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Chapter: Theories of Intelligence

Jonathan Passmore, Chloe Tong & Leni Wildflower.

Introduction

From its beginnings in 1904, when psychologist Alfred Binet was asked by the French government to find a way of distinguishing between children who could benefit from regular public education and children who would need additional help, the concept of a singular numerical measure of intelligence has lent itself to simplistic interpretation and discriminatory uses. In spite of Binet's warnings, the Binet Scale and the concept of a general mental ability was taken up by psychologists and educators in America and around the world. Further tests were developed to determine an individual's intelligence quotient, or IQ.

Later theorists added more complexity. Thurstone (1931) confirmed general intelligence, or *g*, as the singular dominant factor, but included second-order factors such as spatial reasoning and memory. Cattell (1963) distinguished between *fluid* intelligence (*gf*), the underlying capacity for reasoning which is biologically determined, and *crystallized* intelligence (*gc*), the more accidental environmental aspects of skills, knowledge and experience. Carroll's (1993) three-stratum model incorporated the earlier theories and reinforced the hierarchy common to all of them, with a singular *g* at the apex of a pyramid. The middle stratum contains broad memory, retrieval and learning abilities. The lowest stratum has a large number of more narrowly defined abilities. Tests based on these models are still widely used. Examples include the Wechsler Adult Intelligence Scale and Raven's Progressive Matrices, which result in a singular IQ score.

Cognitive ability tests differ in that they target particular facets of ability – usually numerical, verbal, and spatial or abstract reasoning – and result in more than one score.

Use of cognitive ability tests is widespread as a method for differentiating between individuals. In occupational settings, the trend in larger firms in Western cultures tends towards the use of ability tests in selection and recruitment processes and during individual development programs.

Several difficulties are reported in literature as inherent to IQ measurement tools. Empirical research suggests a bias towards non-minority individuals, gender effects have been reported, and scores tend to improve with practice. From the early years of the twentieth century, when newly arrived immigrants at Ellis Island were subjected to questions and puzzles for which nothing had prepared them, to the suggestion in *The Bell Curve* (1994) that genes probably contribute to racial variations in intelligence, IQ

tests have been used to support notions of racial difference that are more readily explained by cultural and environmental factors. The fact that IQ test results have exhibited a gradual inflation since they were first introduced is perhaps the clearest indication that the ability to get a good score is an acquired skill, not an inherent attribute. The famous assertion by experimental psychologist Edwin Boring (1923) that 'intelligence is what the tests test' remains one of the most succinct observations on the circularity of IQ testing.

More recent research has tended to focus on breaking down the notion of a unitary measure and exploring multiple and alternative intelligences.

Theory of Multiple Intelligences: Howard Gardner

Howard Gardner (1983) asserted that from birth, human beings possess seven relatively autonomous areas of cognition or intelligence. Though the concept of the existence of more than one area of intelligence or cognition was not new (Thurston, L. 1931), Gardner's work was unique in that he identified a specific number of intelligences and described their relationship to one another. He began with seven types.

Linguistic intelligence involves being sensitive to spoken and written language, having an aptitude for learning other languages, being able to effectively express oneself rhetorically or poetically. Someone with linguistic intelligence is more likely to use a verbal component in remembering information.

Logical-mathematical intelligence is associated with ability in mathematics and science, and is characterized by the capacity to use logic and reason in analyzing problems, to understand and manipulate numbers, and to detect abstract patterns.

Musical intelligence involves the ability to hear rhythms, harmonies and notes of different pitch, to make music, through playing or composition, and to respond to music aesthetically.

Bodily-kinesthetic intelligence allows one to use one's body in solving problems, and in processes such as learning and remembering. It involves the ability to coordinate physical movements for expressive or practical purposes.

Spatial intelligence enables one to think in three dimensions, to be aware of space and to envision the spatial relationships between objects. This capacity is essential for activities as diverse as architecture and parallel parking.

Interpersonal intelligence is what enables us to understand other people – to read their intentions, to intuit their unstated motivations, fears and desires, and to respond to implicit signals.

