Defining the Future by Teaching the Youth:
The Impact of Accessible Training

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The Big Question: Why are we here?

SECURING TOMORROW... TODAY!

It Can Be Done
Integrating Cybersecurity K-12

Why is it important in education?

- Aware vs. Scared
- Join the dots
- Pipeline of talent
- Age and grade

- New Slogan in schools "STOP, THINK, CONNECT"

Educator views:

"*It is the need of the hour,*"

"*It's a must*"

Training the next generation

Engaging students in Cybersecurity

Ways to get Cybersecurity in the classroom

- Get trained
- Teach yourself
- Partnership and innovation
- Seek mentors
- Go on tours
- Join bootcamps, competitions
- Provide a platform - Learn, share, apply
- Expand cybersecurity curriculum

Women in Cybersecurity- Underrepresented & Untapped potential
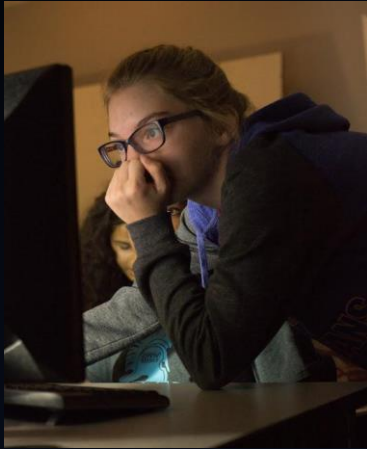
THE STATE OF
Cybersecurity Education
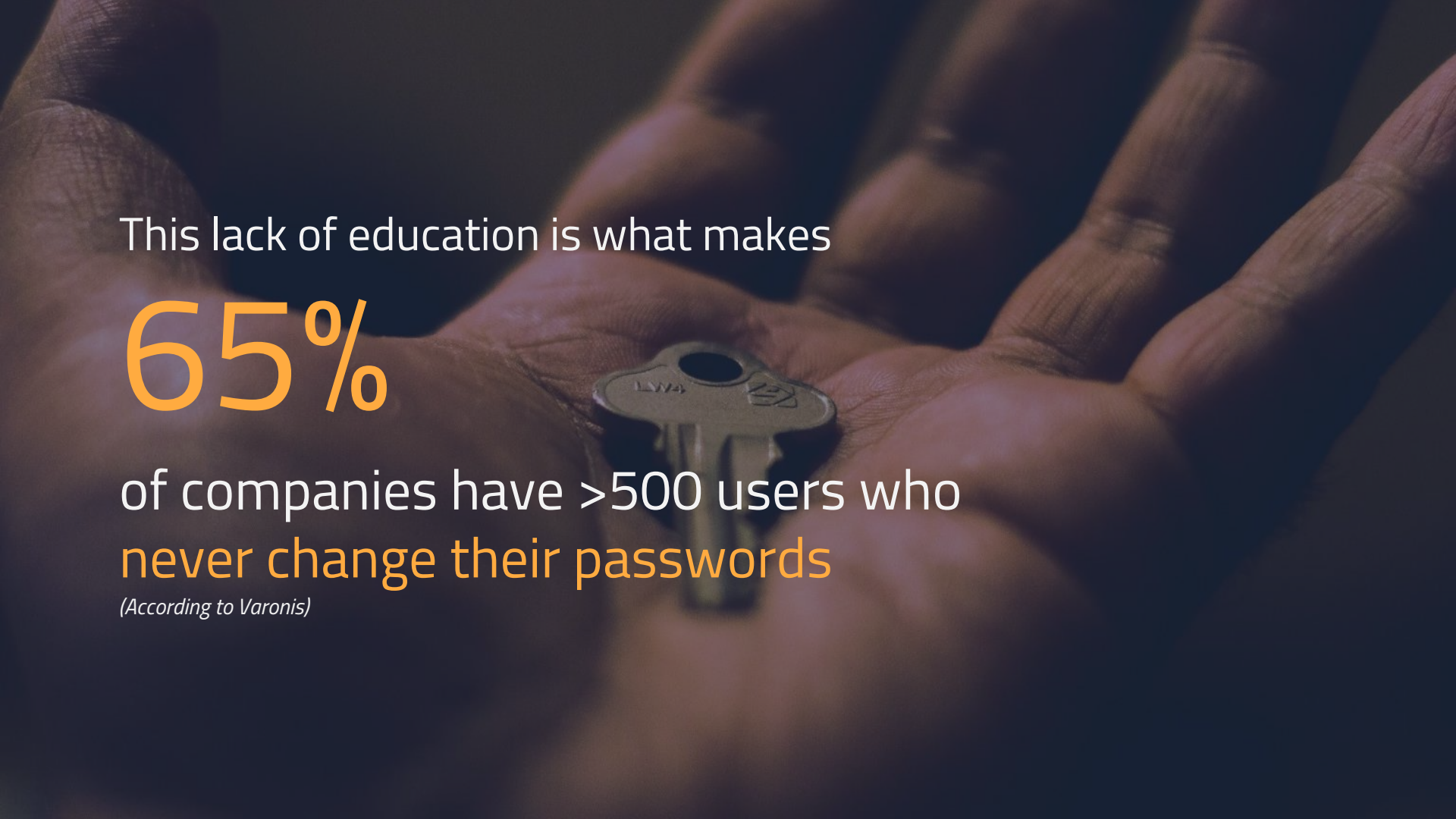
"Computer science education at school is less than adequate."

