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Cambium

VOL. 3, NUMBER 3

INNOVATIVE K-8 CURRICULUM FROM THE ARBOR SCHOOL OF ARTS & SCIENCES

ASSESSMENT

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When the Arbor School faculty met to select topics for the year's Cambium articles, none was more passionately discussed than assessment. With only 16 pages to fill, how should we focus the light on our practices? Should we write about how assessment grows out of the shared values and beliefs that are part of our school culture? Should self-assessment and peer assessment comprise a whole separate issue? What about differentiation in assessment, or the yearlong self-evaluation of the whole school we recently undertook using the methods of Douglas Heath? No single journal issue could hope to capture the reach of the conversations we so often have about assessment or the depth of even one teacher's pursuit of better understanding of her students.

Our community holds to a creed of self-reflection regularly deepened by contact with thoughtful outsiders, whether they be fellow elementary educators, scholars, or authors of provocative articles. Observing, talking, and writing our way toward truer evaluation and adjustment of our teaching practices is part of the ethos here. Nearly as often as we pore over a student's work to assess his progress toward an academic goal, we turn the lens on ourselves: what image of our teaching is reflected in this child's mathematics or reading strategies, in this class's discussion style, in the results of this test? Are we asking the right questions? Are we constructing

a stable scaffold for a particular child or group of children? How can we make our aims more transparent to our students so that they can assume greater agency in their own learning?

We have gathered here a smattering of our best assessment practices: five teachers' ongoing efforts to address such questions in the context of their own work. (You'll notice we couldn't quite contain ourselves to 16 pages.) Two of these articles arise from the brilliant thesis work of graduates of the Arbor Center for Teaching, young teachers perfectly poised to delve deeply and critically in the craft. Ben Malbin saw a need to evaluate his Seniors' participation in discussions more objectively and devised a system to do so; Lauren Kristensen wondered how she could empower her Primaries to be capable of self-assessment, setting their own goals and judging whether they'd met them without asking a teacher, "Am I done?" The other three articles grow out of years of fine tuning, and although they cover areas as disparate as Primary math, Intermediate reading, and Senior Spanish, common principles come to the fore: assessments, whether formal or informal, "hard" or "soft," are not used to arbitrate success or failure, but to provide repeated practice and shine a light on the skills that need tending. The aim is always to support student growth and development in a way that conveys to children that joy and effort matter.



ARBOR SCHOOL
OF ARTS & SCIENCES

FIREFLY ASSESSMENT

PRIMARY MATH WITH LORI PRESSMAN

by Sarah Pope, ACT Publications Editor

Lori's K-1 Primaries are gathered around the large hundreds' chart on the easel for a game of Guess-Digit-Place. "Is there a 3 in the tens' place?" asks one child. No, there isn't, so the row for the 30s is crossed out. "Is there a 10 in the ones' place?" asks a kindergartener. As she conducts a quick review of the digits that could be in the ones' place, Lori pulls a small pad of sticky notes from her pocket and jots down his quote. It's a flash assessment she'll file away for later in the week, when she'll visit him for a quick, individualized mini-lesson to help him get a handle on place value, particularly for the tricky teen numbers. Although she's pleased that he's getting comfortable with the nomenclature (ones' place), the concept obviously isn't really sticking yet.

This constant listening for evidence of students' understanding and misunderstanding is a hallmark of Lori's teaching practice. Her sticky notes wind up in a binder subdivided to hold each child's work for reading, math, Theme, science and social science, and writing. Lori will look back to these notes both to determine who needs more challenge and who needs more tending from week to week and, once each term, to prepare for conferences and write her narrative reports.

Primary-level math assessment doesn't show itself in a one-size-fits-all format. It can't — in her mission to meet every child where he is and to offer an appropriate degree of stretch and consolidation as he moves to the next new concept, Lori's math teaching takes as many forms as there are five- to seven-year-olds in her classroom.



