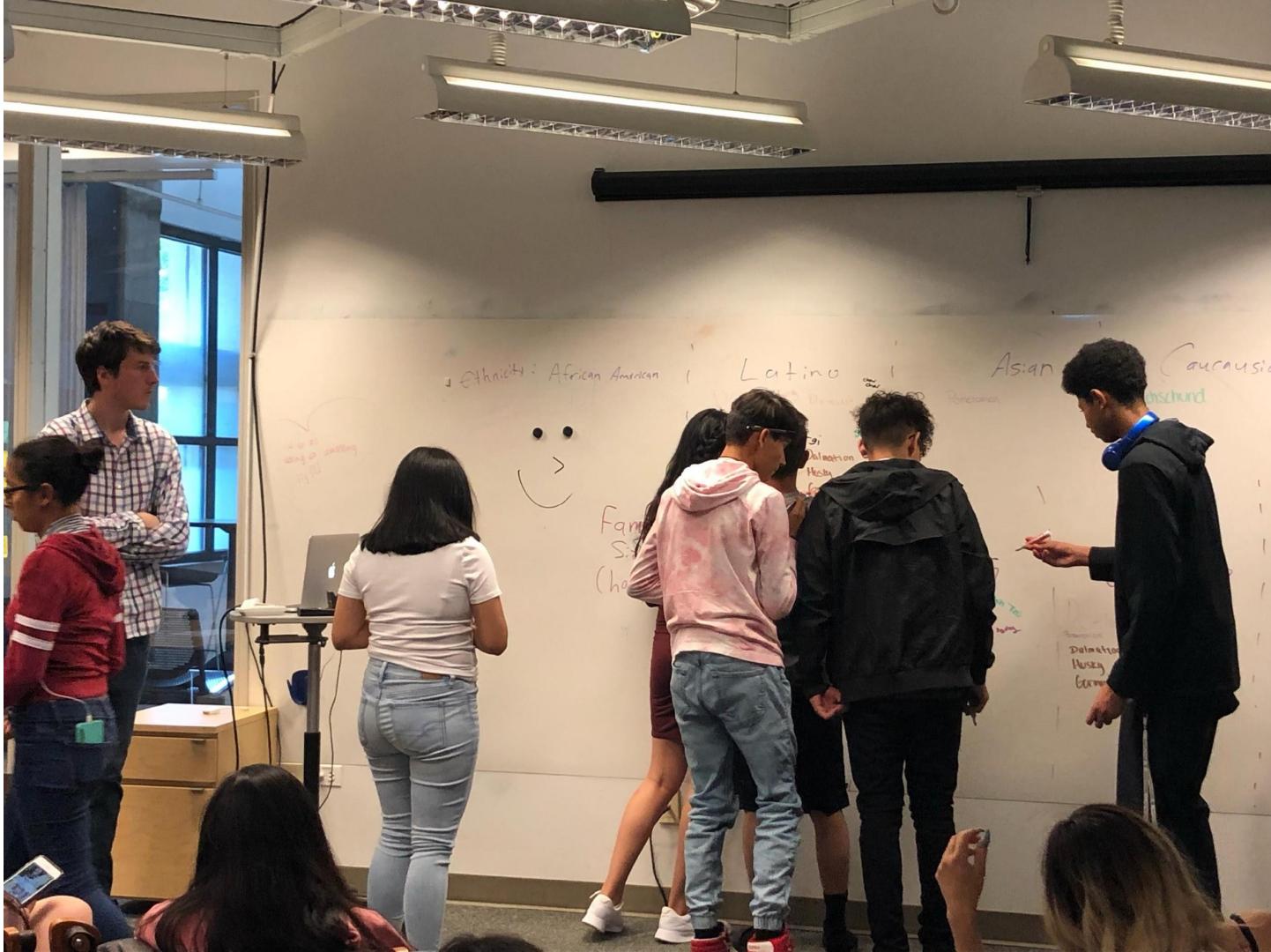
Lucy pulled the blue folder out of the drawer filled with profiles of potential dogs for adoption. She looked across the desk at the couple and their two young children.

