Connecting the Dots for English Language Learners: How Odds-Beating Elementary School Educators Monitor and Use Student Performance Data

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Abstract

This article reports on findings from a multiple case study investigating the nature of educators' approaches toward monitoring English language learners' (ELLs) performance and using data to improve instruction and apply appropriate interventions. Six New York elementary schools where ELLs' performance was better than predicted (i.e. odds-beating) based on student assessment data were studied. The analysis revealed that several strategies were common among the schools studied and were associated with the schools' better ELL performance outcomes. These include: 1) connecting instruction and interventions to "real time" data based on multiple measures of student performance including benchmark and formative assessments; 2) communicating performance via technology among teachers and with family members and legal guardians; 3) collaborating through routines among teaching and support staff as well as school and district leaders. Implications for district and school leaders and teachers are discussed. Implications for district and school leaders as well as teachers and other instructional specialists are offered.

How Odds-beating Elementary School Educators Monitor and Use Student Performance Data

New York is one of the top 15 states with the highest density of English language learners (ELLs) in its schools (Ruiz Soto, Hooker & Batalova, 2015); in the 2015-16 school year more than 200,000 students comprising over 8% of the total school population were identified as ELLs[1]. This number has increased 20% over the past ten years (New York State Education Department, n.d.) and reflects a nationwide trend toward more linguistically diverse classrooms (U.S. Department of Education, n.d.).

This study presents data which was gleaned in a larger study conducted in the 2015-16 school year in six odds-beating elementary schools identified for ELLs' above-predicted performance. The researchers focus on ways educators in odds-beating schools approached monitoring and using ELL's performance data since this was found to be an important factor related to better outcomes. Other findings and full case studies of the schools are available on the project website (see, Authors, n.d.).

While some ELLs arrive in school well-prepared to succeed, others have a variety of needs, social/emotional, physical, academic, and otherwise, that need close monitoring and appropriate and timely responses by teachers, as well as specialists and school and district leaders. By examining "odds-beating" schools (i.e. those with relatively better ELL performance outcomes taking into account school demographics such as poverty and diversity), this study sought to identify promising practices that support ELLs' success in school.

Related Literature

For this study the researchers briefly discuss the monitoring and use of data to improve instruction and interventions for ELLs. Performance data for ELLs falls into three main categories: language proficiency assessments, content knowledge assessments, and classroom-level assessments. Bailey and Carroll (2015) argue that "macro-level assessments," (i.e. standardized assessments that measure English language proficiency or content knowledge) are not meant to be used for instructional purposes and are inadequate for guiding instructional decisions. Rather, schoolwide and district-wide processes and practices that systematize teachers', specialists', and school and district leaders' use of formative data are associated with better student outcomes for all students (Authors, 2013: Stosich, 2016).

While macro-level assessments are necessary and fulfill particular needs for inter-school comparisons and trend analyses, research studies have indicated that formative assessment data is essential in facilitating teachers' use of effective instructional strategies and application of appropriate interventions for ELLs. As a number of scholars have expressed, (Abedi, 2010; Heritage, Walqui & Linquanti, 2013, Bailey & Carroll, 2015; Durán, 2008, Heritage & Heritage, 2011) frequent formative assessment are particularly important for ELL students as many undergo

[1]see https://data.nysed.gov/enrollment.php?year=2016&state=yes

significant change in their language competencies as compared to their monolingual peers in relatively short periods of time. Younger ELLs, in particular, may experience the language learning and socialization process especially quickly, requiring teachers to assess and adjust instruction frequently. In a study of four districts, Hakuta (2000) and her colleagues found that ELL students' oral proficiency improved much faster from grade one to grade three, than from grade three to grade five. A number of studies suggest that in general elementary-aged ELLs' learning patterns require teachers to pay close attention to their development by providing instruction based on constant monitoring of their performance (Hawkins, 2004, 2005; Oga-Baldwin & Nakata, 2014).

