

# First, Know Thyself. Then, Pick a Career Path

*The potential of helping students see their potential*

BY MICHAEL J. PETRILLI

**A**T THE END of high school, most graduating seniors are given their diplomas with a heaping side of platitudes, many of them patently preposterous. Such as, “If you can dream it, you can do it.” Or “You can be anything you want to be.” And especially, “With grit and determination, there’s nothing you can’t do.”

The problem isn’t encouraging young people to aim high or dream big. It’s pretending that each of us is a blank canvas. I can dream all I want of becoming the next Michael Jordan, but my five-foot-seven frame and general lack of coordination say otherwise. Better advice came from the Greeks almost 2,500 years ago: “To know thyself is the beginning of wisdom.”

Socrates isn’t giving many graduation addresses these days. Yet this wisdom is at the heart of a new generation of aptitude assessments intended to help individuals, including middle- and high-school students, understand themselves better. These computer-based assessments, such as YouScience Discovery and the updated Ball Aptitude Battery, are designed to identify strengths and talents and point to how those might map onto promising careers. Such personal inventories could help accelerate the shift away from the “college for all” mania that has gripped American education for the past 30 years, toward a system more balanced between college and career.

## An Activities Buffet

To be sure, most parents already expose their kids to lots of different activities to figure out what sparks an interest. Is my kid more of a team sports person, or someone who might prefer an individual pursuit, like playing the piano? Is their idea of a perfect day getting to hang out with friends, or sitting on the couch reading a book? When they are immersed in the world of screens, what kinds of games and activities most light a fire?

Similarly, American high schools offer a smorgasbord of sports, clubs, and other extracurricular activities to encourage experimentation and help students find a good fit. These also can help them gain some real-world skills and perhaps kickstart thinking about how they might apply their strengths and interests to a vocation. Still, the default assumed goal for teenagers is college, with or without a specific career in mind.

There are also more direct ways to help students explore career possibilities. I recall taking a diagnostic assessment in high school, more than 30 years ago, that was designed to help us figure out our job interests; such assessments were ubiquitous at the time. This particular questionnaire tried to ferret out whether we were more drawn to people, ideas, data, or physical objects. Would we prefer to spend our time in lots of brainstorming

sessions, it would ask, or taking apart an engine? Then, based on our answers, it spit out a list of jobs that might be a good fit.

It was better than nothing, but it’s not hard to identify myriad problems with such an approach. First, we humans are great at deluding ourselves, all the more so when we are young. In my case, the results indicated a strong interest in ideas and people, and a clear disinterest in data and things. That wasn’t entirely off the ball—as the president of a think tank, I produce ideas for a living. Meanwhile, I can’t put together a piece of IKEA furniture to save my life. Truth be told, however, I’m more introverted than I wanted to admit to myself back then, and can only handle a certain amount of time around other people on any given day. And while I thought it was nerdy back then, I do enjoy a good spreadsheet.



ISTOCK

Because of these self-delusions, that old diagnostic tool encouraged me to become a high-school history teacher—which I actually tried as a student teacher, and mostly failed. I enjoyed creating lesson plans, but I found it exhausting to be around kids all day and longed for some time alone. I hadn’t been honest with myself, or the test, about my interests or even my traits, and it showed. Personality inventories, like the Myers-Briggs Type Indicator, exhibit some of the same problems. Maybe you really are an introverted intuitive or an extroverted judger—or maybe that’s just a reflection of the person you wish you were.

Then there’s the problem of bias. It’s hard for kids to project a potential interest onto a career with which they have no experience. If you don’t know anyone who’s an engineer, engineering isn’t going to spark much interest. It’s like asking a kid if they might enjoy playing lacrosse when they’ve never even heard of it, much less seen someone playing it. Not surprisingly, then, the old-style interest inventories can steer poor kids away from certain high-paying jobs. They also tend to exhibit gender biases.