Intrapersonal intelligence enables us to be aware of our own feelings and responses and to understand what causes and connects them. It allows us to achieve a sense of identity.

Gardner has subsequently conjectured that there might be further kinds of intelligence, starting with naturalist intelligence, which would be concerned with recognizing, categorizing and responding to aspects of the environment, followed by spiritual and

existential intelligences, though he reports that his findings on these are so far inconclusive. **Coaching Applications**

It may be helpful to explain to your client the theory of multiple intelligences to help her understand herself, people she works with or family members. Any framework that explains or contextualizes differences in the way people think can promote acceptance and accommodation of others.

Help your client look at where his strengths are as he considers the seven types of intelligence. This allows him to gain understanding and insight into his own thinking and learning. He may also want to experiment with other types of intelligence to expand his perspective and to strengthen his learning capacity.

Be aware that your client's way of thinking, learning and interacting with the world may be different from yours. He may be less or more comfortable than you are with words, or movement, or abstract formulations. Be open to his particular form of intelligence.

Additional Reading

Gardner, H. (1983). *Frames of mind: Theory of multiple intelligences*. New York: Basic Books.

One of several good websites explaining Gardner's theory and its application to education. http://www.education-world.com/a_curr/curr054.shtml

Emotional intelligence: Goleman and others

Emotional intelligence refers to the ability to recognize, understand and appropriately use emotions to guide one's thoughts and behaviors (Salovey & Mayer, 1990). Gardner was one of the pioneers of this concept. Two of his seven kinds of intelligence, inter- and intrapersonal, could be viewed as a single 'personal' intelligence, containing the ability to understand one's own and other people's emotions, needs and intentions. Interest in emotional and social intelligence as alternatives to traditional cognitive ability has exploded in recent years. Its popularity has been linked to psychological research and media coverage suggesting that a high degree of emotional intelligence can increase success in all areas of life (e.g. Gibbs, 1995). In occupational settings for example it is suggested that the concept of emotional intelligence may be used to inform development and selection procedures, understanding management styles and assess the behaviors and attitudes of individuals. There are three major models of emotional intelligence.

(i) Meyer and Salovey's ability model (1997) breaks down emotional intelligence into three components; the ability to perceive emotions, to use them to facilitate thought

and to understand and manage them (Meyer, Caruso & Salovey, 2000).

(ii) Bar-On's model (1997) groups skills under five headings: intrapersonal, skills, interpersonal skills, adaptability, stress management ability and general mood.

(iii) Goleman's Model (1998) is based on five core concepts:

1. Emotions play a far greater role in thought, decision making and success in life than is commonly acknowledged.
2. Emotional intelligence is an innate human capacity. We are all born with varying degrees of emotional intelligence.
3. Emotional intelligence involves the ability to be self-aware and aware of others, to empathize with others and understand their point of view and to be able to communicate effectively given one's understanding of others.
4. Emotional intelligence can grow and strengthen with nurturing and training.
5. Emotional intelligence has become an increasingly important human quality for people working in whatever capacity but particularly in leadership in today's world.

In subsequent work, Goleman (1998) defined two major areas of Emotional Intelligence: Personal Capacities and Social Capacities:

Personal Capacities: emotional self-awareness, accurate self-assessment, self-confidence, empathy, organizational awareness, and service orientation.

Social Capacities: self-control, trustworthiness, conscientiousness, adaptability, achievement orientation, initiative, developing others, inspirational leadership, influence, communication, change catalyst, building bonds, teamwork and collaboration.

Coaching Applications

· **Engage your client in 'what if' situations.** Talking about an imagined scenario can allow him to imagine how he might feel and rehearse different ways of reacting. It can help him to anticipate possible situations and explore a range of emotional responses.

· **When you are working with a client on developing self-awareness and awareness of others, consider some of these activities:** Invite her to ask her boss, a peer, and a direct report to give feedback on her strengths and weaknesses; have her list the most important people in her working life and describe their strengths, their weaknesses, and what they need from her; ask her to focus on an emotion that she struggles with – depression, anger, anxiety – and record it at regular intervals during the day, together with any cause or content associated with it, as a basis for later coaching discussion.

