

#### Outline

A bit of education theory

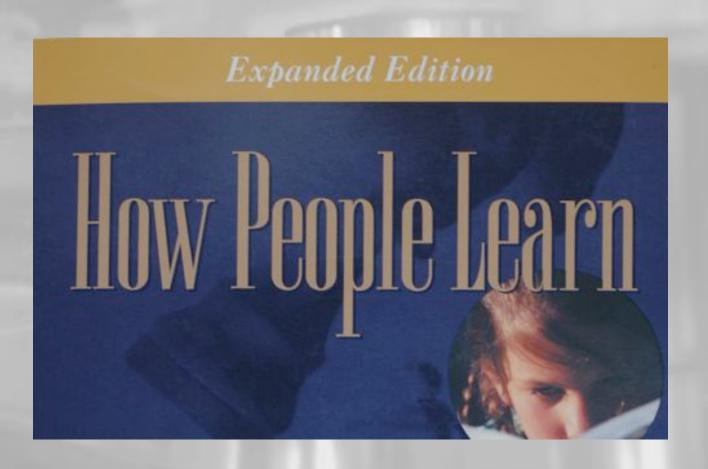
An example in a high school classroom

Conclusions

# Plaget

The Language and Thought of the Child

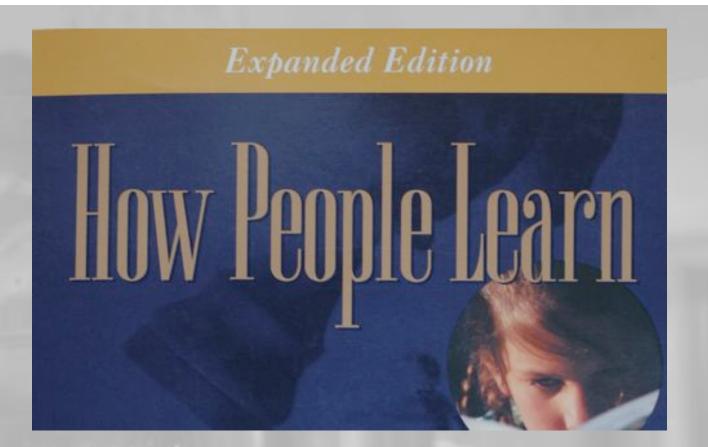
#### **National Research Council**





# How People Learn

Anchor intuition



Anchor intuition

Interactive lecture demonstrations

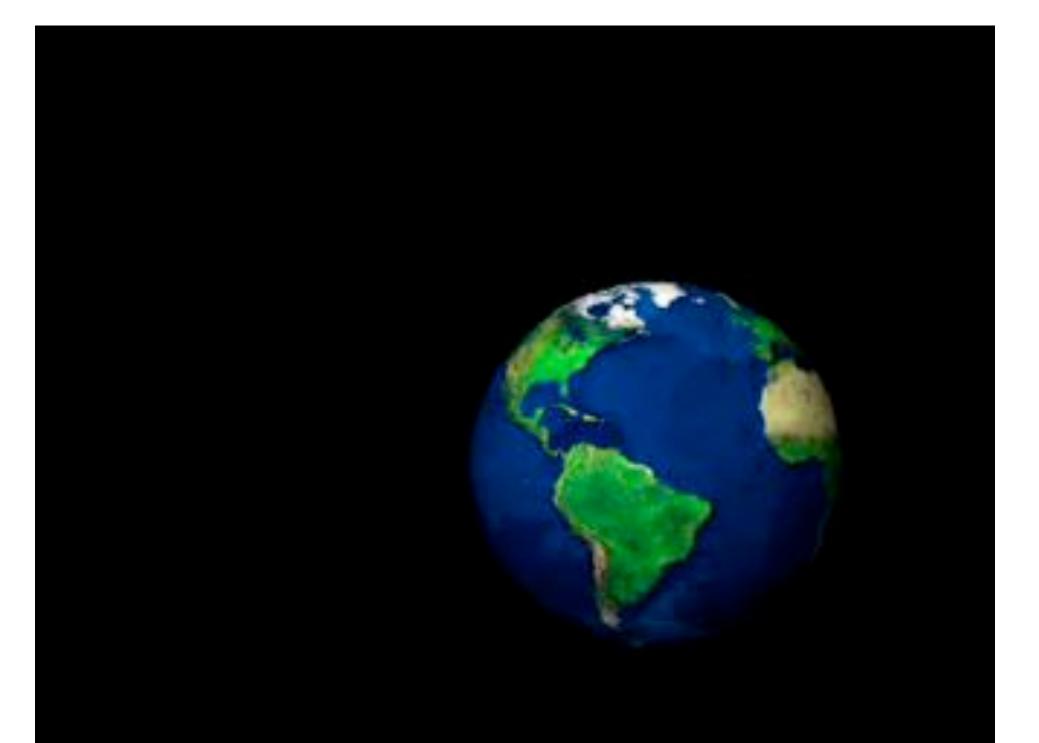


#### Does not test for content:

- Design and perform experiments to test ideas
- Analyze collected data
- Interpret and construct graphs and tables
- Compare different experiments
- Elaborate explanations based on the analysis







