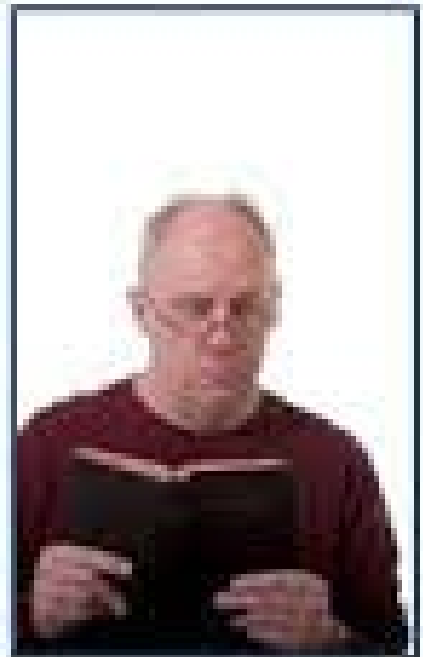
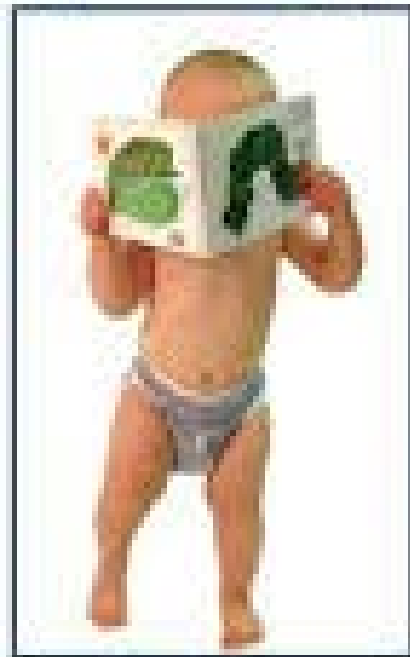


Leadership and Lifelong Learning



Lifelong Learning



“Education prepares you for better employment opportunities. It puts you in a better position to serve and to bless those around you. It will set you on a path of lifelong learning. It will strengthen you to fight against ignorance and error. As Joseph Smith taught: ‘Knowledge does away with darkness, suspense and doubt; for these cannot exist where knowledge is. ... In knowledge there is power.’ ‘To be learned is good if they hearken unto the counsels of God.’ Education will prepare you for what is ahead, including marriage.”

Elder Robert D. Hales, October 2015 Conference



In 1862 Brigham Young said: "Every discovery in science and art, that is really true and useful to mankind has been given by direct revelation from God, though but few acknowledge it. It has been given with a view to prepare the way for the ultimate triumph of truth, and the redemption of the earth from the power of sin and Satan. We should take advantage of all these great discoveries, the accumulated wisdom of ages, and give to our children the benefit of every branch of useful knowledge, to prepare them to step forward and efficiently do their part in the great work".

*(Discourses of Brigham Young, sel. John A. Widtsoe
[1954], 18–19)*



BYU Mission

A BYU education should be:

- 1. Spiritually strengthening**
- 2. Intellectually enlarging**
- 3. Character building, leading to**
- 4. Lifelong learning and service.**

[The] intent [is] to envelop BYU's intellectual aims within a more complete, even eternal, perspective that begins with spiritual knowledge and ends with knowledge applied to the practical tasks of living and serving.



Recent Feedback from the Industrial Advisory Board for the BYU ChE Department:

- **Leadership is “Owning Your Stewardship”**
 - Not waiting to be told what problems to work on
 - Proactively identifying problems (things that should be improved)
 - Proactively going after solutions
- **Leadership is Striving for Improvement in People**
 - Being sensitive to cultural differences
 - Giving honest feedback to others and helping them succeed
 - Receiving criticism positively yourself and making appropriate changes
 - Learning to communicate with everyone
- **Every person should be a leader within his/her own sphere of influence**

Areas of Leadership

- Management of Self
 - Personal characteristics
 - Effectiveness, skills
- Interpersonal Relations
 - Communication
 - See beyond self (non self-centered)
- Organizations
 - Vision
 - Focus

A BYU chemical engineer is a leader in a globalized society because he/she:

1. Is reliable and can be counted on to accomplish tasks in a manner that exceeds expectations.
2. Takes initiative rather than waits for assignments.
3. Develops a vision in his/her scope of responsibility.
4. Identifies problems *and* solutions.
5. Understands the personality traits of self and others and can work with others in accomplishing tasks.
6. Is culturally sensitive and works effectively with people from diverse backgrounds.
7. Takes time to evaluate personal performance as a team member and improves when needed.
8. Gives honest feedback to others and helps them succeed in their responsibilities.
9. Receives criticism and makes changes where appropriate.
10. Follows as well as leads.
11. Demonstrates a good attitude on life and is pleasant to work with.