For formative assessment to be useful, research shows that several factors need to be considered. First, formative assessments, like all assessments, should be free of linguistic and cultural biases to provide an accurate measure of ELL's competencies and knowledge (Abedi, 2010). Second, English Second Language (ESL)/English New Language (ENL) teachers as well as mainstream classroom teachers and specialists need to understand how to create and use such formative assessments as well as provide feedback to ELLs that focuses on content and quality versus an over-emphasis on "surface" level language competencies (i.e. those that do not affect understanding of the intended message) (Alvarez, Ananda, Walqui, Sato, & Rabinowitz, 2014; Bailey & Carroll, 2015).

Research Methods

In this multiple case study we utilized a replicated "unusual case" design to identify patterns in schools characterized by relatively better elementary ELL outcomes (Yin, 2014, p.57). Quantitative methods, specifically, regression analyses, were used to identify the sample.

Sample Selection

Schools were identified based on performance outcomes as well as a variety of other demographic criteria. Performance outcome measures included the 2012-13 and 2013-14 New York State Mathematics and English Language Arts assessments across grade levels. Schools classified as "odds beating" are ones in which ELLs exceeded expected average performance in ELA and mathematics at grade 3 through grades 5 or 6 on the two state

Table 1.

Demographics of the Odds-Beating Schools [2]

School	Total Enrollment	Urbanicity	% ELL	% Economically Disadvantaged [3]	PPE [4]
Catskill	760	Rural	3	62	$24,032
Schuylerville	718	Rural	2	31	$17,884
Fostertown	637	Urban	11	61	$21,878
Van Rensselaer	622	Urban	8	73	$19,870
Guilderland	548	Suburban	11	18	$17,995
Blue Creek	482	Suburban	6	24	$18,457
NYS average	N/A	N/A	8	54	$21,812

[2] Data are from the 2014-15 State report cards.

[3] One measure of poverty, and the one used here, is economic disadvantage (see definition at https://data.nysed.gov/glossary.php?report=reportcards).

[4] 2013-14 districtwide total expenditures per pupil.

assessments. Using Statistical Package for the Social Sciences (SPSS) software, an expected average performance level was generated for each subject at each grade level. By comparing expected to actual average performance, schools could then be classified as "odds beating" if the difference between expected and actual performance was close to one standard deviation greater than the mean difference for all schools in the state. Of 1,378 schools serving grade 3 through grades 5 or 6 outside of New York City, 127 schools were identified as potential "odds-beaters."

The sample was then investigated to identify only those schools in "good academic standing" for ELL performance and further winnowed into three categories: rural, suburban, and urban schools and those serving more or less economically disadvantaged and/or ethnically diverse student populations, favoring both higher poverty and higher diversity in the final sample to meet the criteria of "odds-beating." Finally, schools whose per-pupil expenditures, combined wealth ratio, and percentages of expenditures on instruction were above the norm were eliminated from the sample such that only schools with average to above average demographic challenges, yet higher than predicted performance would be studied (see **Table 1**).

It is important to note that the schools in this study are not the highest performing with regard to their ELLs' performance in NY state, but rather defy the typical performance pattern taking into account poverty and diversity. As displayed on the histogram in **Figure 1**, the case study schools are above the mean for ELLs' performance in comparison to other schools in the state taking into account school demographics such as poverty and diversity.

