

School Psychology in Illinois

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School Psych Tech

Q-interactive and Digital Assessment

By Kurt Wagner, Technology Committee Co-Chair

Change is an interesting thing. As I dug through ancient files in the Special Education office a little ways back, I found an old Slosson IQ finder – a printed sheet of cardstock with a spinning wheel. Just line up the chronological age with the mental age, and hey, presto, there's the IQ score! I chuckled when I recognized what I was looking at. This was the pride of a great deal of work, a sanity-sparing time-saver for many psychologists at the time, but has been completely surpassed in accuracy, ease, and efficiency. Pearson's Q-interactive is the first of an entirely new method of psychological assessment that will take assessment as far beyond traditional test kits as we have moved beyond an IQ finder.

Let me first say that I am not a salesman for Pearson, no matter how much the rest of this article may sound like a pitch. I have no doubt that any company that successfully interfaces with school psychologists has to carry a high level of professionalism. But just one quick shameless plug: from where I stand, Pearson was best positioned, first to development, and definitely most connected specifically to school psychologists in the development of Q-interactive, their version of the next generation of psychological assessment. More on that later. *[Disclosure: Pearson supplied me with 2 iPads and related accessories for the purpose of beta testing unrelated to this product review].*

Here's what you need to know: *it is no longer a wise long-term investment to buy standalone test kits.* Sure, it may be necessary a few more times while digital assessment development really fills in all the gaps, but psychological assessment has taken an irreversible step forward. State of the art has, until this point, been comprised of administration instructions, stimulus materials, and manipulables that are as well organized and easy to use as possible. I speak here of reducing basal and ceiling requirements, simplifying reversals, including instructions on protocols, doubling the stimulus book as a view-blocking easel, or including a scoring profile on the protocol. Each of these incremental steps made test administration a little easier, and gave us just a little more freedom to pay attention to the *child*, not the test.

But change was slow, and there were clear limits to how easily navigated an easel could become while minimizing material cost. (My case in point is my frustration with trying to locate some stimulus pages in the WIAT-III, with some subtests on one side, others on the reverse). Enter the new technological mindset: don't try to make a standalone *product* – instead, grant users access to an ongoing *process*.

The best example of this mindset to date is AIMSweb. A district brand new to using AIMSweb can use normative comparison data from across the country and make fairly effective decisions using a method that seems



Image Provided by Pearson

An example of the Q-interactive process.

very similar to assessment using a published test. But the true advantage of AIMSweb is that a district's participation makes it possible to generate local norms to supplement national norms. Furthermore, AIMSweb's materials, norms, and interface can all be updated on a much more regular basis than many other forms of assessment.

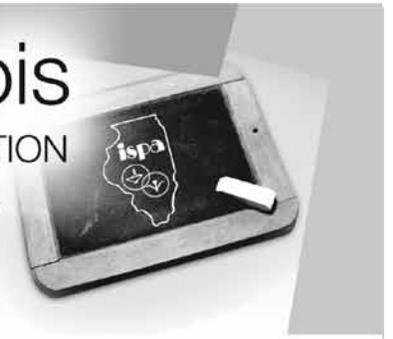
Q-interactive goes a step further than products like AIMSweb in that it is a model for a completely self-contained assessment system. Instead of a kit for each test, as well as protocols and manipulables, an entire library of assessments will be available on just two digital tablets. For now, due to technical requirements, Q-interactive is available on the Apple® full-size iPad®. As digital tablet technology advances, Q-interactive will be available on other digital devices. Set one iPad as your easel, the other as the stimulus, and all of your training in delivering quality assessments transfers directly into a far superior method for test administration. In the process of planning the assessment, specific details such as start points, basals, reversals, and ceilings are programmed into the administration workflow. You as the administrator need to be familiar with scoring decisions for any given item, but once you master the look and feel of administration with Q-interactive,

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you will have very little difficulty learning how to use the system for a different test.