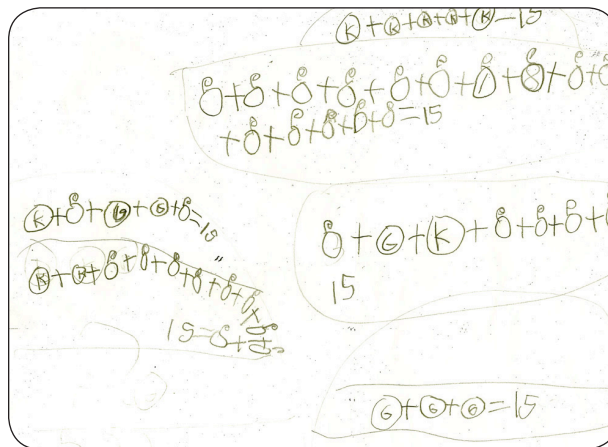
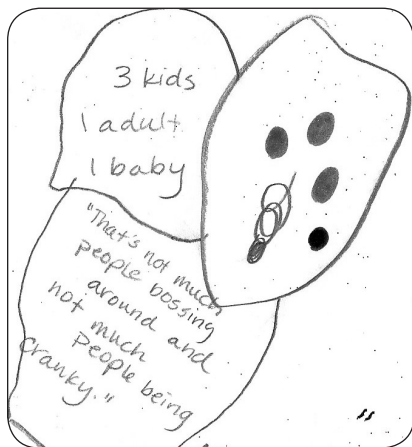
Lori works through some
Calendar Math with a few of
her Primaries

Response to assessment in Lori's class often takes place in mini-conferences with individual children during each morning's Calendar Math. If today is the 22nd of February, the students will spend some time building equations to 22. Some of the hungrier mathematicians will calculate whether it is possible to count to 22 by threes. The beginners will use manipulatives to build two rods of ten plus two ones. Those transitioning to work with numerals will draw pictures of the rods and single cubes, then write the digits underneath. If today is the 94th day of school, is 94 an odd or even number? If it's odd, make an odd face. If it's even, show how it has a "dancing partner." As the children work, Lori is flitting from table to table. A kindergartener

who still has trouble with reversals gets a mound of shaving cream squirted on the table in front of him so he can draw a 2 in it with his finger, smooth the foam, and write another. A child across the room gets a moment of hard assessment with a ring of number-bearing notecards: Can you read these numbers to me? Lori jots down the successes as well as the miscues, when 18 becomes 81 and 49 becomes 94.

Lori says she thinks of these lightning mini-conferences in terms of Rabindranath Tagore’s “Fireflies” — little flares of poem in two or three short lines, beloved at Arbor and often recited by the older students at assemblies and celebrations. They’re an opportunity to shine the light on a particular idea for each child.

Another important opportunity to assess and tailor mathematics comes in the Theme-related problem-solves Lori’s class undertakes. This winter the Primaries have been studying the human body. As they consider the circulatory system, Lori sets the children the following puzzle: “A baby has 1 quart of blood, a child has 3 quarts of blood, and an adult has 5 quarts of blood. If there are 15 quarts of blood, who could be in the room?” Fifteen is too large a number for some of the kindergarteners at this point; Lori makes it 6 quarts total on their worksheets. (Even with 6 quarts, there are still a number of possibilities and the children are encouraged to find them all.) By drawing pictures of babies, children, and adults, by representing them with color-coded squares or Unifix cubes, or by using addition and even multiplication, Lori’s students come up with a number of answers.



Ollie, a kindergartener, has used color-coded dots and a symbol to represent one pleasing solution. Nadia, a first grader, has found a number of possibilities for combining people in the three categories to reach 15.

Their work reveals much about their reasoning and their current position on the continuum from using manipulatives to attempting abstract number solutions. The goal is not to finish quickly or to achieve a single correct answer; students get to explain their approaches to a partner, to teach and learn new ways of tackling this kind of problem. The wide array of useful strategies and the creative possibilities inherent in the work are what Lori asks her students to admire.

In December Lori works through a longer assessment with each child, asking one after the next to demonstrate her understanding of all the major concepts from the fall term — patterns, tallies, numeracy, counting backward, writing numerals, how to tell if a number is even or odd, calculating one more than x, number bonds — as well as progress toward her individual goals. Lori is pleased to see that a hungry first grader who couldn’t wait to leap ahead to multiplication arrays is now practicing systematic thinking — finding all the number bonds to 12 rather than adding a few, subtracting a few, then moving on — and is able to spot the patterns that will support her success in the more difficult math she’s so eager to try.