Leadership is influencing other people

- **Most of your colleagues will not live LDS standards**
 - lifestyle, language, habits
- **Temptation: mostly interact/socialize with other LDS colleagues**
 - limits your influence/leadership professionally
 - rated as negative
 - limits your influence/leadership spiritually
 - we can't be a light in the darkness unless we go to where the darkness is
- **Find/encourage the good in all of your colleagues**
- **Foster genuine friendships (spend time) with all of your colleagues**

Leader vs. Manager

Leader

- Not necessarily in charge
- Inspires
- Innovates
- Loving/caring
- Guides
- The job is what they do

(Bad) Manager

- Wants to be in charge (entitled)
- Mandates
- Bureaucracy
- Fosters favorites
- Business-like
- Micromanages
- The job is who they are

Learn Wisdom

Wisdom Enhances Leadership

- **Knowledge is:**

- Knowing that a tomato is a fruit



- **Wisdom is:**

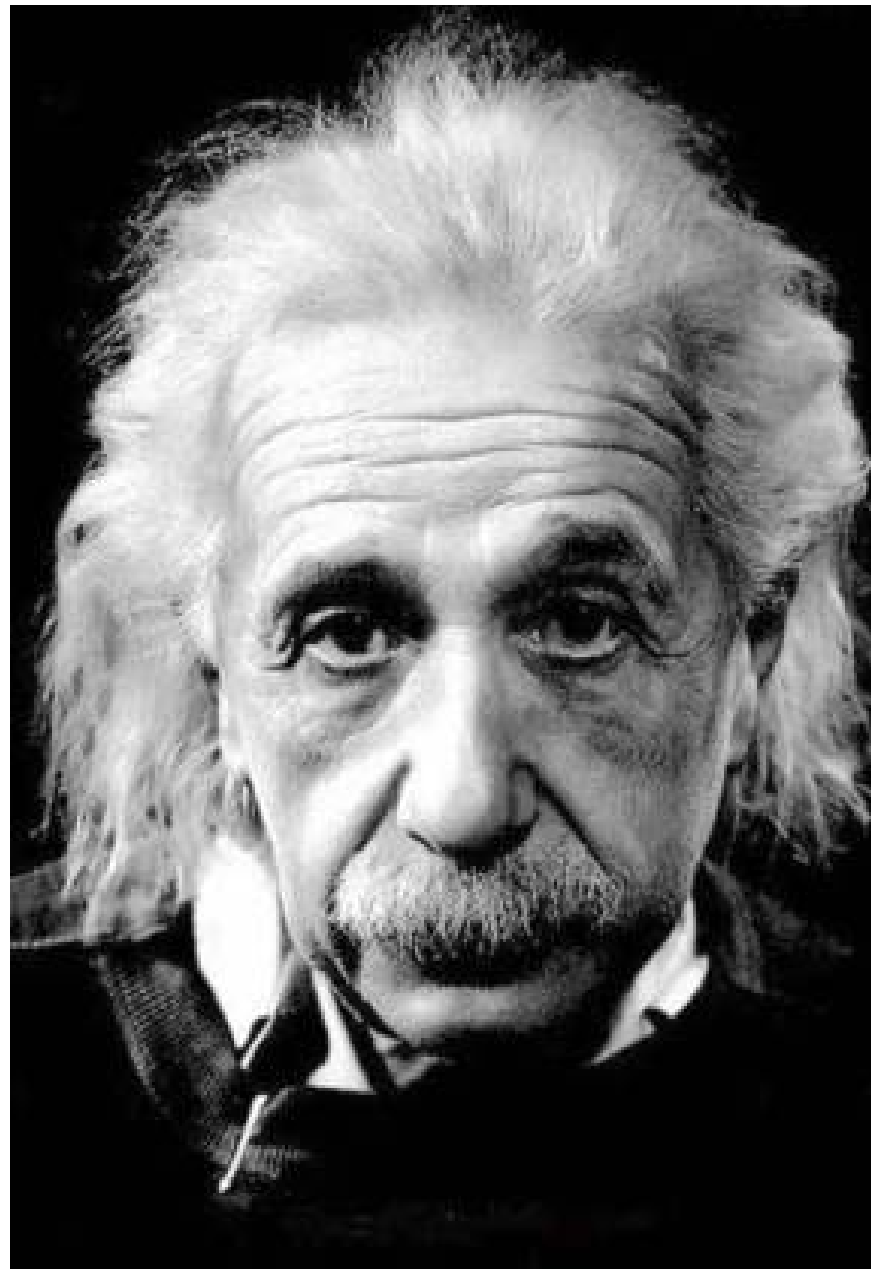
- Not using that tomato in a shortcake recipe



Lifelong Learning



... yea, seek ye out of the best books
words of wisdom, seek learning even
by study and also by faith. (D&C 109:7)



"Once you stop
learning, you
start dying"

~ Albert Einstein ~

Elder Hugh W. Pinnock



“Learn, learn, learn, learn, learn!”

“Memorize, Memorize, Memorize,
Memorize, Memorize! Once you
memorize something, it is YOURS.”

Elder Pinnock

- “Learn, learn, learn, learn, learn!”
- “Memorize, Memorize, Memorize, Memorize, Memorize! Once you memorize something, it is YOURS.”