For this first step forward, Pearson has gone through intensive equivalency studies. These equivalency studies report “digital effects” effect sizes generally less than +/- 0.2, suggesting the Q-interactive version of translated tests closely replicates the paper protocol version both in appearance and psychometrics (Cayton, Wahlstrom & Daniel, 2012). There is, of course, an impact on scores; FSIQ scores on the WAIS-IV are 0.1 points lower and 1.5 points higher on the WISC-IV). As a practitioner no longer bound by a discrepancy model, I can very comfortably live with this level of variance while digital assessment is in this intermediate stage of development.

As the Q-interactive platform and competitors’ products (like PAR’s iConnect) come to dominate the market for assessments, assessments will eventually be designed specifically for the digital medium. These second-generation digital assessments will likely include very few consumable materials (protocols, examinee materials, or manipulables), which will make you, as the administrator, able to give more assessments with fewer materials. These assessments will also be normed exclusively for the digital environment, eliminating just about any remaining argument against their adoption.

Another major benefit of a shift like this is that we as practitioners have a vastly expanded ability to provide feedback on the usability of testing materials. I want to talk briefly of my experience in working with Pearson, not to brag, but to illustrate what I regard as the single greatest feature of a new technology like this – the people behind it.

Several years ago, chance had it that I started writing this column. The first iPad had just come out, and it didn’t take long before the notion occurred to me: wouldn’t it be cool if I could use this in testing? I only had a vague idea of how it would work, but it made sense. When offering choices (such as in Matrix Reasoning), why not have a touch screen that automatically captures a student’s response and scores it? When soliciting verbal definitions (like in Vocabulary), why not have a voice recorder automatically click on?

I began asking about this idea with vendors at the ISPA Fall Conference. When I came around to Mike Suess, Regional Manager for Pearson, he gave me that trademark Mike Suess “I know something you’d love to learn about” look and took my card. A short time later I was asked to participate in a focus group about digital assessment, and for three hours had a grin stuck on my face. Pearson had already anticipated and begun development on the use of touch screen tablets in assessment.

About a year later, Mike connected me with official beta testing of what was then called “eClick,” now Q-interactive. I came to find out that between myself and Patrick Abraham (ISPA Region 2 Director, colleague, and friend), we were 2 of possibly 60 people in the United States with access

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In addition to freeing the practitioner from transporting administration and technical manuals and maintaining inventories of record forms, the digital version eliminates the need to memorize start points, reversal rules, basal rules, and discontinue rules. It also eliminates the need to calculate raw score totals or find the right table to convert raw scores to scaled scores or index scores.

- (Cayton, Wahlstrom, & Daniel, 2012)

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to this technology. For development of a brand new way of administering psychological assessments. With a global titan of test development and publication. I’m still not sure if my ego has returned to baseline. By the end of beta testing, Patrick and I were 2 of 10. Again, I say this not to brag, but to brag about Mike Suess and Pearson. Patrick and I were brought in as a couple of school psychologists with little to set us apart from the outstanding practitioners in our field and in our state, other than we had the good luck to have had some basic interest and some passing conversations with the right people at the right time.

I remind the reader of my disclaimer that this is not a sales pitch for Pearson. However, here’s what impressed me: a passing conversation in 2008 led directly to participation in cutting edge research and development. In short, Pearson listens. They have people like Mike who not only are masters of the field, but who draw on the experience of what I’ll humbly call “typical” practitioners. Not only did Mike listen and take some feedback, but he also connected us to the core of Pearson’s research and development for this project. We were given all the equipment we needed to put Q-interactive to the test in the school setting and essentially try to “break” the programming by identifying flaws. On a regular basis, the development team would fly in from as far as New York, California, and Texas just to meet with a couple of school psychs who practice out in Crystal Lake, IL (which, for as proud as I am of my district, isn’t exactly on the map). *That’s* how valuable our feedback was to Pearson.

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I say all this to point out what “hidden” features you will access in a tool like Q-interactive. Yes, it’s intuitive; yes, it will increase your efficiency (Patrick and I figure you will shave up to about 30% of your set-up, scoring, and collating time); and yes, it is majorly awesome to have a pair of iPads instead of a dusty set of stimulus books. The main point, however, is that administering tests via digital assessment will begin a shift toward continuous improvement of administration, of the frustrations of tests, and normative data. And unlike the tech support behind things like online IEP systems (shudder the thought), Pearson is intensely aware of the need for accuracy and precision, as opposed to just technical functionality. They understand the clinical and ethical impact of, for instance, a programming glitch that calculates the wrong Standard Score. They understand the ethical need for highly secure personal and confidential data (local iPad data is encrypted, Bluetooth communication between the iPads is encrypted and uses only filename tags, all network communication is through SSL, and data stored in Q-interactive Central is secured in encrypted databases).

