What is Intelligence?

- Intelligence is a property of mind that encompasses many related abilities.
- There are several ways to define intelligence.

Two major "consensus" definitions of intelligence have been proposed.

- From Intelligence: Knowns and Unknowns, a report of a task force convened by the American Psychological Association in 1995:
  - Individuals differ from one another in their ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought.
Although these individual differences can be substantial, they are never entirely consistent: a given person’s intellectual performance will vary on different occasions, in different domains, as judged by different criteria.

Concepts of “intelligence” are attempts to clarify and organize this complex set of phenomena. Although considerable clarity has been achieved in some areas, no such conceptualization has yet answered all the important questions and none commands universal assent.

When two dozen prominent theorists were recently asked to define intelligence, they gave two dozen somewhat different definitions.

A second definition of intelligence comes from “Mainstream Science on Intelligence”, which was signed by 52 intelligence researchers in 1994:

- A very general mental capability that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience.
- It is not merely book learning, a narrow academic skill, or test-taking smarts. Rather, it reflects a broader and deeper capability for comprehending our surroundings—“catching on”, “making sense” of things, or “figuring out” what to do.

The Traditional Approaches to Intelligence
The Traditional Approaches to Intelligence

- The biological approach
- The individual difference approach
- The cognitive processes approach

These have been the foundation to our thinking about adult intelligence.

They still dominate the thinking and practice of how intelligence is viewed.

The Biological Approach

This is not often discussed by educators of adults.

Nearly everyone believes that intelligence resides in the brain, and is synonymous with brain power.

If we can discover where “intelligence resides” in the human brain and how it fits into the way the brain operates, we will have the key to exactly what intelligence is.
Unfortunately, the knowledge we have gained about "the smart brain" has little practical application and is tentative at best.

Psychologists and neuroscientists have not yet managed to weave what little we know into a clear, or clearly agreed theory about how the brain produces, or is otherwise involved in human intelligence.

Genetics of Intelligence

- This train of thought is stimulated by those who assert that intelligence is an inheritable quality.
- There is no agreement in the current literature on the influence that genetic factors have on intelligence.
- Even among researchers who argue that genes play a sizeable part in influencing differences in mental ability between people, there is scant knowledge about what these genes are.

The Individual Approach
The Individual Approach

- Has an enormous impact on the study of adult intelligence.
  - Scholars from this approach have provided a systematic means for studying individual differences.
  - The theories embedded within this tradition have proved to have many and diverse applications.
  - They have provided a model for how theory and measurement can evolve together in sync.

- Assumes that intelligence is a measurable quantity.
- Our thinking has broadened to include the notion that there are multiple factors of intellectual ability.
- Commonly used tests of adult intelligence that fit into this psychometric tradition include the Wechsler Adult Intelligence Scale and the Primary Mental Abilities test.

IQ Tests

- IQ tests were originally devised specifically to predict educational achievement.
- The inventors of the IQ did not believe they were measuring fixed intelligence.
- Despite this, critics argue that intelligence tests have been used to support theories in which intelligence is viewed as a qualitatively unique faculty with a relatively fixed quantity.
Critics of the individual approach point out that it measures only a part of what is commonly understood as intelligence.

They argue that even though tests of mental abilities are correlated, people still have unique strengths and weaknesses in specific areas. Consequently they argue that psychometric theorists over-emphasize the general intelligence factor.

Age and Intellectual Abilities

(Does Dave still have it?)

The individual differences approaches continue to dominate how scholars have argued whether adults lose or perhaps even gain in intellectual abilities as we age.

Central to this thinking of linking age and intelligence is whether adults, and especially older adults, will be as intellectually capable in their sixties and seventies as they were in their twenties and thirties.

Age and Intellectual Abilities

The fundamental question that researchers have struggled with over the years is:

- Does intelligence decline with age?

Responses to this question are mixed and often have been controversial.

