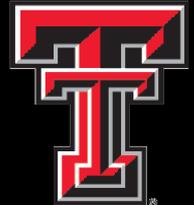


Creativity and Innovation



Statement of Ethical Principles

Texas Tech University
Ethics Center
2011



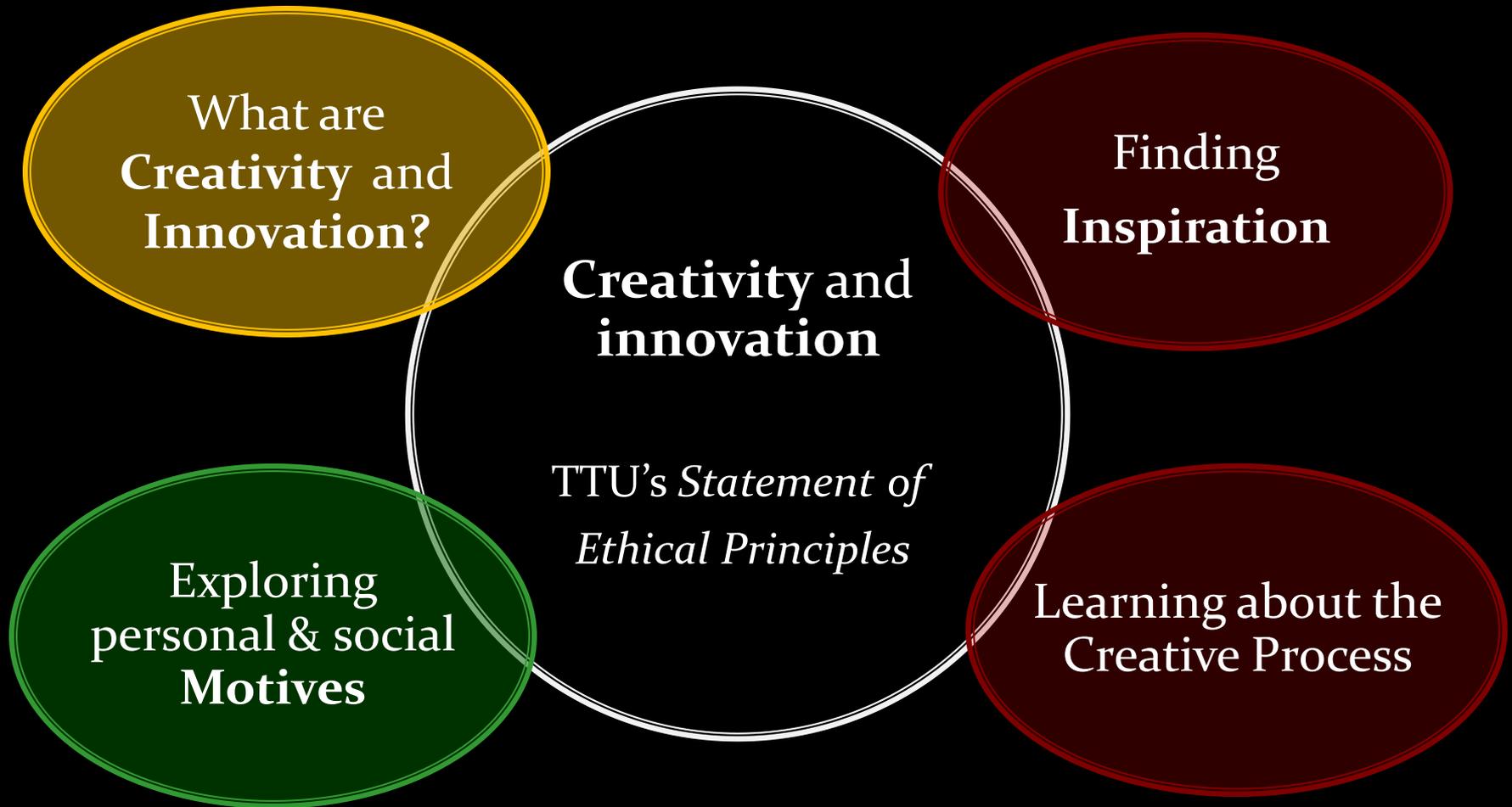
Creativity and Innovation



“Texas Tech University is committed to ethical institutional programs that meet the teaching, research, and service objectives of each discipline and department, to policies that are consistent with those objectives, and to a working and learning environment that encourages active participation. Such exemplary environments often challenge existing worldviews, requiring trust in the process of discovery and the acceptance of uncertainty and ambiguity within ethical parameters. The university supports all its members in life-long learning—a process that is both challenging and rewarding—and encourages **creative and innovative** means to achieve this goal through both opportunities and incentives.”