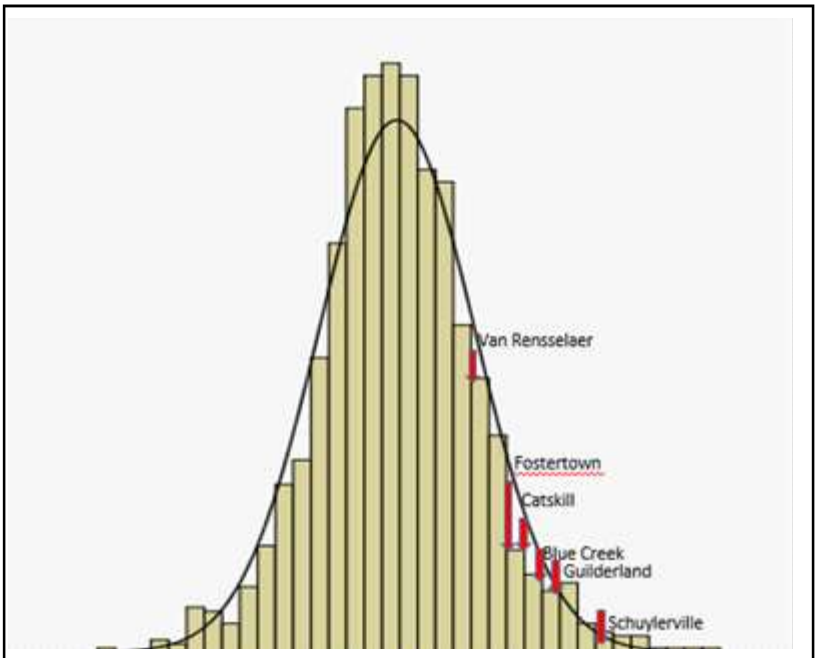


Figure 1. Odds-beating school ELLs' performance on ELA and Mathematics state assessments in 2013 and 2014 as compared to other schools in New York.

Data Collection

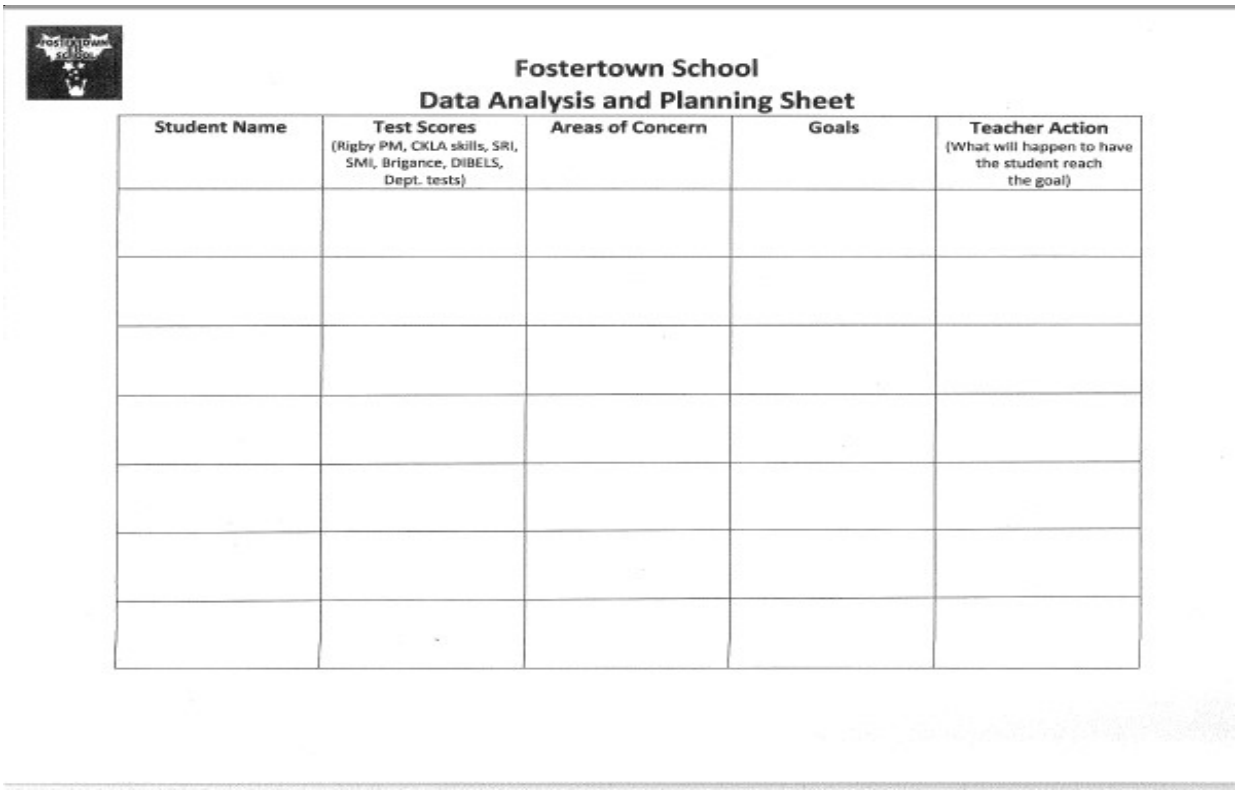
Once schools were chosen and site visits arranged, the research team, trained in using the instruments and in human subjects research, visited each school to collect documentary evidence and conduct interviews with the focal students, teachers, principals and other building leaders, and district administrators. Also, we also conducted focus groups with teachers and conducted classroom observations. Interviews and focus groups, which were audiotaped and then transcribed, followed a semi-structured protocol guided by the research questions. Documentary evidence included lesson plans, student work, curriculum maps, and other instructional materials. Class observations were guided by an observation protocol that prompted description of teaching and learning activities as well as a brief interview with teachers about the intent of their lessons. Before and during site visits researchers kept interpretive memos cataloguing questions raised, notes for follow up, and beginnings of interpretations.