- They range from the contention that intelligence definitely enters a process of irreversible decline as we age (though that age does differ from scholar to scholar) to those who argue that intelligence is relatively stable through the adult years, with substantial changes occurring very late in life.
The Research Questions

- Do changes in intelligence "occur generally or differently in normal aging adults?"
- Are these changes progressive or regressive in nature?
- What is the potential for adults to alter or compensate for any of these changes?

The question of whether adults retain their intellectual abilities as they age

- Some researchers contend that intellectual functioning is a process of irreversible decline.
- Most scholars agree that intelligence either remains relatively stable through the adult years, with substantial intellectual changes occurring only very late in life, or that intelligence declines in some respects, remains stable in others, and may even increase in some functions, depending on a person's educational level, life experiences, and overall health.

Challenges to the individual differences approach
Challenges to the individual differences approach

- Have come primarily from scholars who question whether what is measured as intelligence through this tradition. They say it:
  - Does not present a comprehensive picture of intellectual abilities
  - Has no relationship to real-world or practical intelligence
  - Does not consider the effects that context has on intelligence.

The contextual perspective on intelligence

- This often includes the notion of practical and emotional intelligence
- It recognizes the importance of the intersection of the mind and the outside world as critical in gaining a clearer understanding of intelligence.

Intelligence, Aging, and Adult Learning
New Ideas About Intellectual Functioning in Adulthood

- The first is that the individual differences approach to intelligence continues to be the dominant paradigm in the study of adult intelligence.
  - The affect of the idea about IQ tests . . .
  - Some adults were tracked into ability groups early in their schooling days through these types of IQ tests, which may have lifetime effects on how they and others perceive their ability to learn.

- Many educators and adults alike have believed for a long time that, as adults age, they really cannot think as well as they once did.

- The second development is the expansion of alternative conceptions of adult intelligence.
  - Adults are especially attracted to the work of Gardner on multiple intelligences and Sternberg's notion of practical intelligence, because these ideas resonate with their adult lives.
  - These alternative perspectives on adult intelligence have great potential for assisting adult educators and learners to think differently about what it means to be intelligent.
For example, “unschooled adults” often view themselves as not very bright. Yet, in telling stories of some of their favorite activities they often describe hobbies or other tasks that are quite complex and require higher-order thinking.

Assisting these individuals in understanding what practical intelligence is all about might change their own self-image as learners.

Third, Sternberg has also challenged us to think in very different ways about how individuals and the circumstances in which they find themselves interact to shape intellectual functioning in adulthood.

- He offers a novel illustration to help us gain a clearer picture of what he means by “the mind in context”, the “luck” and “whoops” factors.

Each of us is born with different gifts and into different circumstances. Some of us are lucky enough to find ourselves in places where our gifts have been prized and nurtured (the luck factor), while others, no matter what their individual efforts, are never recognized or are blocked by circumstances beyond their control (the whoops factor).

As the world around us becomes more complex, so does the entanglement of the whoops with the luck factors. What may be termed a luck factor one day may often without warning become a whoops factor the next.
The truly intelligent adult must be able to grapple with these often paradoxical situations, which can become highly frustrating and even daunting to those caught up in tragic events.

Fourth, researchers are creating a clearer understanding of how adults can both retain and even enhance their intellectual abilities as they age.

- These researchers view adult intelligence as consisting of a number of factors or components.
- For example, who really "shine" as highly intelligent are those who can weave their academic know-how, their creativity, and their "street smarts" into meeting life "head-on," no matter the circumstances.

Based on this definition, very different strategies for keeping one's intelligence intact are needed than when intelligence is viewed primarily as academic or mental ability.

Therefore, based on the varying definitions of intelligence, adult educators need to think carefully about which intellectual abilities might be the most useful for adults, both young and old, when considering educational interventions.
Role of Adult Educators

- Adult educators can offer formal learning experiences, grounded in a solid knowledge base about intelligence and aging, while also providing advice to learners on useful resources they might consult.

- We adult educators need to expand our role in educational policies related to learning in adulthood, and more specifically, in policies that speak directly to the intellectual functioning of adults.

Assignment

- Dec 3
  - Read Chapter 15, Memory, Cognition, and the Brain
  - Turn in Annotation before class.
  - That will be our last one . . .