

Do IQ tests help to identify the best performers?

By Dr. Dennis Garlick

We all know IQ tests. Love them or loathe them, they are still often a part of assessment in the workplace. Performing well on an IQ test can be the difference between getting hired or not, or getting that promotion. But this represents a danger to businesses as well. Critical decisions are being made based on tests that measure underlying constructs that are not well understood. How much value should be placed on performance on an IQ test? Only by understanding what IQ tests measure, can their appropriateness be determined.

What do IQ tests measure?

At their core, many intelligence tests measure the ability to “understand”. Take word analogy problems like Kitten is to Cat as Puppy is to _____. Solving this problem involves understanding the relationship that is in common between Kitten and Cat, and Puppy and Dog. Solving number series like 3, 6, 9, 12, _____ involve understanding the general pattern of the numbers and then applying this general pattern to determine the next number in the sequence. In short, performing well on tests like these involve understanding general principles that can be applied across different situations.

Think of a “bright” or “smart” person in the office. You know that they will be able to understand most ideas or concepts that you explain to them. Often, they need very little training, and can generalize their knowledge from one situation to another. They don’t need to be given specific instructions for every task. Instead, training will consist of a few abstract goals, and then they will employ different actions in different situations to flexibly attain those goals.

When assessment tests are given to different people, it is often found that the some are consistently good at understanding. This can be true even when the situations are quite different, like the word analogy and number series problems given above. People who do well at the word analogy problems also tend to do well at the number series problems. How the human brain is able to do this has been one of the key questions that psychology has faced. Statistics have shown that people who perform well on these types of items also tend to perform well in job situations that involve understanding. This is what makes IQ tests useful.

Recent Advances in the Brain Sciences

When we hear that someone has a high IQ, it is tempting to think that their brain has some “magical” ability to understand or solve any problem. However, it is found that understanding in adulthood is due to the connections between the neurons. But it is not simply a case of having more neural connections. In fact, the opposite is true: people with higher IQs will actually have fewer connections! Having fewer connections means that irrelevant information can be filtered out, and this enables commonalities to be seen across situations.

The brain gets fewer connections through childhood experience. The connections are gradually pruned over childhood in response to experience. In other words, the ability to understand is due to a learning process. Experience with relevant abstractions in childhood leads to the ability to understand those abstractions in adulthood. Some people’s brains are better at this process than others, and this leads to them having a higher IQ.

IQ vs. Experience In The Workplace

But what if a high-IQ person has not had relevant childhood experience in a domain? While they may score high on an IQ test, their brain will not have the right connections to understand the domain. This means that they will need to memorize appropriate steps and procedures, just like someone with a lower IQ who also lacks relevant experience.

Conversely, what if someone with a lower IQ *does* have relevant childhood experience? Imagine if someone with a lower IQ grew up selling goods on a street corner and interacting with customers, while someone with a higher IQ who spent all of their childhood at home studying. In this case, the person with the lower IQ is likely to perform better in sales and marketing positions and relating to customers. While the higher IQ child may have had greater potential, their lack of experience prevented them from turning this potential into ability. In these cases, the IQ test does not help to identify the best performers.

Implications for Assessment

What this tells us is that IQ is not a direct measure of the ability to understand. When a job requires skills such as those involved in schoolwork, a higher-IQ person may perform better on evaluation. However, in other situations, using assessments that mirror on-the-job tasks are likely to be the most accurate for gauging specific workplace requirements and future potential. So while IQ tests can be effective, care needs to be taken with using them. Only in some situations are they helpful.

*Dennis Garlick received his Ph.D. in psychology in 2003 and is currently a postdoctoral researcher at the University of California, Los Angeles. His new book, **Intelligence and the Brain: Solving the Mystery of Why People Differ in IQ and How a Child Can Be a Genius** has been lauded as a major scientific advance, finally providing a convincing explanation of how the brain works and why people differ in IQ. He is also available for speaking and consulting. More details about his book and his contact details are available at www.intelligenceandthebrain.com*