“Ah, here it is! Your match!”

She pasted on her big reveal grin, clapped her hands together and said, “It looks like you will be taking home Buttercup, a blond-haired golden retriever! She’s your family’s perfect match.”

But, inside, Lucy was just angry. Lucy had been working at the pet adoption shelter all summer. And she was starting to see a trend. As she handed the blue file to the children, she wondered to herself “Another golden retriever?”

Lucy loved animals. As a kid, she taped pictures of hamsters, cats, and birds around the house each time she wanted to convince her family she needed another pet. Her parents drew the line when they found a picture of tiny hedgehogs taped to their toothbrushes. “We are not getting a hedgehog.” Her mom declared mid-brush, making it sound a little more like, “Re war mot betting a hejwog.”





ethnicity: African American

Family
Size
(home)

Training Data: ID		soph-juniors HS					
Latino		Asian		Caucasian		Other	
Doggo	Blue-merle Chow Chow	Pomeranian		Dachshund		German Shepherd	
Ferret	Yorkie						
Small Dog	Corgi	Schnauzer					
Bulldog	Dalmatian						
Pitbull	Husky						
Border Collie	German Shepherd						
Mix	German Shepherd mix						
2	3	4	5	6.	7	8	9
Cat		Yorkie					
Goldendoodle		Corgi					
		German Shepherd					
			Schnauzer				
			Dachshund				
			Border Collie				
				Dalmatian			
				Husky			
				German Shepherd			

This Quarter: Rise Up Community School

Focusing on Student Strengths



RISEUP
Community School
Keep Growing.