Lori says she looks for “branches wanting to bud” and tries to “provide the light,” but her success as a math teacher centers on a deep understanding of the importance of “practice, practice, practice.” Math is slippery; every adult knows that unused algebra skills run like sand through the fingers. It’s not enough to demonstrate mastery once

and then race on to the next exciting concept. Students must be asked to harken back, to review, to draw on old skills in new ways.

Practice makes mastery, and mastery brings delight. Perhaps the most rewarding “firefly assessment” for Lori is to place a new sticky note on the math page in a child’s folder that reads, “This is funner than I thought it would be!” or “Can I please have some more math?” Sparking a love affair with mathematics is one of Lori’s great pleasures as a teacher. It is a gift to her young students to begin their years as mathematicians under the care of someone who truly loves the subject; it is also a gift to Lori’s teaching apprentices to have a second chance at falling in love. “They all come in loving books,” Lori notices, “but they’re less excited about sharing math with kids. I make them love teaching math.”

Lauren Kristensen, who was Lori’s partner in the Primary classroom from 2008 to 2010, writes, “I firmly believe that excitement is contagious. It is impossible to be immersed fully in someone else’s exciting notions without swallowing some of that emotion yourself. Working with Lori showed me that the joys that accompany teaching are catching and wonderful. When I first began, I was far from excited to dive into math lessons. My past experience as a math student made it difficult for me to see math as anything more than a constant test of right and wrong. If you weren’t right, you were wrong, and if you were wrong, you were bad at math. Lori’s love for math opens up new avenues for her students as well as for her apprentices. With Lori, math isn’t about getting the correct answer to an algorithm; math is about making sure her students and her apprentices are math literate. She wants us all to leave the classroom being able to read the math in the space around us. Read-alouds about the number of trips Jack took up the beanstalk become opportunities for quick calculations, and a newly learned fact about the daily milk consumption of a baby whale will undoubtedly become the makings of a problem-solve. ‘Wouldn’t this make a beautiful math problem?’ is a mantra in the Primary Den, and it’s hard to leave school at the end of the day without discovering some math along the trail home. The greatest gift Lori has given me as a new teacher is the ability to see endless possibility in math. Numbers and symbols are only a small part of the equation; the rest is all about possibility.”

Fran Hossfield was Lori’s apprentice from 2006 to 2008 and she concurs with Lauren. “Lori was as playful for math as she was for Theme or literacy, showing me that it was equally important, interesting, and open to creativity. As a developing teacher, it was so valuable for me to hear Lori’s thinking around teaching math. She is always working on better ways to introduce concepts, always thinking of ways to tie math into larger thematic projects and of ways to make math and numbers exciting to the class. Because her tinkering, experimenting, and planning were so transparent, she encouraged me to pick up on this type of engaged mathematical planning.”

Deep devotion, planfulness, constant observation, and practice, practice, practice. The omnipresence of these simple ingredients, and of assessment followed by fine adjustment, grows confident mathematicians in the early grades at Arbor School. The children’s ability to strategize, to work systematically, and to joyfully explore the many possibilities in mathematics must be the fruit we bear in mind as we assess their mastery of discrete skills.



Lori conducts a firefly assessment with a table of hard-working mathematicians

STRIKING THE MATCH

READING CONFERENCES KINDLE A RAPPORT WITHIN AND BEYOND BOOKS

by Eliza Nelson, grade 4-5

The Intermediate (fourth- and fifth-grade) years are golden ones for reading. A feast of fine fiction has been published for children in the middle grades. Children of this age group, no longer solely involved in decoding what is on the page, can dedicate themselves to making meaning as they read. They begin, in earnest, their growth as inferential thinkers. In celebration and in support of these realities, we devote a full hour to independent reading each day in the Intermediate Class. As teachers, we spend this hour conferencing with individual students while the rest of the group remains quietly absorbed in a range of books.

“Will you come read with me?” is one of the more loaded questions we regularly pose in our classroom. The reading conference is a crucial means of assessing, encouraging, and knowing our students both in and beyond the realm of literature. “Will you spend time with me?” is closer to what we are really asking. Early in the year, we conference especially frequently with incoming fourth graders, working to build relationship and trust. Engaging in casual conversation, laughing and marveling over text we read together, and providing ready assistance with difficult words, we get to know each other and strive to develop a rapport that will influence all of our efforts together over the course of two years.