· **Recognize that organizations may still test for IQ or cognitive ability rather than EQ and other intelligences.** Reassure a client who faces an IQ or cognitive ability test as

part of a job interview that he can prepare for this, just as for any other part of the assessment process. There is plenty of evidence that practice improves results.

Additional Reading

Caruso, D & Mayer, P (2008). Coaching for emotional intelligence: MSCEIT. In J. Passmore *Psychometrics in Coaching*. (pp153-170) London: Kogan Page

Goleman, D. (1998). *Emotional Intelligence: Why it can matter more than I.Q.* New York: Banham.

Social Intelligence: Karl Albrecht

Social intelligence is a concept built on the theories of Gardner and Goleman, authors who have legitimized the concept of multiple intelligences and helped in the understanding that intelligence is much broader than previous research believed and that traditional education has rewarded. According to Albrecht (2006) social intelligence simply put is the ability to get along well with others and to get them to cooperate with you.

Albrecht's theory describes the components of externally orientated competencies, differing in this from Goleman's early work, which focused on internally orientated competencies. Five dimensions or categories of competence make up Albrecht's theory of social intelligence:

1. Situational Awareness: our ability to read situations, to interpret the behaviors of other people in these situations, discerning their possible intentions and emotional states, and the ability to interact with them.

2. Presence: a range of verbal and nonverbal indicators, including appearance, posture, voice and subtle movements that communicate who we are.

3. Authenticity: signals others pick up from us that help them judge whether or not we are honest, open, ethical, trustworthy, and well-intentioned.

4. Clarity: our competence in explaining ourselves, illuminating ideas, articulating our views, and so on, in an effort to get others to cooperate with us.

5. Empathy: an emotion beyond sympathy; a shared feeling between ourselves and others that creates a connectedness with another person.

Albrecht proposes a series of situational skills exercises to develop social intelligence (pgs. 66, 85, 105, 156):

· Study the proxemic contexts you find yourself in. How does the physical arrangement

of space and structure influence the way people behave? Who sits where in the business meeting? How does the arrangement of someone's office communicate status or authority?

- Study the nonverbal signals people use to define and reinforce their relationships. How does the boss convey authority or approachability? How do people signal deference toward others in authority or of higher status?

- Ask one or more close friends, preferably individually, to share with you the impressions they got when meeting you for the first time. This might also be a way to gently invite them to share with you any aspects of your interaction they feel could be improved.

- Keep track of situations in which others try to induce you to act in ways that contradict your personal values. How did you react? How did you, or didn't you, assert your right to behave authentically?

- Write a personal mission statement that explains to yourself why you think you're on the planet, what your priorities are, and what you want to do to make your life meaningful. Keep revising it until it expresses what your life is all about. Then type it and print it out; put it up on your wall or on your refrigerator and read it every day. Ask yourself: Am I living the mission I want to live?

- Study a person who seems to connect with others easily; make a list of specific behaviors you observe that seem to attract others and invite them to connect on a personal level.

Coaching Applications

To help a client raise situational awareness, have him describe in writing his boss, co-workers, direct reports. Have him consider: *What are these people like? What motivates them? What brings them satisfaction? What do they need from me?* The process of reflecting on these questions will help him become more aware of the people he comes into contact with every day.

- **Ask your client to describe what people think of her.** Encourage her to see herself from the point of view of an observer.

- **Have your client interview the individual with whom he has the most problems.** Work with him on compiling a list of interview questions that will help him understand the individual better.

Suggest any one of Albrecht's situational skills exercises to your client

Additional Readings

Albrecht, K (2006). *Social intelligence: The new science of success*. San Francisco: Jossey-Bass.

A thorough introduction to the understanding and emergence of social intelligence in practical and interesting terms.

Triarchic Theory of Intelligence: Robert Sternberg

Sternberg (1985) defines intelligence in terms of the ability to achieve success in life based on one's personal standards and within one's sociocultural context. Achieving success involves capitalizing on one's strengths, and correcting or compensating for one's weaknesses. A balance of analytical, creative and practical abilities enables the individual to adapt to, shape, and select his environment.