# John's Suggestion

Observations

Laboratory

Theory

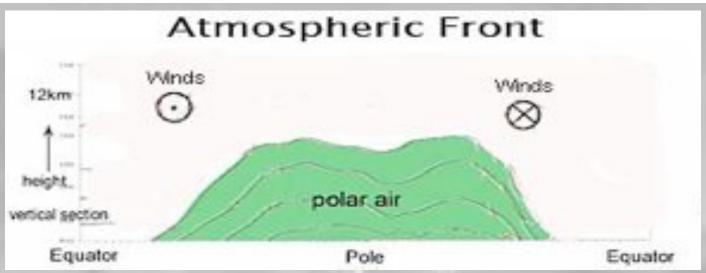
### John's Suggestion

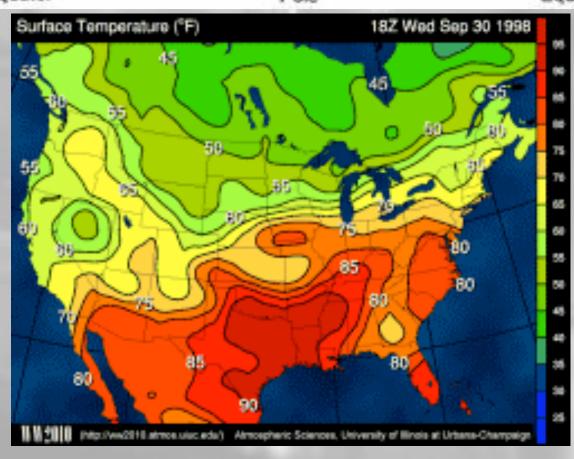
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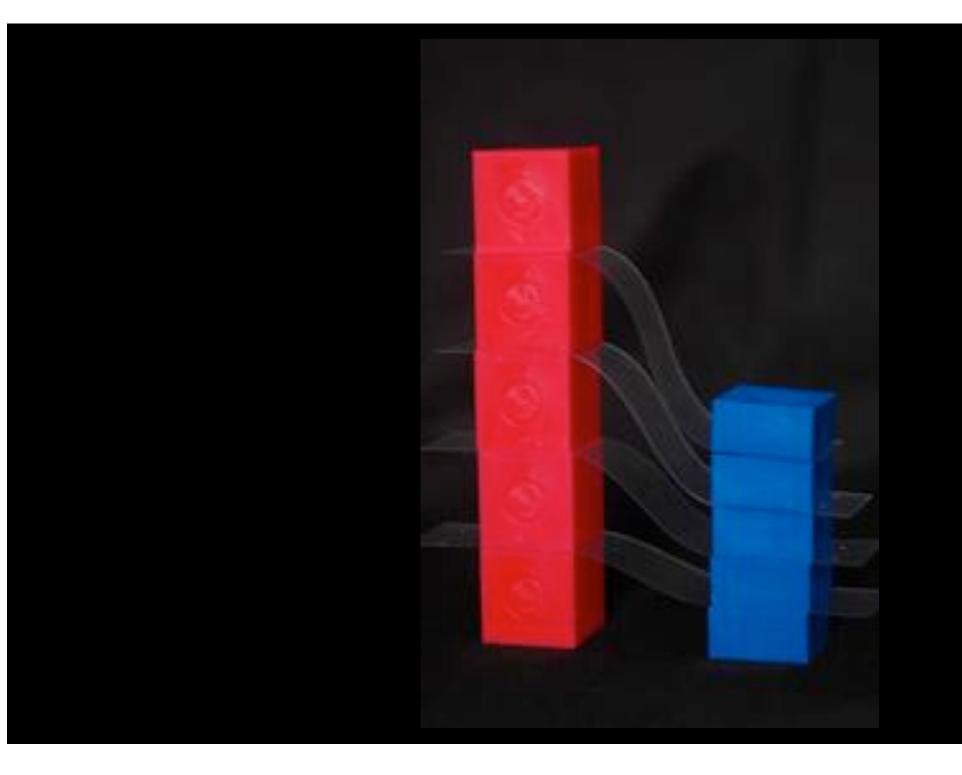
Conceptually; no math













## Challenges:

#### **Balance:**

 free student inquiry based on selfdirection

• guided instruction

#### Conclusion

- Use of turntable fits with education theory
- The turntable has great potential for high school instruction
- Teachers as coaches need clear curricula and instructions