There are more than 400 high schools in Colorado.

Only a few

focus on cybersecurity as a full course.

x

This lack of education is what makes

65%

of companies have >500 users who
never change their passwords
(According to Varonis)

Open source

Individualized Progression

Real-World Applications
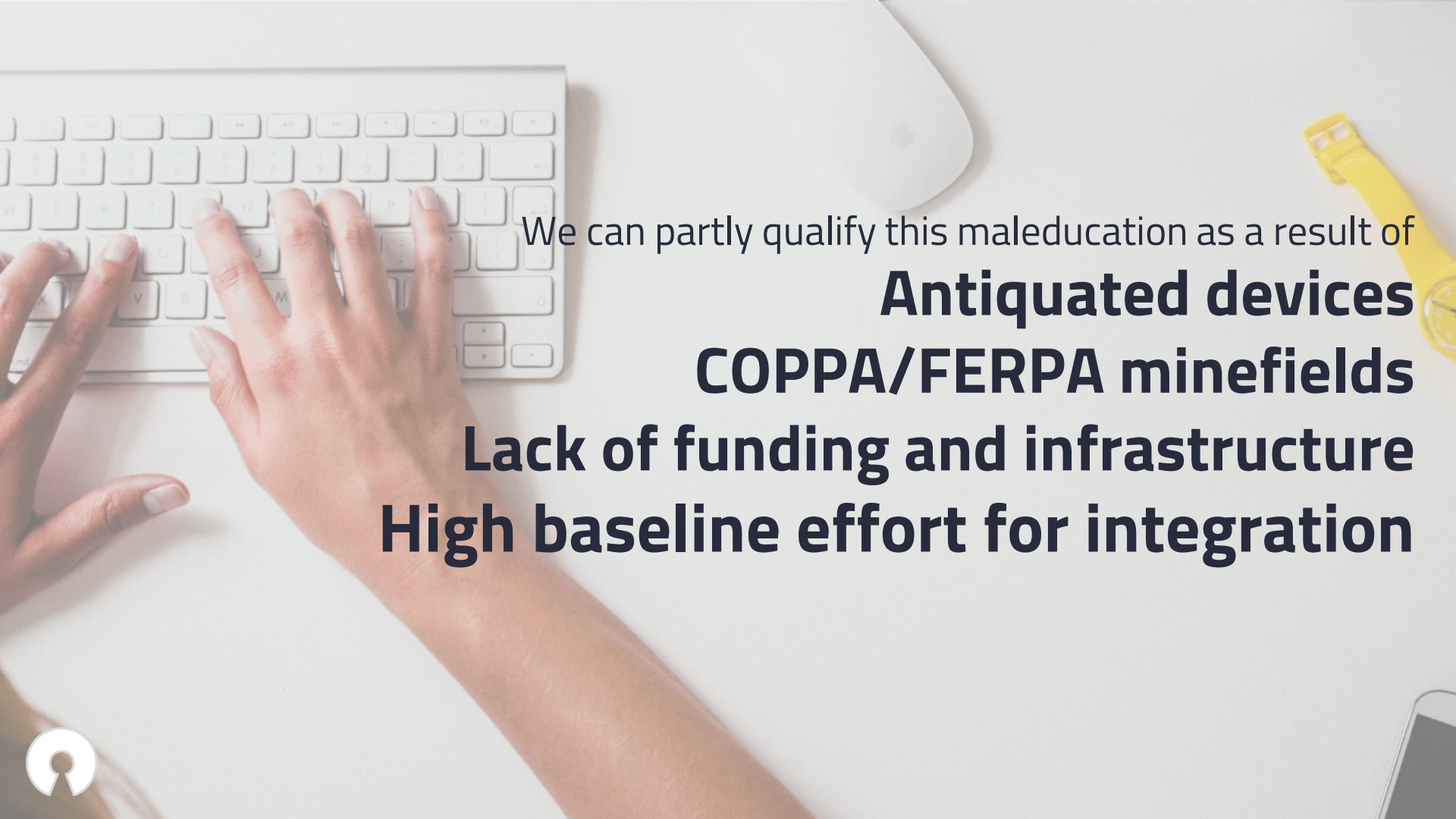
We can partly qualify this maleducation as a result of
Antiquated devices
COPPA/FERPA minefields
Lack of funding and infrastructure
High baseline effort for integration