Here’s what you’ll see with Q-interactive: on your laptop, desktop, or tablet, you’ll set up your assessments through Q-central – an online portal that will help you enter demographic information, choose test batteries, and pre-select test administration order (if conducting a non-standard administration). Synchronizing this assessment battery to your iPad is as easy as clicking a button. When you open Q-interactive on your examiner iPad, it will pull the assessment and be ready to go. During administration, you do not need to be connected to the internet. Tests are administered identically to traditional formats, with the exception of your navigation. You won’t need to focus on start points, basals, reversals, or ceilings, although you may override these in order to test limits. Swiping the screen advances to the next item or subtest. Scoring is often as easy as tapping a point-value button (i.e., 0, 1, or 2 point response). The only exceptions are those subtests that require you to use paper (e.g., Coding, Symbol Search, Cancellation). The Q-interactive workflow is designed to allow you to review the entire administration, portions, or items as you choose. All verbal response subtests automatically capture audio for your review, and these subtests also include verbatim recording areas on the examiner screen (an area for notes is accessible during *any* subtest as well). One note on reviewing scores: audio recordings are not uploaded to Q-central, so you will need to be sure to review these on the iPad itself. Once finished with your review, synchronize the assessment and through Q-central you will have access to all the same score charts as on the profile page of your paper protocol.

Overall, I’m not an advocate for quickly adopting new technologies. If the iPad were an unpopular device, if psychological testing was completely passé, and if test publishers weren’t going to move in the direction of digital assessment, I would suggest you pass on Q-interactive and similar technology. As it stands right now, the technology has passed a certain threshold of usability and forward compatibility to ensure that it will be in use

DIGITAL ASSESSEMENT

PROS

Initial cost of accessing a test is much less than purchasing a kit

Uses technology many districts are likely to have or consider

Fewer test administration materials (test kits, protocols, etc., stopwatch, voice recorder, etc.)

Common interface across tests – minimizes learning curve

Integrated process of administration, scoring, and interpretation

Less emphasis on memorizing start points, basals, reversal rules, ceilings

Greater ability to attend to test session observations

Easier to record examinee input

Saves time/increases efficiency (the savings of which can quickly offset purchase price)

Potentially vast improvements in training new test administrators

CONS

Requires higher front-end cost (purchase of two iPads)

Currently intended to parallel printed tests, so measurement varies slightly

Possible networking difficulties – connecting iPads to school network

Handwriting on iPads (verbatim responses, observation notes) can be difficult to master

in some format for a fair amount of time to come. Particularly for practitioners who already have access to iPads, the next month or two are going to be an excellent time to start learning how digital assessment works (look for more information at NASP or contact Mike Suess to attend the Q-interactive workshop hosted at The Chicago School of Professional Psychology on March 22). Even if you do not already have iPads for your work, the cost of a school buying iPads is ultimately recaptured in the efficiency gained.

Digital assessment is very likely to be the majority, if not sole, method of test administration within the next few generations of test development. Aside from the concerns about cost – which we have about test kits as it is – and technical stability, which is continuously improving and far outweighed by other gains, the advantages of digital assessment far outweigh possible downsides. And, having seen development of Q-interactive from the inside, I can personally and professionally recommend early adoption quite comfortably.

To attend the TCS workshop on Q-interactive on March 22, contact Mike Suess at Michael.Suess@pearson.com.

References

Cayton, T. G., Wahlstrom, D., & Daniel, M. H. (2012). The initial digital adaptation of the WAIS-IV. In E. O. Lichtenberger & A. S. Kaufman (Eds.), *Essentials of WAIS-IV Assessment* (2nd ed.) (pp. 389-427). Hoboken, NJ: John Wiley & Sons, Inc.