Texas Tech University
Statement of Ethical Principles

This Module Examines



What are Creativity and Innovation?



We usually understand innovation and creativity as something new or different introduced into our culture.

**A new medicine,
a new technology,
a new way of behaving,
a new wave of fashion,
or simply a new way of looking at things.**

What are Creativity and Innovation?



Creativity:

**Create
Something
New**

Example:

**The Wright
Brothers' airplane
and steering
mechanism**

Innovation:

**Reshape
Something
Old**

Example:

**Colonel Sanders'
fried chicken
recipe**

Creativity



The Wright brothers built the first airplane that could successfully take flight and be navigated.

Although the idea of man flying had been around for centuries, the Wright brothers executed the **creation** and testing of the first flying machine.



Innovation



Colonel Sanders invented a new taste out of well-known spices; he did not invent fried chicken but he gave it a nice **innovation**.

Today, his recipe is one of the most valued secrets in the fast food industry.



Conferring with Pete Harman, KFC's first franchisee, Colonel Sanders discusses Harman's fantastic success in the fast-food field. Harman currently owns 22 KFC and 2 Fish & Chips outlets in the states of Utah and Colorado.

Motives for Creativity and Innovation



Innovation is strongly associated with a need, a necessity. It could be a **personal necessity** or a **social necessity**.

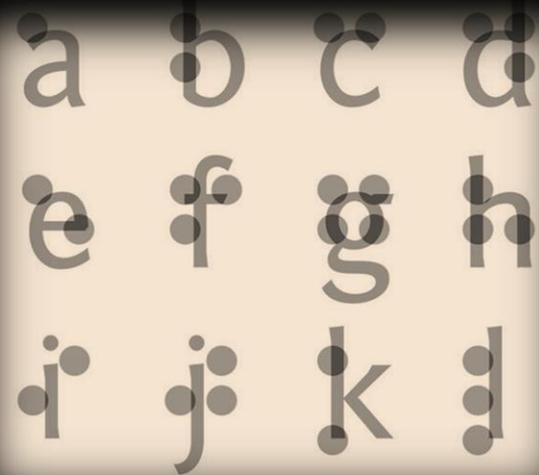
Many innovations begin from a personal need and evolve into a social solution.

Personal Motives



In 1821, **Louis Braille** created a new system that allowed blind people to read. He had become blind as a child.

