HUDK 4050:CORE METHODS IN EDM

12/12/16 10:57 PM

Changed time for 4051

2:00 - 3:40pm Thurs

INSIGHT

2017–2018 | **ETS** Internship and Fellowship Programs in Research & Development for Graduate Students

Osmo https://playosmo.com/en/jobs/

UTS:CIC
CONNECTED INTELLIGENCE CENTRE

Quantified Self

12/12/16 10:57 PM

https://youtu.be/lK_cdkpazjI

Quantified Self

- Wolf & Kelly (2007)
- Movement
- Born in Silicon Valley
- Mine the mundane for insight
- Removes the work/tedium from data collection
- *Physical/Biological Data*
- Optimization

Quantified Student

- Must close the loop

Quantified Self

Quantified Student

Behavioral Change

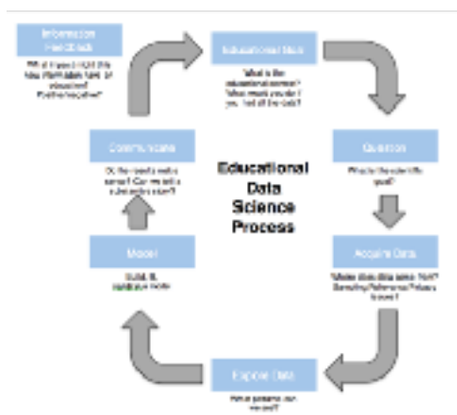
Build Model
(intervention)

Educational Goal

Explore Data

Question

Acquire Data



The invisible barbed wire

– Evgeny Morozov

With a rule and a pair of scales, and the multiplication table always in his pocket, sir, ready to weight and measure any parcel of human nature, and tell you exactly what it comes to. It is a mere question of figures, a case of simple arithmetic.

Charles Dickens, *Hard Times*, 1854

Non-Ed Examples

EEG

Emotiv Insight
Melon
Mind Rider

Accelerometer

FitBit, Jawbone, etc.
Hovding

Facial Recognition

Orange

Eye Tracking

Samsung Galaxy S4

Education Examples

Location Tracking

Great News!! Muscogee County School District will be using Palm Scanning Technology in all High School Cafeterias for School Year 2013-2014.

We will be performing palm scanning at all High Schools during registration days. If you want to opt out of the palm scanning, you will need to obtain your student's Personal ID Number from the school. This number will be used to purchase a meal with the School Nutrition Program.

Please take a moment to read below on how this technology works.

You don’t need that many sensors

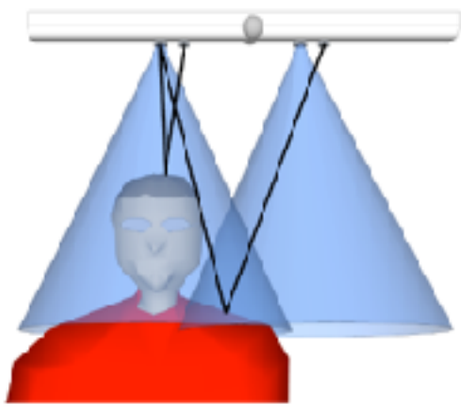


Figure 5. Incorrect height readings can be caused by multi-path reflections between ranging modules used in the same doorway.

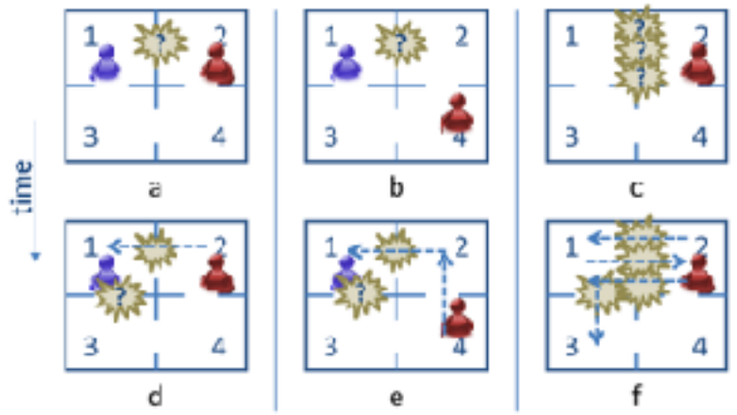


Figure 6. Doorway events can be ambiguous due to the possibility of sensor error (top row), but subsequent doorway events can help resolve ambiguities (bottom row).