Free
No charge for use

Public
Anybody can view its contents
Non-discriminatory

Antiquated devices
~~COPPA/FERPA minefields~~
~~Lack of funding and infrastructure~~
~~High baseline effort for integration~~

Personalized tracts

Independent studies

Self-paced classes

"Traditional educators can learn from this - we must move out of the way and give students the opportunity to learn on their own"

David Talbot, in reference to
self-teaching Ethiopian students

Personalized tracts

Allowing students to take interest in subjects even without having enough to constitute a class

Collaboration between schools could permit students interested in a subject to collectively study or take part in courses taught through synchronous learning

My Life and Technology (Abridged)

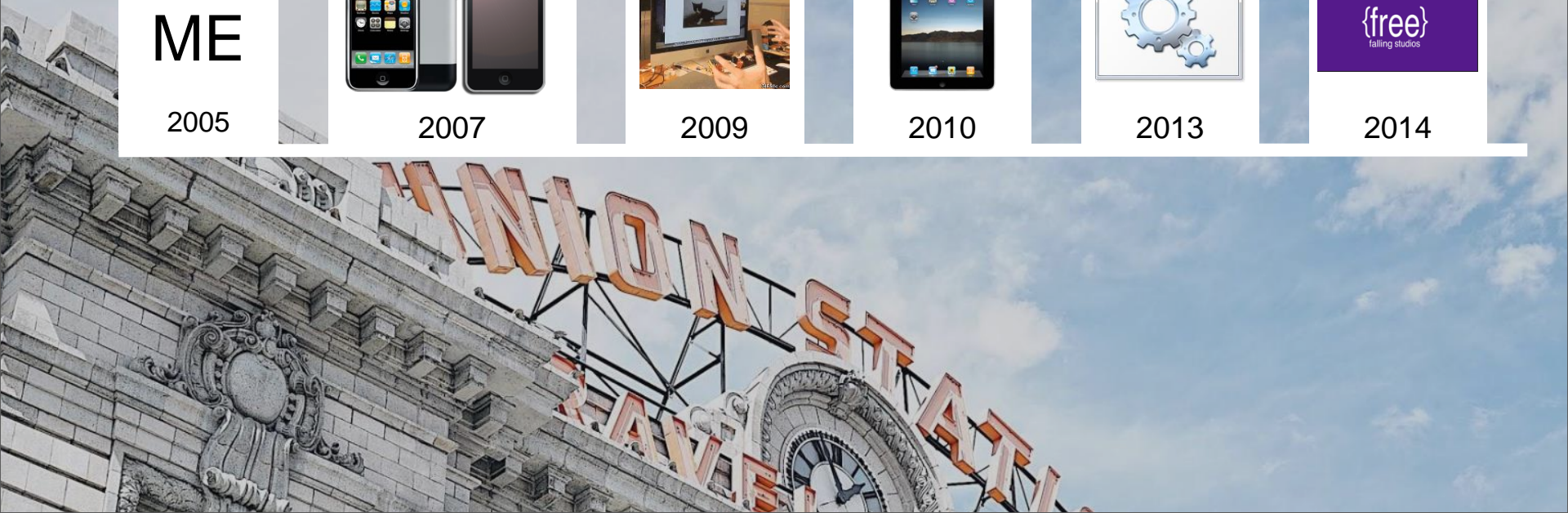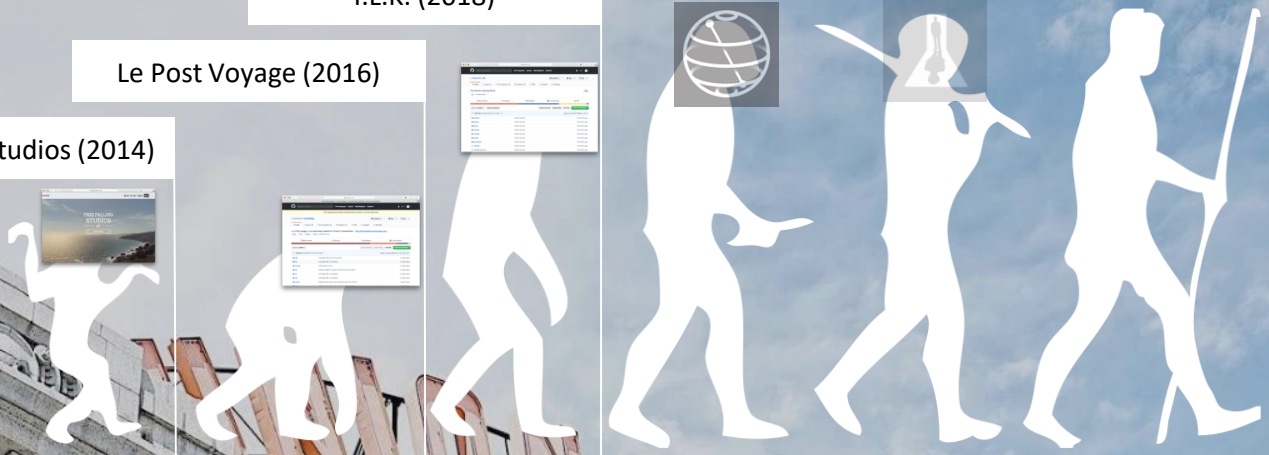| ME					
2005	2007	2009	2010	2013	2014

Start Earlier, Learn Orderly

I.L.K. (2018)

Le Post Voyage (2016)

Free Falling Studios (2014)
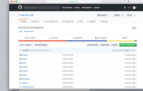
What comes next?

Fluency (relative), Frequency of Use (relative) and Enjoyability
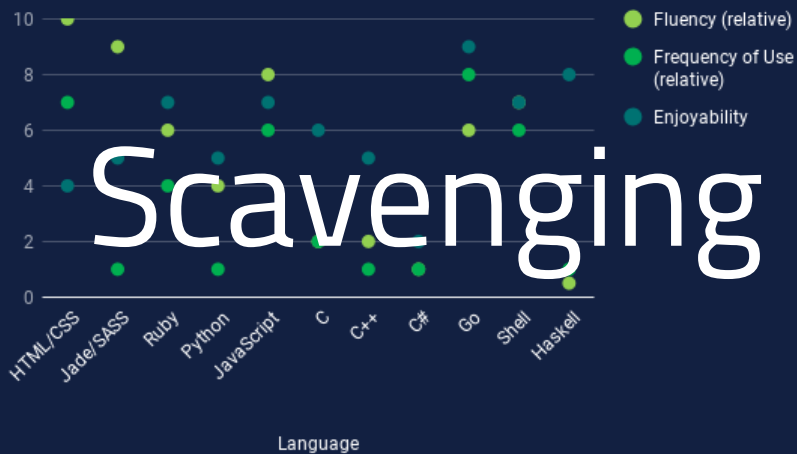
Scavenging