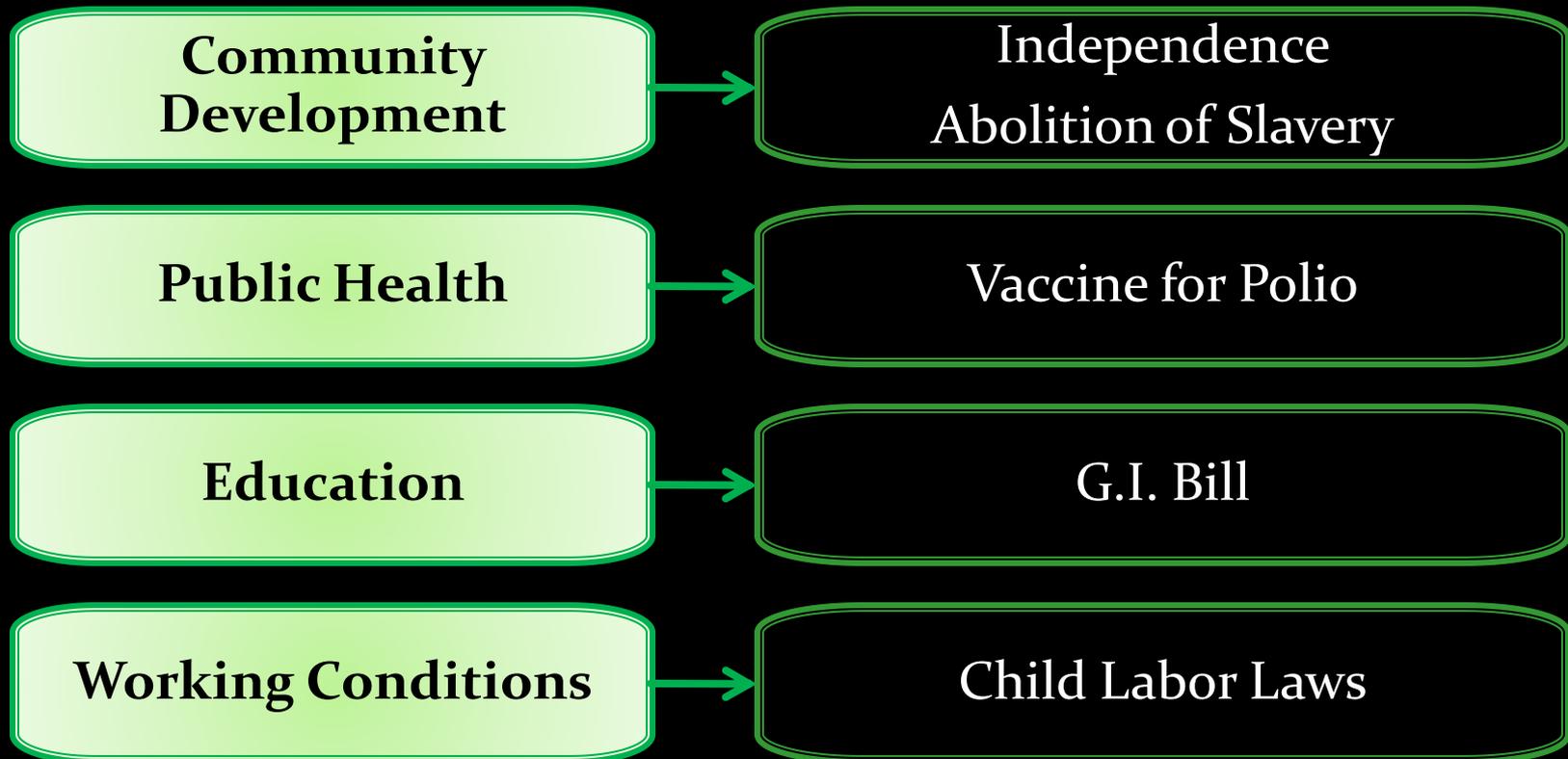
In his time, there were other methods and techniques for blind readers to use. But those methods were complex and limited, and so he improved on them.



Social Motives



Social needs also produce innovations:



Finding Inspiration



“Innovation is the process of turning ideas into a manufacturable and marketable form.”

Watts Humphrey, Software Engineer

Finding Inspiration



Ideas develop from a process that spans many stages of our lives and points of reference, and mixes these influences to prompt a solution.

Finding Inspiration



Many of the innovations that we enjoy today started as **dreams, visions, or crazy ideas.**

Perhaps when these ideas were conceived, it was too soon for them to transition from “idea” to “practical realization.” Still, without those early thoughts, the innovation might never have been realized.

Finding Inspiration



For example:

Physiologist **Otto Loewi** discovered that the human nervous system also works on a chemical transmission, not just electrical transmission as popularly believed. This discovery and his method of proving it was based on a **dream**.

Loewi's innovative discovery and procedure earned him the Nobel Prize for medicine in 1936.

Finding Inspiration



“If we worked on the assumption that what is accepted as true really is true, then there would be little hope for advance.”

The Wright Brothers

Finding Inspiration



Literature has inspired many scientists. The early 20th century saw the realization of many visions that Jules Verne depicted in his science fiction novels.

Many visionaries in Physics and Astronomy now look back at sci-fi programs like Star Trek, which searched for ways *“to boldly go where no one has gone before.”*



Finding Inspiration



“Creativity comes from trust. Trust your instincts. And never hope more than you work.”