Karen
Principal



Ryan
Social
Study
Teacher



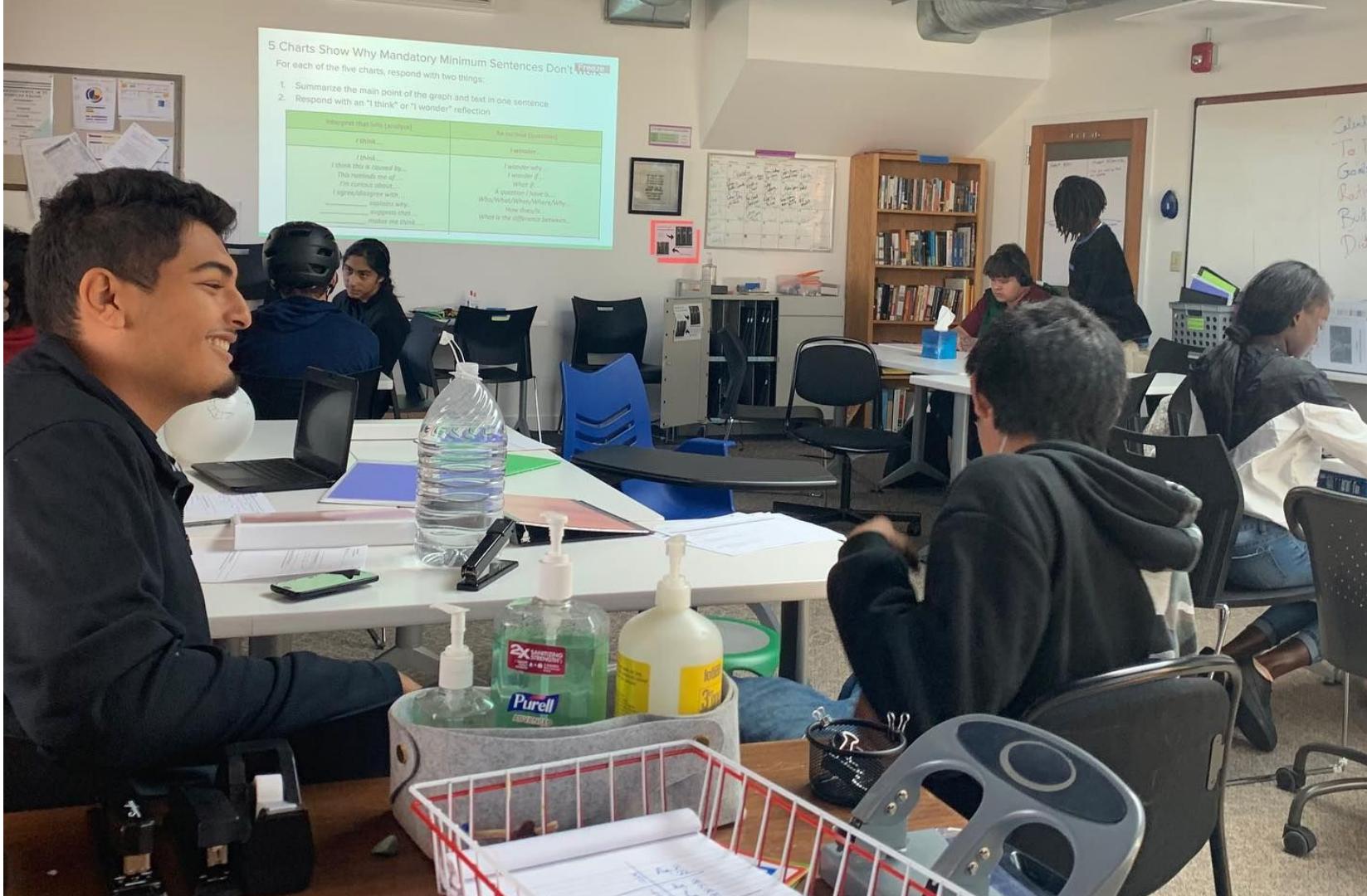
Matt
Science
Teacher

WHAT MAKES MATTHEW UNIQUE?

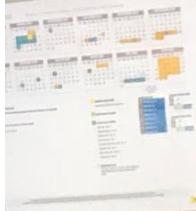
ASSESSED BY RED BULL WINGFINDER, 23 OCTOBER 2019

Top strength:	<h2>HIGHLY ADAPTABLE</h2> <p>Matthew prefers not to be bound by rules and routines. Because he is constantly coming up with new ways of looking at things, he appreciates freedom and flexibility.</p>	He succeeds through <ul style="list-style-type: none">– his ability to adjust to change– his willingness to try new things– his flexible thinking	<p>⊕ Responds well to new environments</p> <p>⊖ Can take on too many tasks at once</p>
Top strength:	<h2>INNOVATIVE</h2> <p>Matthew stands out for his original thinking. He enjoys finding new angles and ideas that no one's tried before.</p>	He succeeds through <ul style="list-style-type: none">– his ability to innovate– his lateral thinking– his love of new ideas	<p>⊕ Enjoys coming up with innovative solutions</p> <p>⊖ Can feel constrained by too much routine</p>
Top strength:	<h2>OPEN TO EXPERIENCE</h2> <p>Matthew enjoys daydreaming and thinks originally. Open-minded and comfortable with change, he adapts well to new situations.</p>	He succeeds through <ul style="list-style-type: none">– his intuition– his flexibility– his sense of aesthetics	<p>⊕ Leaps enthusiastically into the unknown</p> <p>⊖ Shys away from repetitive tasks</p>
<p>These strengths are part of Matthew's CREATIVITY result</p> <p>Matthew's CREATIVITY result measures how original and innovative his thinking is, or how logical and analytical it is. He is open-minded, enjoys novelty and change, and is often coming up with new and interesting ideas.</p>			

Top strength:	<h2>A HANDS ON LEARNER</h2> <p>Matthew learns through experience and deals with problems by getting stuck in.</p>	He succeeds through <ul style="list-style-type: none">– having proven solutions– learning on the job– using his common sense	<p>⊕ Enjoys learning by doing</p> <p>⊖ Needs to be aware when more analytical thought is required</p>
<p>This strength is a key part of the way Matthew THINKS</p> <p>THINKING measures how abstractly or concretely Matthew prefers to think when solving problems. He prefers to be hands on and practical.</p>			







INTRO TO ETHICS

- Ethics is a branch of philosophy that addresses the concepts of right & wrong or good & evil.
- Applied ethics addresses practical, everyday issues.