Culture determines what comprises intelligence. Solutions to problems that are considered intelligent in one culture may be different from those considered intelligent in another. However, the mental processes needed to reach these solutions are the same.

According to triarchic theory, intelligence has three aspects: analytical, creative, and practical. With our analytical intelligence we analyze, evaluate, judge, compare and contrast. It helps us with problems of a more abstract kind where some level of detachment is appropriate. IQ tests and other conventional tests of cognitive ability focus on this capacity. Creative intelligence involves the ability to respond with insight to novel situations and stimuli. It enables us to make connections between our internal world and external reality. Compared to analytical intelligence, creative intelligence is more specific to particular areas of activity. You might be significantly more creative in one area than in another. With our practical intelligence we tackle the kinds of problems that confront us in daily life, at home or at work. The capacities involved in such activities are described by Sternberg as tacit knowledge – things we know, though we have never been explicitly taught or even verbalized. Practical intelligence tends to increase with age, depending on how effectively we are able to learn from experience. Sternberg's Multidimensional Abilities Test measures all three intelligences on separate scales.

Coaching Applications

Encourage your client to value her own kind of intelligence. It can be reassuring to know that intelligence is multi-faceted and can vary from one culture to another. Ask her write down the particular kinds of intelligence in which she excels.

· **_Challenge your client to recognize the various kinds of intelligence exhibited by others.** We can be impatient with people who have difficulty with tasks that seem simple to us, and can overlook abilities that we're not used to valuing.

Additional Reading

Sternberg, R.J., & Sternberg, R. (1997) *Thinking styles*. United Kingdom: Cambridge University Press.

This book is a highly respected resource in understanding how people think and learn. It is insightful and provocative for the coach or client.

References

Albrecht, K (2006). *Social intelligence: The new science of success*. San Francisco: Jossey-Bass.

Bar-On, R. (1997). *Bar-On Emotional Quotient Inventory (EQ-i): technical manual*. Toronto, Canada: Multi-Health Systems.

Binet, A., & Henri, V. (1896). La psychologie individuelle. *L'année Psychologique*, 2, 411-465.

Boring, E. G. (1923). Intelligence as the tests test it. *New Republic*, 35, 35-37.

Carroll, J. B. (1993). *Human cognitive abilities: A survey of factor analytic studies*. New York: Cambridge University Press.

Cattell, R. B. (1963). Theory of fluid and crystalized intelligence: a critical experiment, *Journal of Educational Psychology*, 54, 1-22.

Caruso, D. R., & Mayer, P. (2008). Coaching for emotional intelligence *MSCEIT*. In J. Passmore (Eds.), *Psychometrics in Coaching* (pp. 153-170). London: Kogan Page.

Gardner, H. (1983). *Frames of mind*. New York: Basic Books.

Gibbs, N. (1995, October). The EQ factor. *Time*, 146(14), 60-68.

Goleman, D. (1998). What makes a leader? *Best of Harvard Business Review*. January, 2004.

Goleman, D. (1995). *Emotional Intelligence: Why it can matter more than IQ*. London: Bloomsbury Publishing Plc.

Herrnstein, R. J., & Murray, C. (1994). *The Bell Curve: Intelligence and Class Structure*. New York: Free Press.

Mayer, J. D., Caruso, D. R., & Salovey, P. (2000). Selecting a measure of emotional intelligence: the case for ability scales. In R. Bar-On, & J. D. Parker (Eds.), *The handbook of emotional intelligence* (pp. 320-342). San Francisco: Jossey-Bass, Inc.

Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), *Emotional development and emotional intelligence: Implications for educators* (pp. 3-31). New York: Basic Books.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, cognition and personality*, 9(3), 185-211.

Sternberg, R. J. (1997). The concept of intelligence and its role in lifelong learning and success. *American Psychologist*, 52, 1030-1045.

Thurstone, L. L. (1931). Multiple factor analysis. *Psychological Review*, 38, 406-427.

Wechsler, D. (1940). Non-intellective factors in general intelligence. *Psychological Bulletin*, 37, 444-445.