Balance

- Career
- Family
- Church
 - Spiritual Growth
 - Service
- Hobbies
- Physical Health
- Social Interactions
- **Lifelong Learning**



If you fail to plan...

...you plan to fail!

You will be outdated every 5-7
years...

...and change jobs 2-5 times!

So How Do You Keep Learning in Your Career?

- Professional Meetings (AIChE, ACS, ASME, SPE, etc.)
- Short Courses
 - Through professional societies
 - Universities
 - Companies
- Trade Journals
- Company Experts
- Continuing Education (required for PE)

Other Areas of Continued Learning

- Family
 - Homework
 - Scripture Study
- Hobbies
- Service
- Gospel
- World Events
- Travel



CAUTION

- IGNORANCE
- MISINFORMATION
- STATISTICS
- POLITICIZED SCIENCE

IGNORANCE

MISINFORMATION

- Vaccines cause autism
 - Dr. Andrew Wakefield
 - in 1998 published a fraudulent research paper in The Lancet (a prestigious medical journal in the UK)
 - has since been barred from practicing medicine in the UK
 - The definition of autism has been expanding



STATISTICS

- “Lies, damned lies, and statistics” Mark Twain
- Correlations vs. Causation



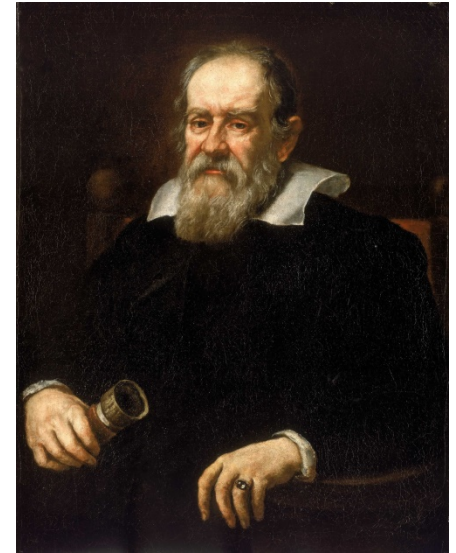
SCIENCE

- Scientific Method
 - Establish a hypothesis
 - Test the hypothesis
 - Experiments
 - Observation
 - Adjust hypothesis
 - When hypothesis fits **all** experiments and observations it becomes a **Theory**
 - Contrary observations lead to Theory revision



POLITICIZED SCIENCE

- Does not follow Scientific Method
 - Predetermined outcome
 - “Cherry pick” favorable data
 - Hide or belittle nonconforming data
 - Discredit or silence dissenting voices
- Secret science
- Funding based on predetermined conclusions

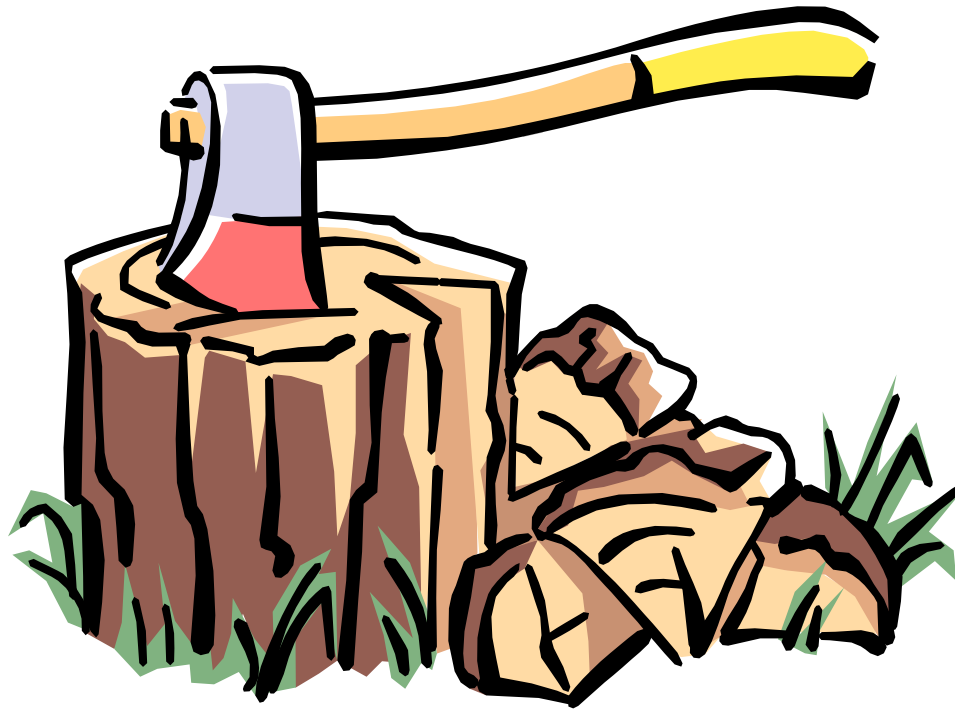


And yet it moves

CAUTION

- Study both sides of an issue
- Be informed on **all** of the data
- You are future Chemical Engineers – you have the tools to understand how the world works

Keep the Axe SHARP!



You are a lot more valuable as an employee with up-to-date tools and information!