Quantum Leaps

Your Instructor – Me!

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Your Web Site

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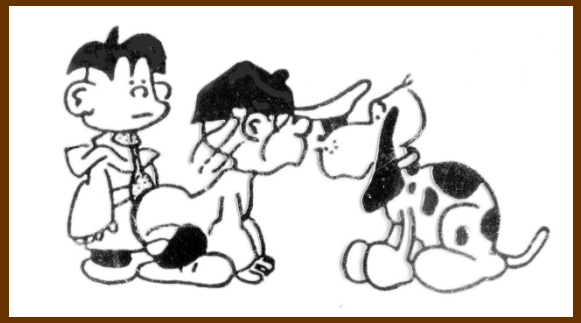
Teaching Philosophy

I taught Stripe how to whistle!

I don't hear him whistling!



I just said I taught him! I didn't say he learnt it!

Aim

1. Gain an understanding of the **scientific method** as it proceeds from the **empirical observation** to theory.
2. Enhance **critical thinking**, **research**, **problem solving** and **writing skills**.
3. Achieved through introduction of **scientific giants** who have succeeded in pushing back boundaries of **human knowledge**.

Learning Outcomes

1. Understand the meaning of the scientific method.
2. Understand the importance of critical think and problem solving skills.
3. Understand the historical context of personages studied.
4. Show an appreciation of the various scientific, social, cultural and religious obstacles scientists studied had to overcome to achieve their goals.
5. Apply knowledge through the creation of a project which illustrates mastery of key elements.
6. Demonstrate knowledge of content of modules as expressed through in-class assignments.

Assessment Plan

1. Portfolios (60%) – must be in class to complete
2. Mid-term test (15)
3. Final Project valued at 25%

T.S. Eliot

We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.

Our Species

- We call our species ***Homo sapiens – "knowning man".***
- The eternal ***"Why?"*** has always defined us.
- Intellectual curiosity sets us apart from all other creatures and fuels the primal force behind science.

Object of Science

- Not simply to discover facts but to find general truths and articulate fundamental laws
- Scientists call such intellectual constructs “theories”

Meaning of Theory

- In science, “theory” does not mean “speculation” or “idea”
- A scientific theory is a presentation of fact
- Arrived at by the scientific method, an accepted procedure of logic by which scientists
  - test a hypothesis through careful observation,
  - experimentation, and
  - measurement

Great Minds

- Great minds often synthesize work of many.

Issac Newton

"If I have seen farther,

it is by standing

on the shoulder of giants."

Science and History

- Science has influenced history
- Reverse also true
- Commerce, cultural exchange, voyages of discovery, war, religion and art have had great effect on development of science