# Cognitively SPEAKING

CogAT®

Why and How to Use Local Norms
by Dr. Joni Lakin and Victoria Driver

Why do schools need local norms?

Case #1 EWS

An *extremely wealthy suburb* (EWS) in the Northeast has a problem. They have *"too many gifted students"* in their second-grade screening. A fourth of their school meets the 95th national age percentile (APR) cutoff, which they expected to use to identify a much smaller pool of students for gifted and talented services. Their average **CogAT** *Standard Age Score* (SAS) on Quantitative Reasoning is **116** *(Figure 1)*, a full standard deviation above the national mean (nationally, **M = 100**, **SD =16**). In this neighborhood, parents are highly involved and have access to enrichment for their students as well as high quality preschool programs. Even preschool placement is competitive and test coaching for young kids is not uncommon.

National Mean = 100

Figure 1 EWS

95th percentile

School Mean = 116
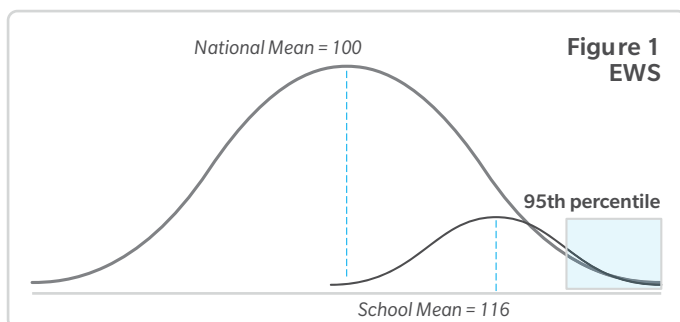
Case #2 RSD

A *rural school district* (RSD) in the Midwest has the opposite problem: there are *"no gifted students"* in their district at second grade. As with EWS, they wanted to use the 95th national percentile to identify students, but almost no students reached that cutoff *(Figure 2)*. In this area, preschool services are basic or non-existent. Parents are involved with their children, but the academic enrichment opportunities for young kids are rare and it is just not the custom for them to seek it out. The culture here is to trust the schools to provide appropriate education and not to see program placement as a competitive process.

National Mean = 100

Figure 2 RSD

95th percentile

School Mean = 98
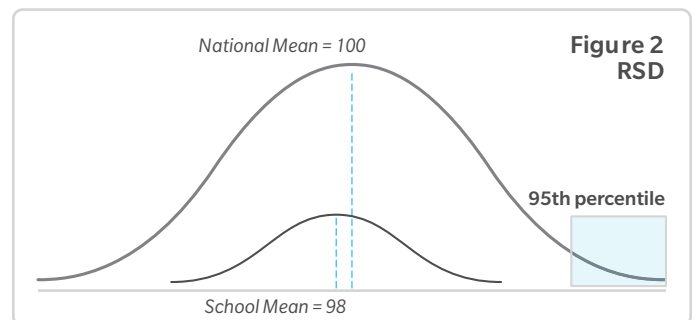
Should EWS just serve a huge number of students with their specialized programs? Should RSD save the money they would have spent on gifted education and focus on the basics?

Everyday Gifted and Differentiation

If you subscribe to an eminence-focused definition of giftedness (e.g. Subotnik, 2011), meaning that your services are only for students who perform at the top of the nation in academic ability, you might conclude that EWS does indeed have many gifted students while RSD has none. However, if you take the view that all students deserve appropriate challenge in the classroom (e.g., Borland, 2012), you would start to realize that many students in EWS performing at the 95th percentile will receive appropriate challenge in their regular classroom (where the average student has a 116 SAS). In contrast, many RSD students performing around the same level (116 SAS) would be bored and insufficiently challenged in their regular class-room at the rural school, where the typical student might be an ability of 100 SAS (50th APR).

Services for eminent levels of talent are important. There are many wonderful programs for the highly gifted that involve pull-out programs, specialized schools, and online resources. However, most public schools' gifted and talented services support what might be termed the **"everyday gifted student"** that fits Borland's conception of giftedness. This is the student who is bored in the regular classroom and who has talents that can be developed better by accelerated instruction or with differentiation from the standard curriculum. *The standard curriculum in their school is inappropriate for the everyday gifted student.*

Bringing local norms to EWS and RSD

If we start from the idea of serving the everyday gifted student in each school, it makes sense to look for the students who are most able in the *local population* (whether EWS or RSD), rather than comparing them to all students in the national population. In other words, these districts would benefit from using **local norms** to identify students whose academic talents require different levels of service and challenge than the typical student in their school. Local norms are based on comparing students only to other students at the same age or grade level **in their local district or even just their school building**. Thus, you can identify the top 5% of

students locally (i.e., the 95th local percentile) rather than using national norms that tell you which students are in the top 5% across the U.S. For both EWS and RSD, local norms would allow the school to manage the size of their gifted services population and appropriately tailor instruction to their local students.

How do I get local norms?