HOW DO WE USE IT in everyday life

Vegans VS. Meat eaters	Meat Eaters Stand point	A vegan's stand point
<ul style="list-style-type: none">• It's natural• It's necessary• It's normal• It's nice	<ul style="list-style-type: none">• It can help loose weight• Its good for the environment• Longer life span• /to inhumane to slaughter animals	

Believers VS. Non-believers (religion)

Democrats VS. Republicans (politics)

Men VS. Women (gender restrictions) If you're never promoted, it isn't because of your gender. EX: Men's promotion rates were 2.2 percentage higher than Women's.

Vivisectionist VS. anti-Vivisectionist

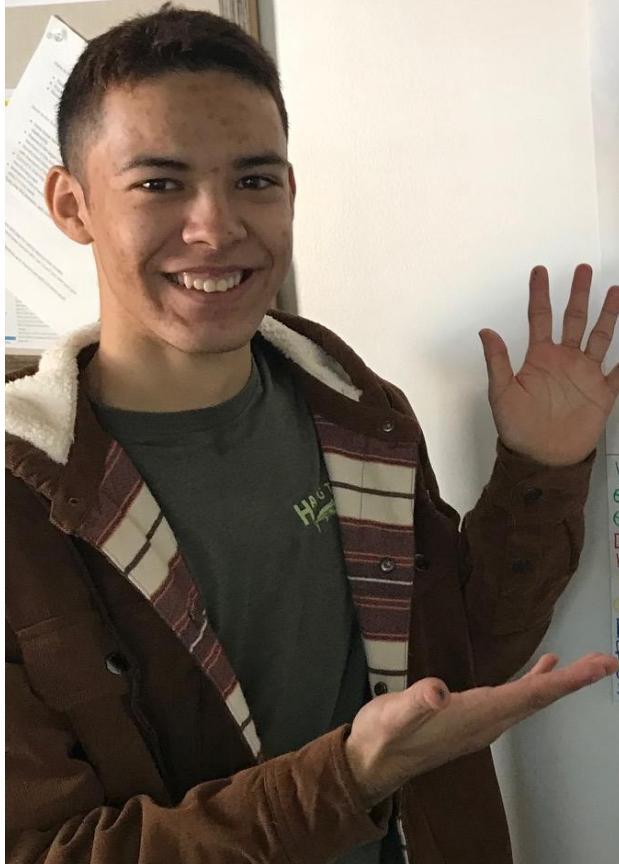
TYPES OF ETHICAL THEORIES

Virtue Ethics is an approach to Ethics that emphasizes an individual's character as the key element of ethical thinking.

Descriptive ethics deals with what people actually believe to be right or wrong.

Normative theories deals with "norms" or set of considerations how one should act.

Deontological ethics OR Study ethics focuses on the rightness & wrongness of the actions rather than the consequences of those actions.

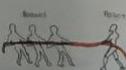


A.I

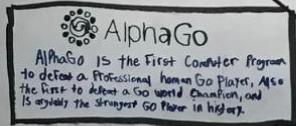
Artificial Intelligence is the ability of a Computer/Program or a Machine to think and learn just like a human.

3 Types of AI

- (ANI) Artificial narrow intelligence (Weak AI)
- (AGI) Artificial General intelligence (Strong AI)
- (ASI) Artificial super intelligence (Super AI)



Ex



GTA self-driving car



If a Computer ~~can~~ that is way Superior to a ~~can~~ human is created what do you think it is capable of?

Pessimistic

Realistic

Optimistic

Plan this Quarter

Unit 1 - Data-Driven Ethical Principles - Gray Area Project

Unit 2 - Technical Basics of AI - edTed Coding Game

Unit 3 - The 4IR, Automation, & UBI - New Economy Project

Unit 4 - AI Morality - Student Driven AI Moral Research / Ideas

Unit 5 - Ethical AI Application

Assessments

- 4 cycles of ***students teaching*** - End on Application

Class Ethical Data on Abortion

AI “Sees” Data / Used to Make Decisions

Should we make laws based on ethical data such as this?