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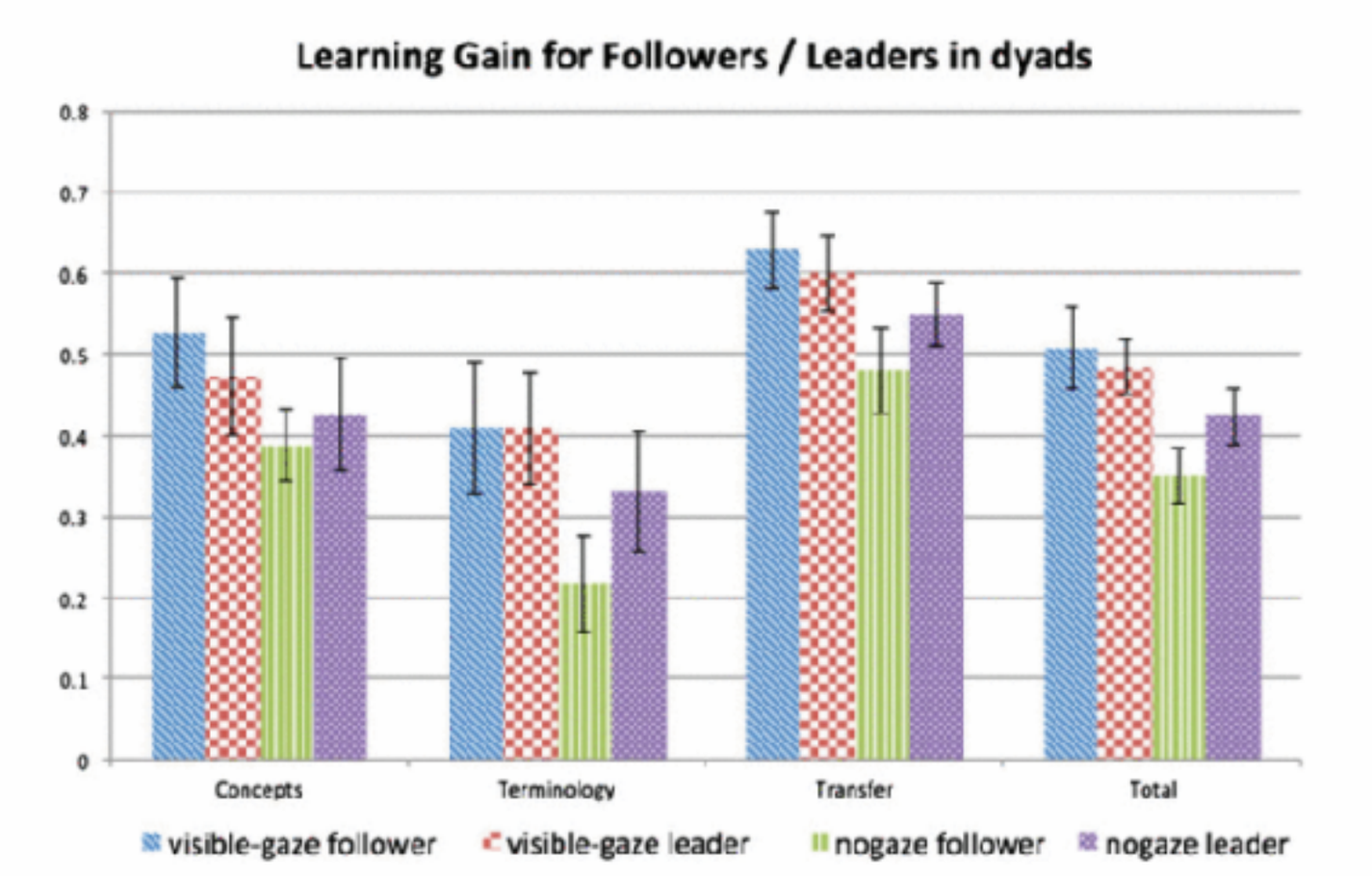
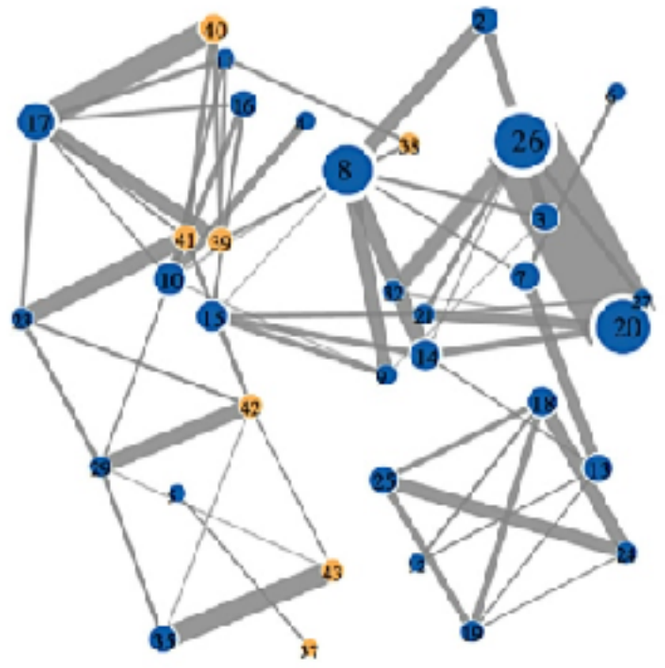
Affect Recognition

Liaw, Chiu, Chou (2014)

Eye Tracking



Schneider & Pea (2013)



Schneider (2014)

multimodal*

Gamification for Behavioral Change

Consolvo et al. (2008)