## Aptitudes Versus Interests

A new generation of assessments promises a better approach. Instead of assuming that individuals already know themselves, it puts them through a series of exercises to gauge what they're actually good at. Many are based on the work of the Ball Foundation, founded by Carl and Vivian Elledge Ball. In 1981, the couple published a set of 16 ability tests designed to identify aptitudes across a range of domains, such as analytical reasoning, short-term memory, eye-hand coordination, and vocabulary. Aptitudes, in the Balls' way of thinking, can be thought of as an individual's unique potential—"how quickly and easily a person will be able to acquire particular skills" and "the level of proficiency that the person can expect to reach, given comparable opportunities for training and practice."

Now a new set of organizations is building on the Ball Foundation work, often with the help of artificial intelligence, to design assessments that they claim are highly effective at pinpointing people's aptitudes and matching them to potential careers. Most are focused on employers, offering assessments that can be given to applicants to see if they are a good fit for a particular opening. But a few are targeting the K-12 world.

One such assessment is by YouScience, in use in 7,000 schools nationwide. Founded by serial entrepreneur Edson Barton, the company offers aptitude assessments for middle- and high-school students. The "snapshot" assessment for 7th- and 8th-grade students is designed to be more exploratory, while the "discovery" assessment for high-school students is more in depth.

My 14-year-old son and I both took the YouScience 90-minute "discovery" assessment, which the company prefers to call a series of "brain games." Almost all of the items were nonverbal and designed to tease out "inherent talents," as Barton put it—strengths that are independent from traditional measures of academic achievement. Right-or-left-handedness is a good analogy. As he explained:

We all have a dominant hand that we use. Whatever your dominant hand is, you end up being able to do things more naturally with it. It comes more naturally to write my name with my right hand. As I pick up painting, try to play the piano, that natural ability makes it easier for me to pick up on certain things using my right hand. That's not to say I can't use my left hand. I do it all the time. If I really focus myself, I could write just as well with my left hand as my right hand, but it's painful, it hurts, it takes mental exertion. It's a beautiful spot when aptitudes and interests and skills evolve into something wonderful.

Whether it's possible to untangle aptitudes from achievements goes over the head of this particular columnist, but

it's an intriguing possibility.

The activities in the brain games varied. In one that supposedly tested my spatial visualization prowess, I was given a series of pictures of folded papers with holes punched into corners or other locations and asked where those holes would appear if the paper were unfolded. In a test of my idea-generation abilities, I was presented with a scenario out of science fiction (think alien landing) and asked to come up with as many ideas as possible for what it would mean for our society.

Another test measured my "visual comparison speed," or whether I could spot discrepancies in pairs of digits, while others assessed my inductive reasoning abilities and sequential and numerical reasoning. Within minutes of finishing the exercises, the system generated a 35-page "strengths profile," plus a list of well-matched careers.

The promise, according to Barton, is that students will see career paths for themselves that line up with their aptitudes and are free of the race, class, and gender biases that tended to plague

old-style interest inventories. Because the assessment focuses on potential, rather than achievement, the results often tell kids about strengths in areas the children had thought were weaknesses.

The YouScience results, in particular, tend to identify lots of people who would have potential in STEM fields and other high-paying careers. For example, in a sample of 3,000 Tennessee students, just 9 percent of females expressed interest in technology careers like engineering and computer programming—but 64 percent have the aptitudes associated with those careers, at least according to YouScience's assessment.

Indeed, my son and I were both surprised that several jobs popped up for us that were quite techy, even though we view ourselves as more history professor types. But maybe there's something to it. I must have done OK on the sequential and numerical reasoning questions, at least in comparison to the typical high schooler, and as a result jobs like "economist" popped up for me. Though my teenage self may not have imagined it, it's true that there are days when I like nothing more than to immerse myself in test-score data, looking for patterns that others might have missed. More important: The results have given my 14-year-old son some new possibilities to consider for himself.

## The Problem With Potential

Understandably, YouScience strives to make the experience and the resulting "strengths profile" as positive as possible. The post-assessment report doesn't harp on what kids are not good at and also doesn't tell anybody that the best fit for them is an unskilled, low-wage job. The 500 careers in its database all require at least some post-high school training. The hope is that focusing on students' strengths will motivate them to put in the hard work it will take to fulfill their potential, said Lesley Vosenkemper, the

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company's vice president of strategic initiatives. "We know that motivation is a big part of achievement," she told me. "If students see they have the ability, they may put in the effort."

