



FAULKES TELESCOPE

Gaia Science Alerts and the Faulkes Telescopes

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Problems in Science Education

What we Provide



Problems in Science Education

Not applicable to day-to-day life

Irrelevant to futures and careers

You have to be a genius

Pedagogical Approaches

Deductive Teaching

- Writing not doing
- Memorisations of facts and figures
- Not applied to contexts



What We Provide

Free Educational Resources

- Secondary level
- Contextual
- Curriculum-based
- Available Online

Educational Resources

- Gaia Science Alerts
- Follow-up Observations with FT
- So far...
 - Getting to know Gaia
 - Spotting a Supernova
- **INQUIRY-BASED LEARNING**



Inquiry-based Learning (IBL)

Presenting students with a specific challenge, such as experimental data to interpret, a case study to analyse, or a complex real-world problem to solve. (Prince and Felder, 2007)

Skills Gained

- Observation
- Planning and Conducting Investigations
- Reviewing Evidence
- Discussion
- Drawing Conclusions
- Communication

What do the teachers think?

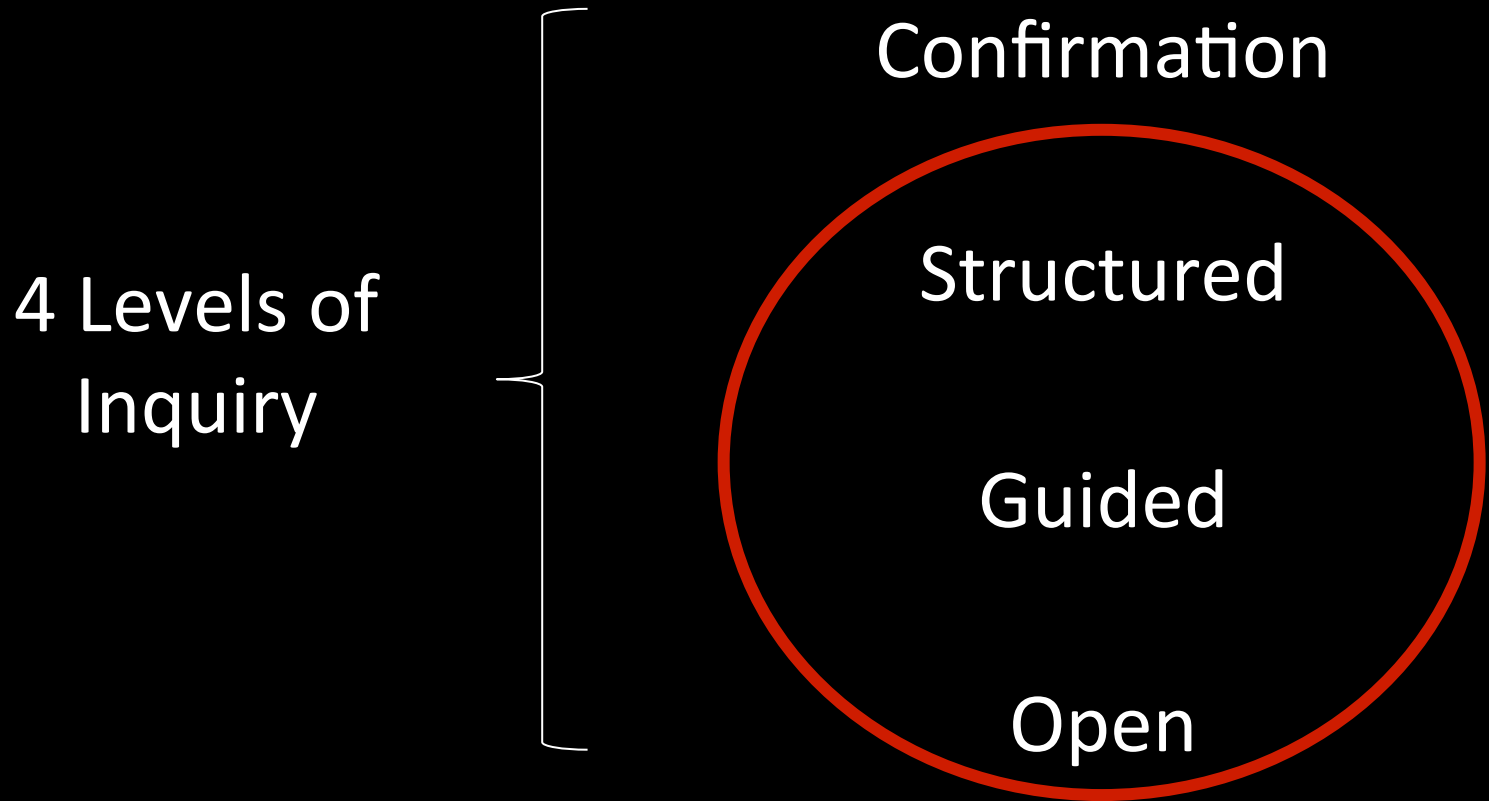
- Agree it's more effective, BUT...
 - Time consuming
 - Less control
 - Only more capable students