In total, 25 administrators, 41 teachers, 7 support staff, and 17 student focus group or interview transcripts, as well as 28 classroom observation notes were collected and coded inductively using a constant-comparison method utilizing the qualitative software program HyperResearch (Strauss & Corbin, 2008). Using typical cross-case procedures, code reports by theme related to the research questions were produced and a matrix comparing themes was utilized to identify key patterns among the schools (Yin, 2014). The research team then engaged in axial coding in order to chunk major themes and their relationships as they related to the research questions (Strauss & Corbin, 2008). This was facilitated again through the use of HyperResearch and data matrices in Excel (Miles, Huberman, & Saldaña, 2014).

Findings

"You can't get somewhere if you don't know where you're going." - Fostertown ETC principal

This study was foregrounded in literature that highlights the relationships between effective monitoring and use of ELL performance data and ELL performance outcomes. Through the analysis of interview, focus group, observation, and documentary evidence data the researchers identified a combination of performance monitoring processes and practices common among the odds-beating schools studied.



Fostertown School
Data Analysis and Planning Sheet

Student Name	Test Scores (Rigby PM, CKLA skills, SRI, SMI, Brigance, DIBELS, Dept. tests)	Areas of Concern	Goals	Teacher Action (What will happen to have the student reach the goal)

Figure 2. Fostertown ETC data analysis and planning sheet

Three characteristics of ELL progress monitoring in odds-beating schools were identified: (1) connecting instruction and interventions to "real time" data based on multiple measures of student performance including benchmark and formative assessments; (2) communicating performance via technology; and (3) collaborating on instructional and other interventions ELLs' need through routines among teaching and support staff as well as school leaders.

Connecting Instruction and Interventions to "real time" data

In schools with odds-beating ELL performance, teachers and leaders pointed to the weaknesses of relying upon state assessment and the New York State English as a Second Language Achievement Test (NYSESLAT) assessment data to inform instruction and interventions for their ELL students, as they do not provide actionable information needed to help their students grow and learn in real time. Instead, they reported relying upon frequent formative assessments, benchmark assessments and other data to inform them. **Figure 2** shows Fostertown ETC's "Data Analysis and Planning Sheet," which includes a list of seven different types of assessments that inform teachers about areas of concern, used to generate goals and specific teacher actions to meet those goals. Fostertown ETC's educators meet in Professional Learning Communities (PLCs) to discuss student performance and work together to develop lessons and materials to address the gaps in learning as displayed by the data. Response to Intervention (RTI) is also linked to this collaborative data analysis. When Tier 1 interventions are not producing any change, "real-time" classroom data informs teachers' next steps in referring students to a Tier 2 intervention.