Long Term

Short Term

Reynolds (2013)

Encourage Students to Track Themselves/Learn about Data

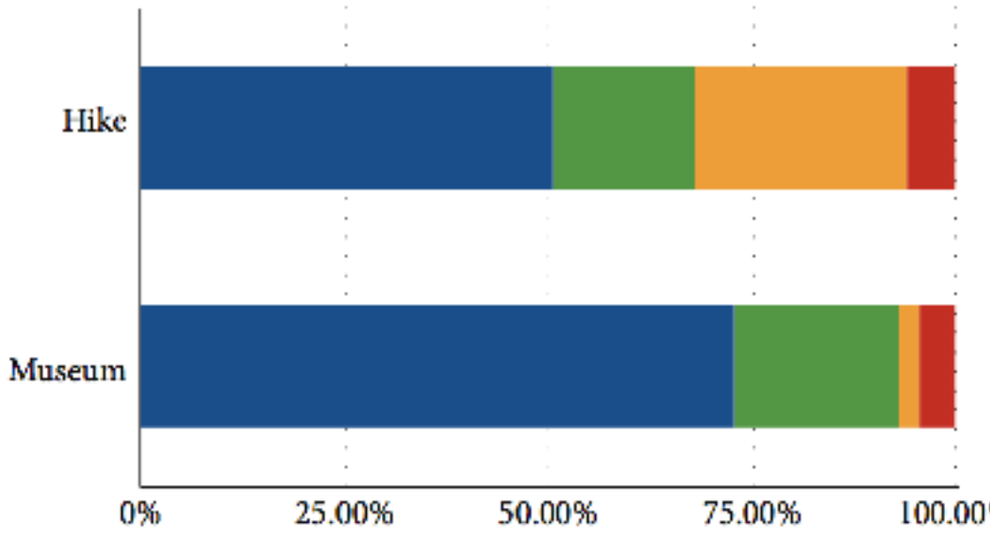


FIGURE 3: Blue indicates the percentage of students' comments about their photos that were coded as documentation. Green indicates the percentage of students' comments that were coded as observations. Yellow indicates the percentage of students' comments coded as inferences. Red indicates codings for wonderment.

Lee (2014)

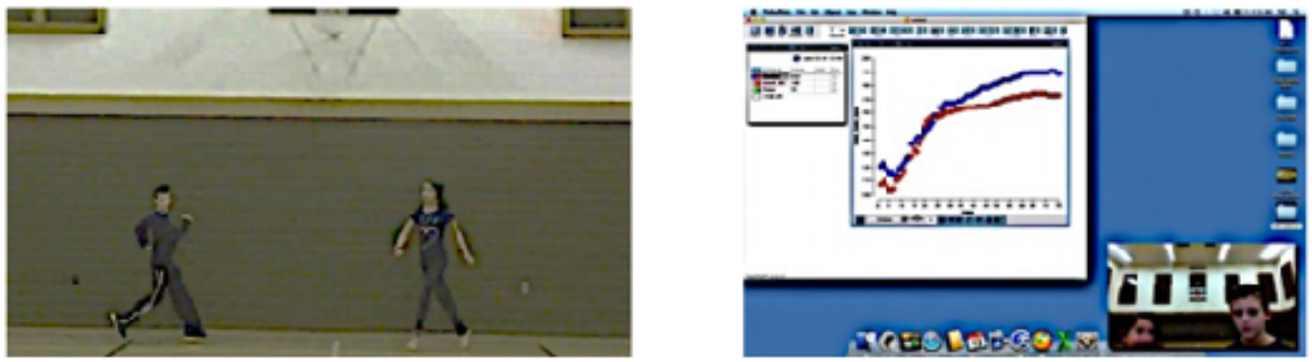


Figure 4. Two students participating in the running activity (left) and then working together to identify who was associated with which set of data (right).

Moher et al. (2014)

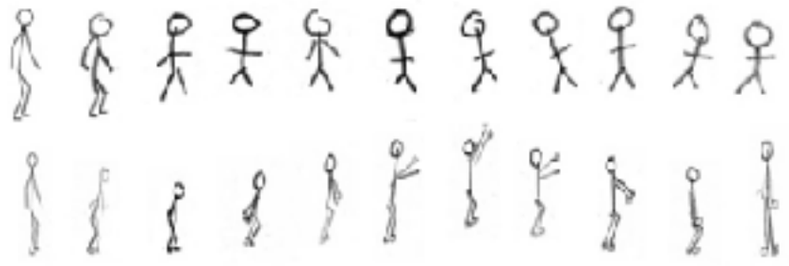


Figure 2. Excerpts from one student's flipbook before (top) and after the unit (bottom).

Yuan et al. (2014)

Group Assignment

- Devise a learning experience
- Use the Sensor Kinetics App to measure some aspect of that experience
- Define why the measure is useful
- Make some kind of inference using the measure that you can logically defend + alternative interpretations
- Create a presentation and upload it to the Assignment 8 Github Repo