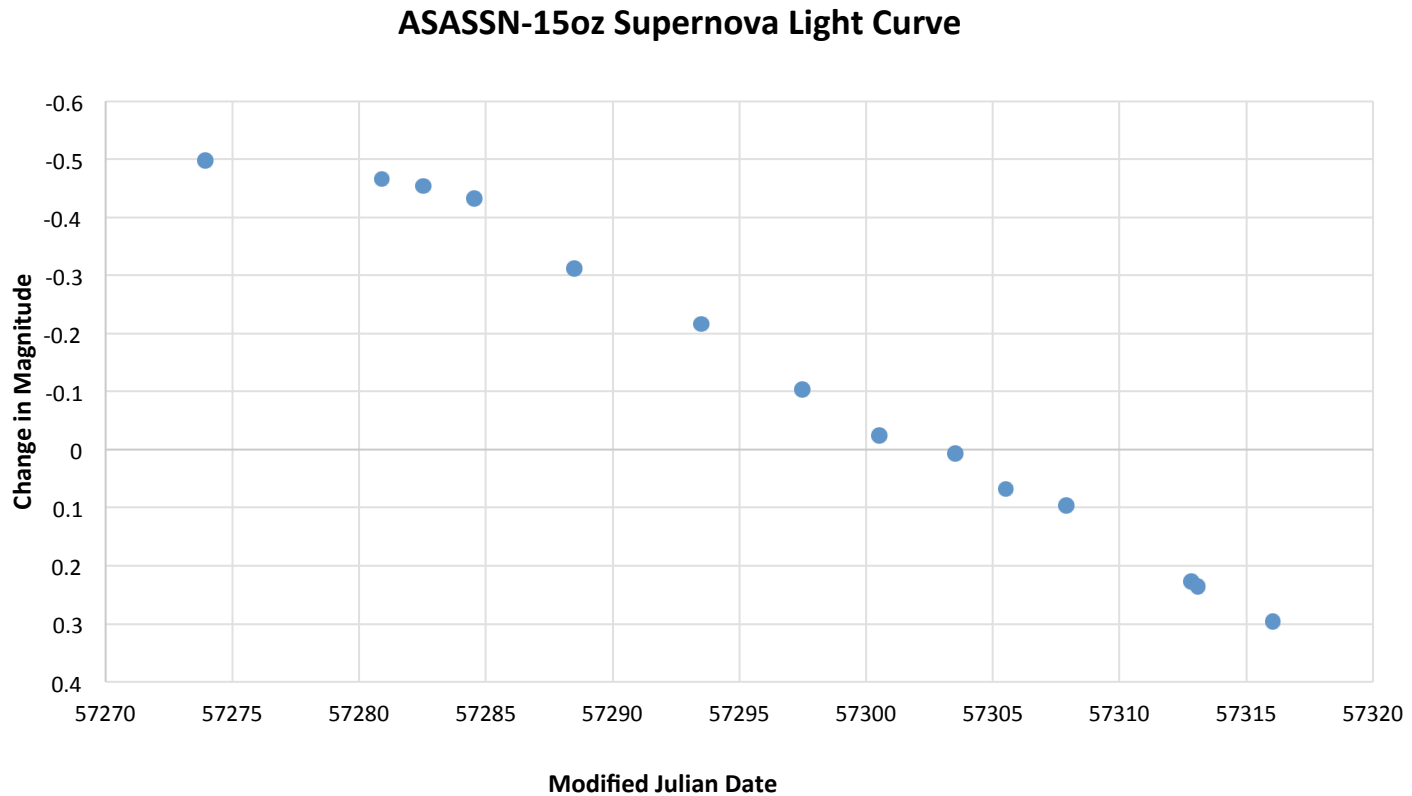
Time Consuming and Lack of Control

- Lesson Plan
- Background Information
- Student Worksheets
- Answer Guidelines

Student Capability



Spotting a Supernova



Spotting a Supernova: Structured

- Set of Data
- Finder Chart
- Observation Information
- Photometry Guidelines
 - SalsaJ
 - Makali'i
- Background Information
 - Supernovae
 - Photometry
 - Light Curves
 - Stellar Lifecycles
 - Calculating Magnitudes



Spotting a Supernova: Guided

- Supernova Target
- Faulkes Telescope Archive
- Finder Chart
- Photometry Guidelines
- Background Information with additional:
 - Downloading Data from the FT Archive

Spotting a Supernova: Open

- Gaia Science Alerts Page
- Observing Session on FT
- Photometry Guidelines
- Background Information with additional:
 - Booking an Observing Session with the FT

Relevance to Real-life

Getting to know Gaia

- CCDs
- Signalling
- Launch
- Orbit Location
- Scientific Instruments
- Precision
- Power Systems

Relevance to Future and Careers



More Information

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