Educators at Fostertown ETC and other odds-beating elementary schools analyze data for causes of students' poor performance and seek solutions. In Blue Creek ES, for example, a district leader described how the principal is "constantly looking and using her faculty meetings for [sharing data analysis]. 'Okay, here's a problem that I identified because of the data. What are some things that we can try?' For example, the principal noted gaps in attendance at open houses and parent teacher conferences and then engaged in an intervention. A district leader described the principal's approach:

> She [the principal] was looking at who is coming to open-house night, who's coming to conferences, who's not, and realizing which subpopulations and which families weren't able to get to those. So she worked with the transportation director to get a school bus to go to some of these

> populated apartment complexes and bring the people, because they didn't necessarily have a way to get a ride to school for these things.

Complementing these strategies, Blue Creek teachers also gather a variety of benchmark and formative assessments, the same assessments as their non-ELL peers, with reading benchmarks administered in September, January, and May. These are used to identify, "sight word growth, letter sounds, knowledge of letters, and . . . progress with reading," according to a classroom teacher. In math, Blue Creek ELLs take chapter tests and a middle and end-of-year computerized assessment, at which time they are offered the accommodation of question read alouds. Altogether, these formative assessments provide teachers with a variety of information about ELLs' growth in language and content and allow educators to intervene in an appropriate and timely fashion so that each learner can make progress.

Collaborating through routines among teaching and support staff

Importantly, leaders in the odds-beating schools and districts valued teachers' desires to collaborate around instruction, assessment, and intervention for ELLs. As in the other schools studied, Fostertown ETC's educators benefit from a variety of opportunities to collaborate. Scheduled grade-level meetings are used to analyze students' performance data. In these meetings, principals, teachers, and specialists focus on classroom-level assessments as they believe them to be more meaningful for guiding instruction. A school leader explained how this is done:

> We went into using data protocols during meetings to really guide the meetings. We only have thirty-five minutes, so we need to be laser focused. So we started using data protocols and we're doing student work. A lot of the discussion I had with teachers when I first came in is, "How do you use data? How do you use data in your classroom, as a grade level or per building? And we have the over-arching New York State data assessments and those achievements, but what is real-time data? State data just tell us at the end of the year if you have mastered the state-level standards. But what is going on in your classroom in real time?" So we put protocols in place as far as reviewing student work. So the teachers bring in either exit tickets that they've done with their kids or any kind of work or problem sets they want to go over.

In addition, Fostertown ETC educators benefit from collaborative processes and practices centered on progress monitoring at the district level. The Superintendent initiated the practice of "DataCon" or "Data Conversations" in which all building and district leaders meet to discuss the results of local and state assessment data for each school. At this meeting, each principal is called to the table to discuss a variety of data points. All of the cabinet members and central office administrators as well as all building principals are present and encouraged to ask questions of each principal in "the hot seat." A district leader described it as "a fishbowl conversation" that is "both evaluative and supportive in nature," as it often inspires new ideas for principals to try in their own buildings. This practice encourages consistency across the large urban district and holds building and district leaders accountable for making the best use of multiple measures of student performance.

Likewise in suburban Blue Creek Elementary, teachers provide "benchmark profile sheets" to the principal and upload their letter grades to the online portal that allows for the sharing of data district-wide. A reading specialist explained how classroom and ENL teachers collaborate by sharing their assessment data:

> Usually once we do assessments, we record all of our students on a class form and return it to the teacher, and usually at some point we end up touching base with the ENL teacher in person or through email to let her know about student progress.

In the smaller schools studied, some with only one ENL teacher in the school building, collaboration is less formal, but nonetheless recognized as essential to meet ELLs' learning needs. For example, because there are not many ELLs in the school and one ENL teacher in Schuylerville, the ENL teacher monitors the progress of ELLs' language development most closely. Yet, classroom teachers and ENL teachers say they keep each other informed of areas in need of more attention consistently. According to a Schuylerville teacher,

> We (classroom teachers) are monitoring all the time, whether it's regular assessments on tests or things like that. We're always doing informal assessments, just walking around and checking, and then I'm assessing them by collaborating with the service providers, the ENL, and the special ed teacher.

Through both formal and informal processes and practices that encourage collaboration around progress monitoring educators work synergistically to meet ELLs' academic needs.