Because we are lucky enough to have a team of teachers in the Intermediate class, each of us has a cohort of ten to twelve students with whom we conference throughout fourth and fifth grade. We meet with some individuals daily, others once a week, and still others biweekly, depending on their level of focus and independence as readers. In a more traditional classroom, a teaching assistant or a consistent, well-trained parent volunteer could certainly help with reading conferences.

While connecting with our students over books, we are simultaneously assessing their development as readers. As they read passages out loud, we gauge their oral fluency and grasp of vocabulary. In asking them to summarize a story, introduce a character, explain what is happening in a section of text they have just shared, or guess at a word’s meaning through context, we check comprehension. We provide reading logs to help the students record their selections and track the genres they have explored. Over time, the children become capable of identifying and expressing their literary taste, and in turn we can help shape their preferences through suggestions and reflective conversations.

Our primary goal is to keep reading central in the lives of our children, and we are most likely to succeed by helping them deepen their experiences with fiction. The truly challenging and crucial aim of regular reading conferences is to guide students over time toward genuine internal dialogue. We hope for them to be wondering, marveling, and cycling back as they move with full engagement through a book. The place to begin is through modeling deeper inquiry as a teacher: posing why, what if, and how



*Daniel Shaw and Lilah hold a conference about *The Burning Bridge* by John Flanagan.*



Eliza leads a discussion of Roger Lancelyn Green's *The Adventures of Robin Hood*. Below, Ella, Lola, and Lilah enjoy a reading period with books of their own choice.

questions; teasing out symbols and themes; asking students to find proof in the text, to reread and remember what they've encountered before. Educators have compiled many lists of excellent reading questions, all of which are useful to students in thinking more carefully about their books. In our experience, however, it is the person-to-person deliberation over just the right question at just the right point in the book that sparks excitement in our students' reading lives.

How do we know when we have successfully struck the match? When a child gets up from her chair, still reading while walking to her teacher's desk and exclaiming upon arrival, "Guess what? The boy met his first human, and he is really scared but also really interested; he even followed the man."

And as teachers, knowing that a delicious reading journey has begun, we can enthusiastically reply, "Well,

what do you think? Why did the boy plunge into the woods after the man? Was it a good idea? Why? Okay, now keep reading and come tell me whether or not you change your mind." This delighted sharing between student and teacher is emblematic of a deeper, more lasting connection: between the child and the individuals he comes to know through his book. We want our children to cheer on Gilly — of *The Great Gilly Hopkins* by Katherine Patterson — as she begins to soften and allow herself to love her new foster family. We hope that our readers feel Will's shock, fear, and courage in *The White Mountains* by John Christopher. If we could choose any gift to give to our students, it would be the ability to approach understanding of the lives and choices of others through reading.



A CONTINUUM OF MASTERY

CRAFTING MEANINGFUL ASSESSMENTS IN SENIOR SPANISH

by Caroline Hurley, grade 6-8

It was the day after a chapter test, early in my teaching career, and I was passing back my students' Spanish assessments. Despite my deft origami maneuver to fold each test closed as I handed it back, approximately two seconds ticked by before Matt shared a smirk and his 83% with his neighbor, who grimaced over her now-public 81%. Despite my attempts at fairness and privacy, my students had bonded over the message posted at the top of their tests: Matt's performance was worth "83;" his seatmate's Spanish was worth "81." Never mind my best intentions or my lessons; it would be the numbers that stuck.

The numbers theoretically ranked the students by performance level, but was I really convinced that one section of the test was worth twice the weight of another section? I could change my mind, reassign point values, and change the students' numbers if I wished. The numbers I had written at the top of their tests weren't what I wanted them to latch onto. Someone had missed the point, and I suspected it was me.

Meanwhile, Matt and his neighbor were busy bonding over their numbers, which were both emotionally loaded and devoid of any real use in figuring out what had gone wrong, or what might go better next time. It seemed to be my cue to say, "Okay, on to the next chapter!" even though marching forth without grounding ourselves and evaluating how we should carry on was the last thing any of us needed.