Riverside Insights will provide *Local Percentile Rank* (LPR) and *Local Stanine* (LS) for both paper/pencil and online *CogAT* testers.

Paper/Pencil

Paper/pencil testers can request LPR and LS for their reports via the *Order for Scoring Services* (OSS) form that is required when sending in completed *CogAT* tests. This is done by simply circling *"LPR"* and *"LS"* found in the *"Select Package Options"* box.

Online

Online testers will need to select local scores when setting up their test event in *DataManager*. In the *"Create a New Test Event"* window (*Figure 3*), select *"LPR"* and *"LS"* from the ABILITY SCORES drop-down menu and click *"Apply"*.

Figure 3: Local norms for online testing

Excel

If you're not comfortable with Excel functions, we have set up an Excel file that only requires you to paste in your student data to retrieve local percentile ranks (for Total scores or all three Battery Scores). It is available for download at **jonilakin.net** or through this link: **tinyurl.com/ExcelLocalNorms**

If you are comfortable with Excel functions, here are the steps to get local norms for any of the **CogAT SAS** scores (total, V, Q, N, VQ, etc.)

1. Open or create an Excel file with your local SAS scores in a single column.
2. Calculate the local average using **=AVERAGE(A:A)** where A:A is the column with the SAS scores.
3. Calculate the local standard deviation using **=STDEV.P(A:A)** where A:A is the column with the same SAS scores as step 2.
4. Now create a new column of scores that will be the local percentile ranks *(Figure 4)* using **=NORM.DIST(X,Y,Z,TRUE)** where X is the student SAS you are converting, Y is the local average from step 2, and Z is the result from step 3. *"True"* refers to the option to report cumulative percentile ranks, which we want. You can copy this function for the entire column to get local scores for all students.

Figure 4

Note that we convert student SAS rather than national percentile ranks. This method assumes you have normally distributed scores, which percentile ranks do NOT provide. You should also do these calculations separately for each grade level you are testing (or by student age in years).

Either approach will yield a list of percentile rankings that are based on your local population of students. If you consistently administer **CogAT** each year, you can also build a longitudinal dataset so that your local norms are consistent over time and not dependent on the students tested in any given year.

Will this help with diversity?

Occasionally educators and researchers will propose local norms as a strategy for increasing the diversity of students selected for gifted services. This is not necessarily going to be effective. Sometimes this claim is based on confusing local norms with sub-group norms. Sub-group norms are when normative scores (like percentile ranks) are calculated for students based on demographic groups. For example, the WISC-IV and WISC-V offer sub-group norms based on variables like parent education or years in U.S. education. These are very useful in identifying students from underserved groups for specialized services and we have provided resources on using sub-group norms in various resources (see *Resources*).

Local norms, on the other hand, keep all local students in one normative pool. If there are mean differences between the demographic groups represented in a school district (such as is commonly observed between racial/ethnic minority groups), these will be reflected in the local norms just as with the national norms. In other words, whether you use national or local norms, groups like Asian and white students will likely be overrepresented in the identified students.

One scenario where local norms can promote diversity is when there is marked demographic differences across school buildings within a district that leads to substantially different ability score distributions across schools. If some school buildings in a district have higher rates of poverty, then estimating local norms within school buildings will allow each school to identify students most likely to benefit from specialized services within that student population. This will avoid a situation like the case of RSD where some school buildings have "no gifted students", when the reality is that every school has students who require more challenge and accelerated learning than their school peers (and that the standard curriculum will offer). It will also avoid cases like EWS where many students are identified for services who would be adequately served in the regular classroom curriculum in their school.

Resources

Borland, J. H. (2012). *A landmark monograph in gifted education, and why I disagree with its major conclusion.* The Creativity Post. **http://www.creativitypost.com/ education/a_landmark_monograph_in_gifted_education_and_why_i_disagree_with_its_major**

Subotnik, R. F., Olszewski-Kubilius, P., & Worrell, F. C. (2011). *Rethinking giftedness and gifted education: A proposed direction forward based on psychological science.* Psychological Science in the Public Interest, 12(1), 3-54. **https://www.psychologicalscience.org/publications/journals/pspi/rethinking-giftedness-and-gift-ed-education.html**

Identifying English Learner Students for Gifted and Talented Programming – a short webinar on suggestions and research on ensuring that English Language Learners are appropriately challenged and supported **vimeo.com/410892787**

Dr. Joni Lakin is a Professor at the University of Alabama in the Department of Educational Studies. She worked on **both Form 7 and Form 8** of *CogAT*.

Victoria Driver, M.Ed., is the Director of Product Management for *CogAT*. She has worked in assessments, education and research at Riverside Insights for over 10 years.

Check out previous issues of *Cognitively Speaking* and view webinars on how to use *CogAT* results on **CogAT.com**.

For additional information, contact your Riverside Insights Assessment Consultant or visit us online at **riversideinsights.com/cogat.**

Connect with us:

Riverside Insights®