Language

What compels you?
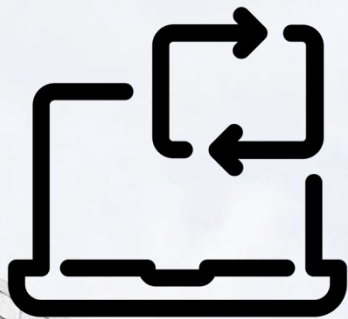
Independent Studies

Guided self-teaching sponsored by faculty

- *Test future courses*
- *Enable learning about more in-depth topics*

Personal Experience

Question 9   1 pts

Fill in the blank in this code so it prints the sequence 10, 5, 0. Use the fewest spaces that makes a legal Python statement.

```
y = 10
while y >= 0:
    print(y)
    _____
```

School

Use of tools provided by school and research via open source

coverr

coverr
Beautiful, Free videos for your home page.
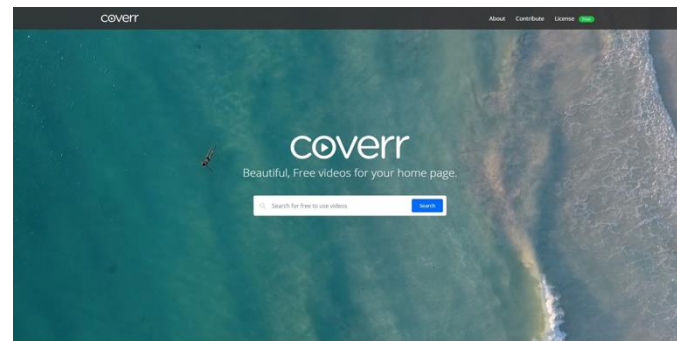
Industry

Personal Experience cont.

Self-Paced Classes

Promotes student independence, allowing concurrency of cybersecurity education with standard curriculum, relieving deadline pressure

Personal Experiences

Problem-Based Learning

Internship Opportunities

Industry Connections

Vertical Integration

"Without meaningful opportunities to put problem-solving skills to work [...] students may gradually lose hope that they can make a difference"

Suzie Boss, regarding Terry Godwaldt,
Founder of Centre for Global Education

Problem Based Learning

Allows students to conquer real-world problems instead of hypothetical situations.

Will provide a basis for when the students enter the cybersecurity field

"Our Vision:

We envision a world of exponential possibilities where every child develops the innate knowledge, skills, creativity and character to thrive, lead and succeed in an ever-changing future"

"Strategies/Actions:

1. Employ problem-based learning for global impact.
2. Optimize resources and operations.
3. Embrace different perspectives-everyone is welcome.
4. Share, open source collaboration
5. Bridge industry and education.
6. Continuous re-definition of learning.
7. Keep pace with exponential change.
8. Build a parent community"

Personal Experience

Computer Technician

Networking

CyberPatriot

Internship Opportunities

Students can learn how to apply their knowledge in their desired profession before they complete their education

Learn on-the-job skills

Partnerships

Palmer DCS — Drives · Controls and Systems

CareerWise Colorado — Modern Youth Apprenticeship

P·TECH — Pathways in Technology Early College High School

Independence is Key

Industry Connections

Industry professionals can guide students. Give students help in exploring the future possibilities and the variety of options available.

Vertical Integration

Students will be able to learn technical theory and practice real-world applications simultaneously.

Technology is the future

Questions?

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