I tried to salvage the situation. How could I send a little motivation in Matt's direction? He clearly wasn't seeing for himself the message hidden beneath his number. I tried pointing out to individuals which skills needed more work, as well as which skills had been mastered. I tried to make the percentage secondary and instead emphasize that the issue was a certain set of skills that my students were not quite finished learning yet. I may have had a foothold with this approach, but most of what I said was drowned out by the buzz of the numbers circling around the students' heads.

My own doubts as to the sanctity of the points I had assigned to my tests, coupled with my students' rudderless gut reactions to their scores, led to the decline of the percentage in my classroom. I resolved to make clear to myself and to my students precisely which skills we were practicing in any given lesson. The skills that will appear on a chapter test are outlined on the first page of every chapter. We begin on this first page together and refer back to it as a road map throughout our work.

While my students use the skills list to study, I use it to write a test that I will be able to score by parsing out each individual skill — still easier said than done. Each item on the test is engineered to allow me to evaluate how close a student has come to mastery. When the test is complete, I draft a companion assessment page that lists the skills required. For a certain skill, the student is rated on a continuum from "not yet" to "the basics" to "making progress" to "almost," all the way to "mastery." This wording is purposefully skewed to assume that the student will continue to make progress over time.

While I have obscured the percentages, I have not killed them off entirely. Vocabulary often still gets a number. I also remind my students from time to time how my scale works, although the numbers are not written on the assessment page: the dividing line




Caroline has written her own textbooks for 6th-8th-grade Spanish.

between “mastery” and “almost” is 95%; between “almost” and “making progress” is 90%; between “making progress” and “the basics” is 70%; between “not yet” and “the basics” is 60%. The grid is thus weighted toward the upper end of the spectrum. After clarifying how the grid works, we first apply a gestalt approach. I have the students put a hand on the left half of the grid, covering up “not yet,” “the basics,” and the lower half of “making progress.” I tell them that if they see the majority of their Xs on the right side they’re generally doing well. A hand placed on the right half of the grid reveals the skills in need of attention. Of course, students will have their own standards — “almost” will not be good enough for some. I make clear that I do not expect my students to ace every skill; I prefer to find continued progress based on effort and intention. Students are encouraged to look for their own growth in specific skills over time.

Nombre _____ Grado 7 Capítulo 1 Fecha jueves, treinta de septiembre de 2010

Concept	not yet	the basics	making progress	almost	mastery
household vocabulary (summer)				93%	X
household vocabulary (ch. 1)			X	13%	
use correct definite & indefinite articles			7/8		
noun / adjective agreement			7/8		
noun / adjective order	X				
use correct possessive adjectives					X
choose between <i>es, son,</i> and <i>hay</i>					X
comparatives: <i>tan x como & más x que</i>					X
regular <i>-AR, -ER, & -IR</i> conjugation					X
give subject pronouns					X
irregular <i>yo</i> form of <i>hacer</i>	X				
writing: fill the space with description					X
writing: verbs conjugated for subjects					X
writing: article/noun/adjective agreement, order					X
attendance & homework				10/11H	7/7A

Nice job!



I try to make it clear that raw data, such as whether or not Matt makes his verbs agree with his subjects, can be cooked in various ways that could potentially lead to a range of grades, depending on how a test is written and graded. Most of the time, however, I keep numbers and grading systems out of it. I do not aim for 90 percent; I aim for budding Spanish speakers.

In placing Xs according to the wording of the column headings on the assessment page, I must ask myself: What does mastery of a given skill look like? What is the difference between a student’s simply not yet having a skill and having grasped the basics? The placement of any one X is not always hard science, but I do score every student’s test from a given chapter at one sitting in order to keep my scoring as even as possible. I can also look back to an individual student’s previous assessments to look for growth over time.

This system seeks to honor the fact that the results of a test are not the end. They are the product of a student’s efforts and understanding, yes, but just as importantly, each test signals a readiness for a new beginning in the next chapter. How can a student use her performance on a test to do better the next time? While an 83% might send the message “study harder” to one student, another student with an 83 will be vaguely pleased, and yet another will slump down in his seat and start searching the room for something more encouraging to think about. With a list of skills, each with its own rating, a student can say to herself, “Well, I don’t have these two skills yet, but I aced these three and I’m doing pretty well on the rest of them. I see what I need to work on now.”