17 Students Total

3 - No Opinion

2 - Good (save mother's life, prevent unwanted pregnancy, ease financial strain, prevent damaging foster care placement)

1 - Evil (should never take a life, except in matters of rape, mother endangerment)

12 - Neutral (Difficult choice for any mother, $\frac{1}{4}$ women get one at some point in their lifetime, most are already married and have children)

More on AI using Data to make choices tomorrow!

Vision for The Future / Goals

1. **Reflect** upon the ethics of humanity to determine the ethics of Artificial Intelligence.
2. **Create** a cross-curricular, co-teaching, approach to learning history, technical science, natural science, and social studies.
3. **Incorporate** Virtue Ethics into technology education for K-12 standards. (See me for more info on why Virtue Ethics?)
4. **Instill** hope and optimism in students about their future and the future of Artificial Intelligence.

Call to Action: We want to work with you!

We provide services and professional development on AI ethics integration.

If you are teaching AI and want to enrich the ethical components of your curriculum, please contact us:

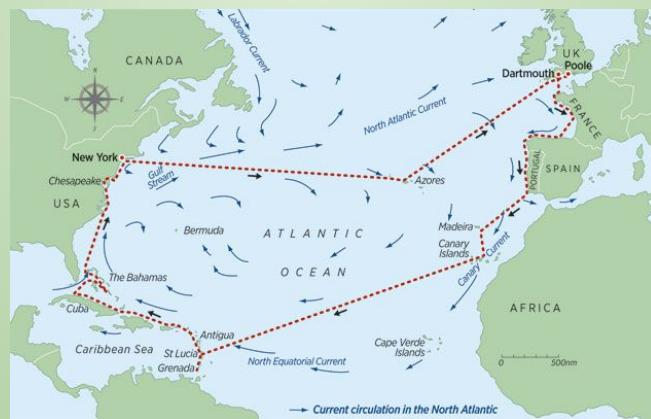
buildabetterbook@gmail.com



Why do this? “The Sea Captain Problem”

The year is 1600 and you're on a boat that is trying to sail across the ocean. What tool can you use to help you cross?

What if that tool was *broken or built improperly*?



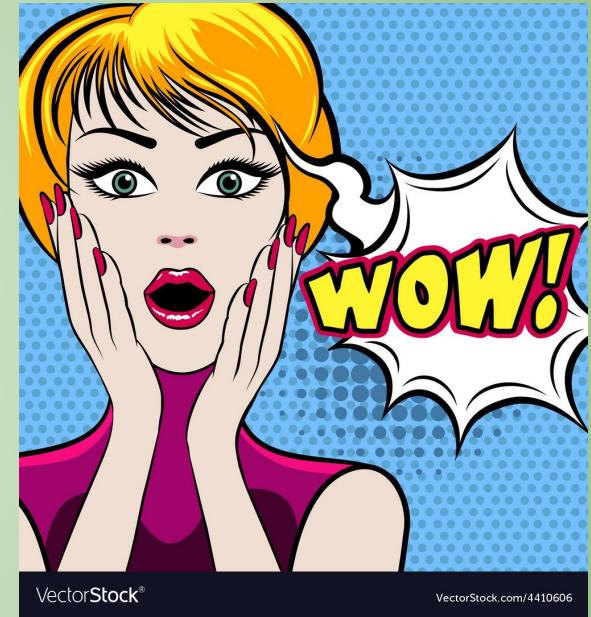


A Moral Compass - Do You Have One?

Do we need one of these to navigate through life?

Will A.I. Need A Moral Compass to Navigate...

...Transportation, Replacing Jobs, Writing Papers,
Weaponry, Inventing, Policing, Judging, Creating Art /
Music, Ethnic Profiling, Teaching, Counseling,
Nursing, Prostitution, Cybersecurity, Writing Laws,
Uses for Children Toys, Animal Rights, Sensation /
Robotic Life, Big Data, Democracy, Autocracy...



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Jeez!
I would hope it had one.. Don't you?



Artificial Intelligence

Toward a Moral Compass

**K-12 Education
is How We Start**