

**Teaching Science as Inquiry (TSI) Aquatic Science
Professional Development
Quotes and 'Olelos**

Module 2: Chemical Aquatic Science

Quotes

r.e. Importance of careful observation and preparation

Where observation is concerned chance favors only the prepared mind.

- Louis Pasteur

r.e. Human aspect of science, scientific progress

Science advances one funeral at a time.

- Max Planck

r.e. Human aspect of science, scientific progress

If I have seen further it is by standing on the shoulders of giants.

- Issac Newton

r.e. Models

Analogy and analogical thinking is central to science and to thinking and working scientifically.

- Harrison & Coll, 2008

'Olelos

Pukai, Mary Kawena. 1983. 'Ōlelo No'eau: Hawaiian Proverbs and Poetical Sayings. Honolulu, HI. Bishop Museum Press.

r.e. Objectivity and practices of science

2077

Mai lilo oe I puni wale, o lilo oe I kamali'i.

Do not believe all that is told you lest you be (led as) a little child.

Do not be gullible; scan, weigh, and think for yourself.

r.e. Importance of observation

1186

I ka nānā no a 'ike.

By observing, one learns.

r.e. Importance of observation

1479

Ka Manu Ka'upu hālo 'ale o ka moana.

The ka'upu, the bird that observes the ocean.

Said of a careful observer.

r.e. Importance of observation and inference

1907

Kūkulu ka 'ike I ka 'ōpua.

Knowledge is set up in the clouds.

Clouds are observed for signs and omens.

r.e. Teaching your students the little things

325

E kuhikuhi pono I na au iki a me na au nui o ka 'ike.

Instruct well in the little and the large currents of knowledge.

In teaching, do it well; the small details are as important as the large ones.

A'o: Educational Traditions by Malcolm Nānea Chun, CRDG, 2006

p. 3-4.

“Observation, or nānā or 'ike, is crucial in island life. The ability to “look” at the sea and to “see” where the schools of fish were located, or if there were any at all, led to great skill in fishing. Such skill was developed over time while gazing at the current and waves, and from the observations of teachers or mentors....”

Ability to deduce from observations also valued – that a war party was coming because of a muddy stream (during a time with no rain) or the deductive skill of men to watch the ocean and the air, where the flow of the ocean around the island came together from east and west alongshore, pushed by the trade winds, konas, north-westerlies. And they knew that here ran the big fish they treasured most for subsistence.