I want my students to use the hard data of this test to plan their next moves. For this we all need to see the current test as the result of weeks of habit and effort rather than an hour's worth of pencil marks on paper. I get my say on one side of the assessment page, summarizing what I see as the student's current position on the continuum of mastery at the end of the chapter. The student gets his say on the back of the same page, where I ask a handful of open-ended questions according to my current concerns for the class. If I have tried an experiment in a given chapter, I will ask for feedback. If I suspect that there is a general issue with organization and time management, I will ask the students to think and write about the link between their efforts and their achievement. I ask the

types of questions that I want to know about: What did we do in class that was most helpful for the student's understanding and memory? How easy or difficult was this chapter; where did he really have to stretch in order to succeed? But the questions also prompt the students to do some metacognitive thinking and goal-setting: What actions led me to master each skill? How much time did I truly put in between classes? What methods of study did I use? What do I wish I had done differently? Based on all this information, what could I do differently in the next chapter?

This reflection on the process that led to the test result not only encourages a student to develop planfulness and critical thinking regarding his own actions and habits; it is also a wealth of information for the teacher. The students' feedback helps me plan and gives me greater insight into how I might need to tailor lessons or work with individuals. For those who are struggling, I get a clearer picture of why and what to do about it; for those who ace every test, I get to see whether they need a bigger challenge or if they have truly been working hard to achieve their results. If a student's comments about habits, results, and plans for next time do not seem reasonably in line with my own understanding of his needs, I can bring the assessment page to him and chat with him about it.

Each student's assessment pages for the whole year are clipped into the middle of a three-hole, two-pocket folder. The actual tests live in the front pocket, while work samples reside in the back pocket. This presentation acts as both privacy shield and organizational system. The folder does not leave the classroom until the student graduates and is not to be shared with other students. It serves as an extremely useful tool for the teacher in preparing for parent conferences, narrative report-writing, and conferring with colleagues. It can be put to similar use by the student as well.

Follow-up with individuals is, as always, a struggle between ambition and time constraints. I may not have an opportunity to work with each student on each trouble spot. I do, however, attempt to make clear that most skills will appear repeatedly on successive tests, as we continue to build from foundational skills. In a program such as mine that generally aims to keep the students moving forward together, I must take a careful look at how I reiterate crucial skills from one chapter to the next to provide repeated practice.

At the other end of the continuum of mastery, for students who are routinely acing all the skills I can offer them, I sprinkle optional challenges throughout the chapters that they can choose to pursue. These skills can be left blank on an assessment grid for those students who did not attempt them. This affords students some agency in carving out an appropriate level of challenge for themselves. The challenge options grow in

SELF EVALUATION	
1) What, if anything, would you like to spend some more time working on from this chapter? Anything you're not entirely clear on?	1) No. It looks like I was unclear on noun adjective order but I just wasn't thinking.
2) Where did you have to put in real effort in this chapter? Did you have to push through any difficulties? Tell me about it.	2) I put a lot of effort into the vocab. I noticed that the vocab I missed was the things in the parentheses that I didn't know I had to learn.
3) About how much time at home did you put into Spanish between each class? Is this enough time to do your work and prepare you for class?	3) I put in 30-45 min I would do the assignment and then study a bunch of vocab.
4) How often did you study and what methods did you use? Give yourself some advice for next chapter.	4) I study vocab most everyday and I used accordians thru the things I was missing a lot I would make flash cards for.
5) If you did any of the extra bits in the chapter, tell me how it went for you. What did you learn?	5) I didn't do the extra bits because I was working on keeping the vocab up but I like having the option.
6) Mark on the scale: was this chapter...	6) really easy <input checked="" type="radio"/> about right really hard really slow <input checked="" type="radio"/> about right really fast



Caroline and Anna look over a test together

complexity over the course of my three-year program. Beginning students typically have optional vocabulary lists, while third-year students often have the option of entire secondary chapters.