Rita Mae Brown, writer

Finding Inspiration



We all have the capacity to innovate; we do it all the time. We might not change culture with our innovations, but they help us to improve our lives.

Simple examples of innovation:

**How you modify a recipe,
how you arrange your living space,
how you decide to travel from home to campus ...**

Process of Innovation and Creativity



Innovation comes from ideas. We mostly think of an idea as the Eureka moment, the “Aha!” factor, a moment of inspiration, or the epiphany.

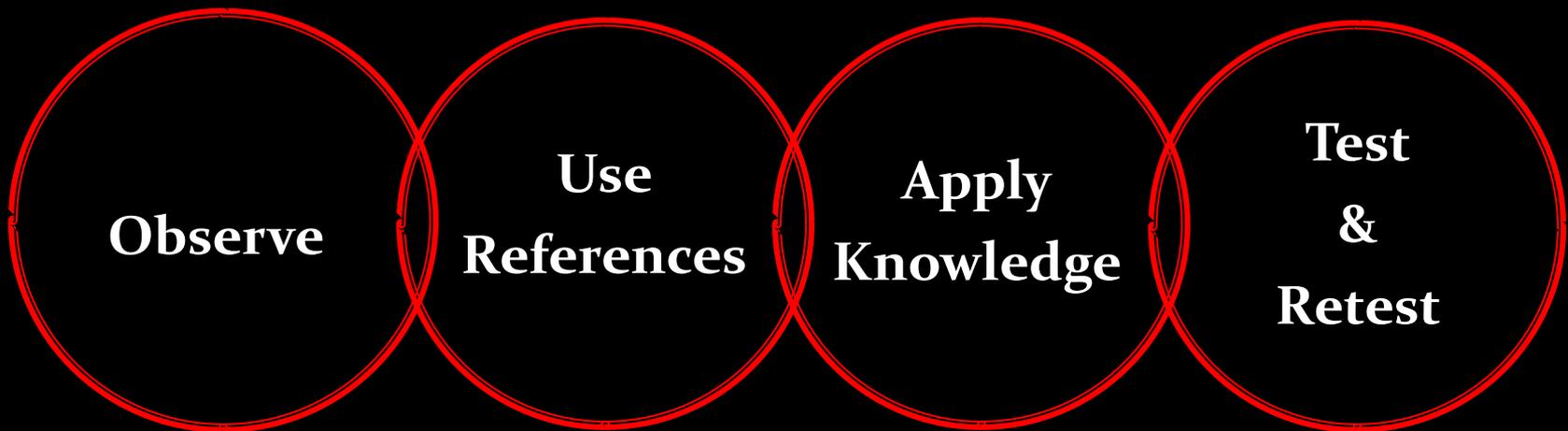
But behind every eureka moment are countless hours of hard work, research, and creative thought.

Process of Innovation and Creativity



Innovations don't just happen. There is always a long line of events that take us from point A to point B.

Graham Bell  ...  **Smart phone**  **???**



Process of Innovation and Creativity



“Innovation— any new idea—by definition will not be accepted at first. It takes repeated attempts, endless demonstrations, monotonous rehearsals before innovation can be accepted and internalized by an organization. This requires courageous patience.”

