PTC

Connecting Students During COVID

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Introduction

- How did we get students in kindergarten through 12th grade educated during COVID?
- Hawai‘i is like no other place on the planet
- We did it - can we do better next time?
- Improving resilience within budget is a good thing

- This is a self-examination, an ethnographic analysis of my lived experience
- Because I was the CIO, and my team got students connected

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The Problem: Change in Operations

- School system is designed to bring large numbers of students together with a small number of teachers to deliver education
- “Bring together” not possible when COVID arrived in March of 2020
- Top industry in Hawai‘i is tourism
- Simply shutting down school would mean furloughing tens of thousands of staff, further damaging the economy
- Other ramifications, e.g., lunch for kids
- So shift how the work was done, rather than stop work

Challenges

- Supply chain issues
  - Everyone was buying Chromebooks and iPads
  - By the shipping container-full
- Organizational issues
  - HIDOE is a unique educational system
  - Every other state in the US has multiple districts
  - Schools are empowered
- Project issues
  - Implementing a major digital transformation
  - Replace the mainframe-based ERP system with a new cloud-based accounting system
  - Signed the contract January 2020….

Success

- HIDOE went from a **dozen** video conferences a **week**
- To **tens of thousands** per **day** on three different platforms

- Within six months, almost all students could access their education
- Less than 2% of students lacked access
- Including students whose families refused devices or network access

- But this wasn’t enough to satisfy everyone

Analysis - The Tool, a Modeling Language

- Clear distinction between the **signifier** and the **signified**
- All values can change over time
- Identify actors with sets of characteristics
- Identify how actors share characteristics
- Identify existence, possibility, and non-existence

- The modeling language also supports behaviors, but this aspect was not needed for this study
- Derived from programming language theory

Analysis - The Results

- We solved the engineering problem first, creating Google identities for all
- Using the modeling language now, after the fact…
- Identities at an **intermediate** time
- Combined with the **device** and **connectivity gaps** (per student)
- **Increased** the **vulnerability gap** (per school)

- Schools that could support identities were not in the vulnerability gap
- **Modeling language identified equivalence** of identity management and lack of vulnerability for students

Conclusions

- HIDOE did quite well
- But people still raised concerns
- And schools are still recovering
- What could we have done better?
- Self-examination in this study

- A **modeling language analysis** has helped clarify how to better address similar situations in the future

- Address supply chain issues immediately
- More training
- Identity management is essential