01

[1] Education must focus on the trunk of the tree of knowledge, revealing the ways in which the branches, twigs, and leaves all emerge from a common core.

[2] Tools for thinking stem from this core, providing a common language with which practitioners in different fields may share their experience of the process of innovation and discover links between their creative activities.

[3] When the same terms are employed across the curriculum, students begin to link different subjects and classes.

[4] If they practice abstracting in writing class, if they work on abstracting in painting or drawing class, and if, in all cases, they call it abstracting, they begin to understand how to think beyond disciplinary boundaries.

[5] They see how to transform their thoughts from one mode of conception and expression to another.

[6] Linking the disciplines comes naturally when the terms and tools are presented as part of a universal imagination.

02

[1] It's hard to pay more for the speedy but highly skilled person, simply because there's less effort being observed.

[2] Two researchers once did a study in which they asked people how much they would pay for data recovery.

[3] They found that people would pay a little more for a greater quantity of rescued data, but what they were most sensitive to was the number of hours the technician worked.

[4] When the data recovery took only a few minutes, willingness to pay was low, but when it took more than a week to recover the same amount of data, people were willing to pay much more.

[5] Think about it: They were willing to pay more for the slower service with the same outcome.

[6] Fundamentally, when we value effort over outcome, we're paying for incompetence.

[7] Although it is actually irrational, we feel more rational, and more comfortable, paying for incompetence.

03

[1] Many people look for safety and security in popular thinking.

[2] They figure that if a lot of people are doing something, then it must be right.

[3] It must be a good idea.

[4] If most people accept it, then it probably represents fairness, equality, compassion, and sensitivity, right?

[5] Not necessarily.

[6] Popular thinking said the earth was the center of the universe, yet Copernicus studied the stars and planets and proved mathematically that the earth and the other planets in our solar system revolved around the sun.

[7] Popular thinking said surgery didn't require clean instruments, yet Joseph Lister studied the high death rates in hospitals and introduced antiseptic practices that immediately saved lives.

[8] Popular thinking said that women shouldn't have the right to vote, yet people like Emmeline Pankhurst and Susan B. Anthony fought for and won that right.

[9] We must always remember there is a huge difference between acceptance and intelligence.

[10] People may say that there's safety in numbers, but that's not always true.

04

[1] The fundamental nature of the experimental method is manipulation and control.

[2] Scientists manipulate a variable of interest, and see if there's a difference.

[3] At the same time, they attempt to control for the potential effects of all other variables.

[4] The importance of controlled experiments in identifying the underlying causes of events cannot be overstated.

[5] In the real-uncontrolled-world, variables are often correlated.

[6] For example, people who take vitamin supplements may have different eating and exercise habits than people who don't take vitamins.

[7] As a result, if we want to study the health effects of vitamins, we can't merely observe the real world, since any of these factors (the vitamins, diet, or exercise) may affect health.

[8] Rather, we have to create a situation that doesn't actually occur in the real world.

[9] That's just what scientific experiments do.

[10] They try to separate the naturally occurring relationship in the world by manipulating one specific variable at a time, while holding everything else constant.

05

[1] Why do people in the Mediterranean live longer and have a lower incidence of disease?

[2] Some people say it's because of what they eat.

[3] Their diet is full of fresh fruits, fish, vegetables, whole grains, and nuts.

[4] Individuals in these cultures drink red wine and use great amounts of olive oil.

[5] Why is that food pattern healthy?

[6] One reason is that they are eating a palette of colors.

[7] More and more research is surfacing that shows us the benefits of the thousands of colorful "phytochemicals"(phyto=plant) that exist in foods.

[8] These healthful, non-nutritive compounds in plants provide color and function to the plant and add to the health of the human body.

[9] Each color connects to a particular compound that serves a specific function in the body.

[10] For example, if you don't eat purple foods, you are probably missing out on anthocyanins, important brain protection compounds.

[11] Similarly, if you avoid green-colored foods, you may be lacking chlorophyll, a plant antioxidant that guards your cells from damage.

06

[1] Over the past several decades, there have been some agreements to reduce the debt of poor nations, but other economic challenges (like trade barriers) remain.

[2] Nontariff trade measures, such as quotas, subsidies, and restrictions on exports, are increasingly prevalent and may be enacted for policy reasons having nothing to do with trade.

[3] However, they have a discriminatory effect on exports from countries that lack the resources to comply with requirements of nontariff measures imposed by rich nations.

[4] For example, the huge subsidies that rich nations give to their farmers make it very difficult for farmers in the rest of the world to compete with them.

[5] Another example would be domestic health or safety regulations, which, though not specifically targeting imports, could impose significant costs on foreign manufacturers seeking to conform to the importer's market.

[6] Industries in developing markets may have more difficulty absorbing these additional costs.