Warren Bennis, Founding Chairman
The Leadership Institute at USC

Process of Innovation and Creativity



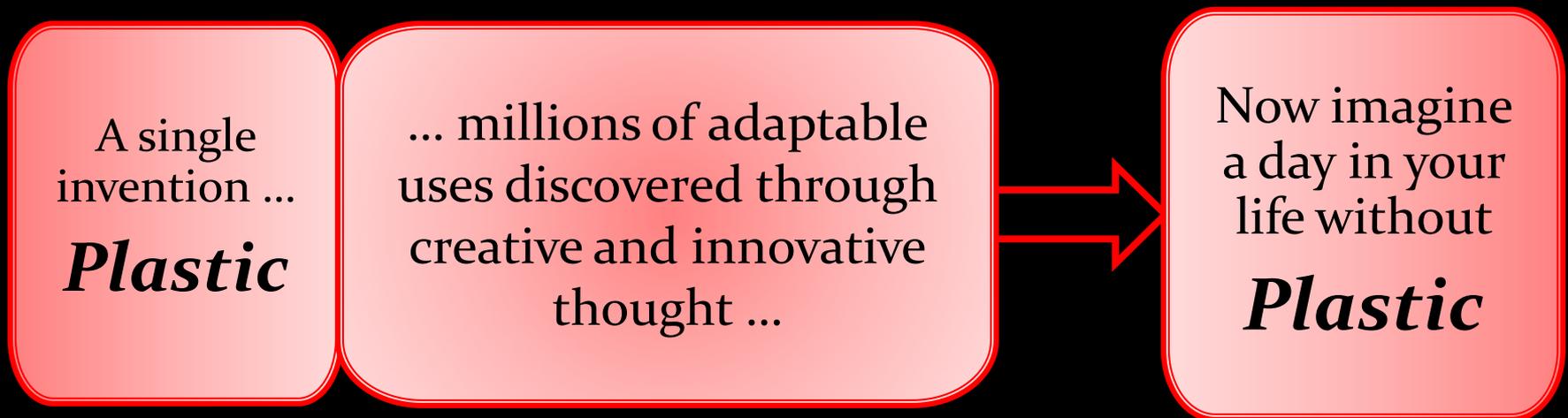
College students are exposed to many areas of knowledge, including sociology, politics, history, science, and the arts. Having a wide knowledge base allows you to better understand the spirit of the times, references to other fields, and common perceptions. It also allows you to recognize why certain innovations were not possible in the past.

A great innovator can connect the dots between references, acquired knowledge, experience, observation, and needs.

Process of Innovation and Creativity



Nothing happens on its own. Every piece of knowledge will prepare you and give you the material needed to engage in a fruitful creative process.



Creativity and Innovation

“Genius is one percent inspiration, and ninety-nine percent perspiration.”

Thomas Edison

Acknowledgements and References



Acknowledgements

Dr. Francisco Ortega-Grimaldo, *assistant professor, Communication Design Program, TTU (contributing most of the written content for this module)*

Howie Chin,
Graduate Assistant, Ethics Center

Angela Frisbie,
Former Graduate Assistant, Ethics Center

Yi Hui Lee,
Sr. Editor, Ethics Center

Justin Louder,
Director, Ethics Center

Keisha McKenzie,
Graduate Assistant, Ethics Center

References

- Berkun, Scott. *The Myths of Innovation*. Beijing: O'Reilly, 2007. Print.
- "Braille History." *Braille Embossers from Enabling Technologies*. Web. 11 May 2011. <<http://www.brailleur.com/braillehx.htm>>.
- Fleming, Lee. "Lone inventors as the source of technological breakthroughs: myth or reality?" Harvard University, Boston. 2006.
- "Innovation | Define Innovation at Dictionary.com." *Dictionary.com*. Web. 11 May 2011. <<http://dictionary.reference.com/browse/innovation>>.
- "The First Car - A History of the Automobile." *Austin Business Computers, Inc. Home Page*. Web. 11 May 2011. <<http://www.ausbcomp.com/~bbott/cars/carhist.htm>>.
- "The Lonely Genius: A Creativity Myth." Web. 11 May 2011. <<http://www.slideshare.net/justohidalgo/the-lonely-genius-a-creativity-myth>>.
- "Windmills - Windmill Farms - Dust Devils." *Crystalinks Home Page*. Web. 11 May 2011. <<http://www.crystalinks.com/windmills.html>>.
- "Wind Turbines." *Wikipedia*. Web. 11 May 2011. <http://en.wikipedia.org/wiki/Wind_turbine>.

Images

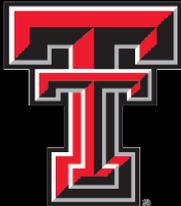
http://www.indigokat.com/gall_files/outerspace.jpg

http://www.lindseymuirdesign.com/images/braille_font.jpg

<http://www.code4lib.org/files/lightning.jpg>

<http://www.tvhistory.tv/1952-Invictus-17-22M-Brazil.jpg>

Creativity and Innovation



Statement of Ethical Principles

Questions? Comments?

Please contact:

TTU Ethics Center

806.742.1505

www.ethics.ttu.edu