That's all well and good, but I worry that this is yet another example of us in education not wanting to level with kids about what's feasible for them based on their level of academic achievement. Aptitudes show potential, but people can only realize their potential if given the opportunity for training and practice.

Sadly, we know that many young Americans today do not have the opportunity to reach their potential. Difficult early-childhood experiences and poor instruction in elementary and middle school cause many students to arrive at high school desperately behind in basic skills. I worry that giving underprepared students a report about their aptitudes and career potential without shoring up the basics could amount to false hope. A student might be told, for example, that they have the aptitude to make a great computer engineer. What they won't be told is that a failure to

master math facts in elementary school, or a weak foundation in algebra, or inability to pass calculus amount to high barriers that will be difficult to overcome.

The lesson, as is often the case, may be that we need to start earlier. So let me offer a suggestion for anyone preparing to congratulate a kindergarten graduate. Please tell those little tykes' parents that one of their most important jobs is to help their children figure out who they are and what they are good at. And that another critical job is to watch like a hawk for any signs that their children are struggling academically and, if so, to do something about it—the sooner the better. That's the kind of message that might actually allow kids to reach for the stars.

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## SCHOOL LIFE

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new. And then we were coming in saying, "This is really how you teach reading." And we had teachers coming out of the professional development who actually were in tears, saying, "I feel like I failed all these kids I've had before me." Our point was, no, move forward. You can't change the past, but you can affect the future by doing exactly what you need to be doing. So, part of it is a give and take. But when it comes to students and what they need, I stand firm.

**How about your schools of education? In the ed reform era, I feel we've given ed schools a pass, assuming there's not much we can do to improve the preparation of teacher candidates.**

I have found the institutions of higher learning slower to move and change than I think they should be, because "this is the way we've always done it." And you've got professors at some universities who are still wedded to the whole-language method of reading instruction. We've tried to work with them over the years, and I think we've made some progress. But in my policy role, I realized, you know what? We have the authority to approve their programs, so let's do that. Let's evaluate their programs. And everybody came to the table. I think one came kicking and screaming, "How dare you mess with my ed prep program?" But I've been pretty public about this. I don't think it's fair for people to pay for a four-year degree, and then the state has to come in behind it and pay for more professional development to get them to where they need to be on day one. Students coming out of ed prep programs, in order to be licensed in the state of Mississippi, have to pass what's called a foundations of reading assessment based on the science of reading. I want to find out what's the first-time pass rate by educator prep program. They don't want us to publish those data, but to me the data are what the data are. So that's one thing I've been talking to the team about. Let's figure out how we can get this together and get this published.

**Is that going to happen?**

I think so.

**What was your biggest mistake? Anything you did badly? Or didn't do and wish you had?**

I will be frank with you about my biggest mistake: I was very naive. It was 2016, I think, and I'd been in the job for a couple of years. The U.S. Department of Education, at the time, would send out what they call "dear colleague" letters to the states with updates and new information. Typically, what I did was take these letters and push them to the districts and say, "Here's what we're getting from USED." No comments about it, just "here it is." Then I got one that came jointly from USED and the Department of Justice on LBGTQ guidelines, which I sent out. I was not prepared for the response, "How could you put this information out there?" It became known as the "Bathroom Letter," [which stated that DOJ and DOE should "treat a student's gender identity as the student's sex for purposes of Title IX and its implementing regulations"].

Even the governor was asking for my resignation over passing along this letter. That was a lesson to me about being more conscious of the political environment. But it stunned me, because I don't discriminate when it comes to children.

**What's your parting advice to your 49 colleagues?**

Stay focused on children and their outcomes, and keep looking at the data to make sure you are doing exactly what you should be doing to give every child access to as many different opportunities as possible. I used to tell my teachers when I was a principal, I want you to treat each day like this is the only day they've got, because when the bell rings at the end of the day, you can't get this day back. And so, what are we going to be doing each and every day to make sure we're doing the best for children?

*This edited interview originally appeared on the Fordham Institute's Flypaper blog. It is also available at [educationnext.org](http://educationnext.org).*