Communicating Performance via Technology

Communication among mainstream classroom teachers, ENL teachers, special education teachers, and AIS teachers via technologies allow for communications to occur in a timely manner. Such data management systems as "Infinite Campus" or "School Tool" allow educators to share formative, benchmark, and assessment data with one another. For example, Blue Creek teachers use their school management system, "Infinite Campus," to communicate student performance on benchmark exams with the school principal. In addition, all grades and other data

(e.g. attendance) are stored there so that educators can easily share data with one another.

Similarly, in other schools like Guilderland ES, School Tool was identified as facilitating district-wide data analysis of ELLs' performance and also as a way to communicate with family members and legal guardians. Through an information night, Guilderland parents are invited to the school to learn how to use features of School Tool such as accessing their children's grades and state test scores, as well as other important school information. According to a teacher, the school district has worked hard at "communicating with parents to [use the program]. The ability to disseminate student data to families of ELLs was described as beneficial in developing a positive and open relationship between families and the school. Because "many families [of ELLs] believe very highly in education and they're very strong on their students," one school leader explained, "School Tool provided an effective avenue to learn about their children's progress without having to come to school or schedule a meeting with teachers".

Figure 3. Blue Creek apps

Teacher iPads	Student iPads
Drive	Sight Words
Calendars+	1000 sight words free
Stories 30	Flashcards
Futaba CG	Grammar Games
Epson iPrint	Fill the Gap
Booksource	Translate by Google
ABC House	Collins Big Cat - Playing
collins Big Cat-Playing	Elmo ABCs
qr reader for ipad	PBS Kids
SonicPics	Pocket Phonics
iBooks	SpellBoard- spelling words
English 1	TranslatorGo
Notability	Futaba CG
NG World	Sight words
Google Docs	Storia
iWrite Words	Stories 30
iDocs HD Pro	ABC House
Google Sheets	Spelling Bug 2
Spelling Game	Spelling Bug 2
Spelling City	Cimo Spelling Sight lite
Starfalls ABCs	Primary writer
Pages	Spelling city
Montessori- counting board	REading TRain
Dragon Dictation	Town Mouse
i like books	Dictionary.com
planbook.com	Quick voive
fun Rhyming	Alphabet Fun
Google Earth	Toddler games

In addition, instructional technologies such as clickers, Chromebooks, and apps (**see Figure 3** for example of app offerings in Blue Creek ES), were reported to be used frequently to provide immediate feedback to students and formative assessment data to teachers. These data inform teachers as to the strengths and weaknesses of students so that differentiated instructional strategies can be planned as a next step.

Systematizing the communication of ELL student performance via technology allows principals, specialists, classroom teachers, and ENL teachers to provide a consistent and informed program of instruction for ELLs. In addition, sharing data with parents and guardians encourages families and legal guardians to participate actively in the education of their children and establishes a connection between home and school.

Recommendations

Although this study is limited to data culled in only six schools, and is thus, not generalizable to all schools in the state of New York, it suggests a few considerations for practice related to data monitoring and use, namely:

> Provide systems to carefully monitor the progress of ELLs using multiple measures- both formative and summative, connected to systems of interventions for students who need more support.

> Provide systematic progress reporting and communication/dissemination routines for all educators and specialists who interact with ELLs as well as their families

> Ensure that adequate ENL expertise is within each school building and that collaboration among ENL teachers, mainstream classroom teachers, and specialists across the school and district can occur on a regular basis.

Conclusion

While the number of ELLs in New York schools and in other states around the nation continues to increase, troubling trends of ELLs falling behind as they progress from elementary to secondary school persist (U.S. Department of Education, n.d.). Indeed, children's experiences of success in elementary school have been found to strongly correlate to their trajectories in secondary school and beyond (Akiba, LeTendre, & Scribner, 2007; Suárez-Orozco, Gaytán, Bang, Pakes, O'Connor, & Rhodes, 2010).

In some New York elementary schools, ELLs are beating the odds with better than expected performance outcomes. The findings from this study demonstrate that what educators do to monitor and use performance data can relate to better performance outcomes.

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