Beyond monitoring individual progress, I typically take one more blank assessment page and create a tally sheet for the whole class. This aggregate of where all students in a class fall on each skill gives me a visual record of how my students did. I can then look for certain skills that we might need to fold into our practice in the coming days. Keeping this sheet for myself for the following year helps me hone my attention to ensure that both my students and I continue to improve the effectiveness of our efforts. I sometimes show this aggregate page to my class.

Since I track each student's on-time, complete homework assignments on the assessment sheet, I can see the correlation between homework and test results. I recently tried combating a problem of one class's late and incomplete homework by showing them the whole set of assessment pages. I hid their names, stacked the sheets according to their homework records, and flipped through the pages slowly for them to see the correlation for themselves. As they watched the Xs slide across the page from the top of the stack to the bottom, I talked to them about how much they were in control of where in that stack they could choose to be in the future and how that would in turn affect how much Spanish they learned and how their feelings of success in my class were really up to them to achieve. I do not brand my children; there are no "C" students, no "75 percents," in my class. There is only effort, intention, and ongoing progress toward goals.

An all-class aggregate of the Sevens' results on a chapter test

Nombre Class Grado 7 Capítulo 2 Fecha lunes, 25 de octubre de 2010

Concept	not yet	the basics	making progress	almost	mastery
verb box & subject pronouns: <i>ser</i>					
<i>ser</i> : identity, four uses					
vocabulary: adjectives with <i>ser</i>					
vocabulary: professions					
' <i>es doctor / es un doctor serio</i> '					
possessive adjectives					
possessive constructions (3 rd person)					
writing: subject/verb agreement					
article/noun agreement					
noun/adjective agreement					
noun/adjective order					
"no"/verb order					
Qs: <i>¿De dónde eres?</i>					
Qs: <i>¿Cómo eres? ¿Qué hace...?</i>					
Qs: <i>¿Qué quieres ser? ¿Qué no quieres ser?</i>					
attendance & homework					

There is no denying that this is a time-consuming process. I could record percentages in a grade book much faster. But then my students and I would be collectors of numbers, which give little guidance as to next steps. While I have my students individually reflect, respond, and plan for their own next steps, I in turn look to the assessment pages for guidance as to how I can help individuals, how I can best continue working with a particular class of students, and how I might improve the way I teach that material the following year.

BREWING A GOOD CONVERSATION

ASSESSING DISCUSSION HABITS IN SENIOR HUMANITIES

by Ben Malbin, grade 6-8

Language is not a neutral medium that passes freely and easily into the private property of the speaker's intentions; it is populated — overpopulated — with the intentions of others. Expropriating it, forcing it to submit to one's own intentions and accents, is a difficult and complicated process. — Mikhail Bakhtin

Having a good discussion is like having riches. — Kenyan proverb

The genesis of my interest in assessing the discussions my students have in Seminar and Humanities lay in a refrigerator full of leftover lemons. It was the week after our annual fundraiser and the booth selling lemon peppermint sticks had unused supplies that would soon begin to rot, so my Seminar students planned a lemonade party.

Ursula brought a cutting board, Connor brought sharp knives, Alex brought sugar, and Sierra and McKellar each brought a juicer. The process began without any direction from me. I considered divvying up jobs, but before I knew it Connor was busy chopping lemons and Alex was bringing the halved lemons over a few at a time to Grant and Sierra, who ferociously squashed them onto the loud, whirring juicers, causing lemon pulp and seeds to splatter everywhere. Jack stood by collecting the used lemon skins and got a plastic bag to put them in. Olivia and Hannah kept bringing lemons to Connor, while Rebecca, Ursula, and Gabriela got cups, spoons, and a couple of pitchers. As batches of pure lemon juice were produced, Rebecca, Ursula, and McKellar tried their best to determine the ideal ratio of lemon juice, water, and sugar. The first batch was too watery, the second was slightly too sweet. Stakes were high with the third and final batch. All eyes were on Sierra, who carefully poured lemon juice into the biggest pitcher. All twelve of us gathered around. Rebecca carefully measured water into it, and Ursula deftly poured in a small cup of sugar. Three of them stirred the lemonade at once, and poured a cupful. Olivia and Rebecca each tasted it, and it was clear from the looks on their faces that we had created a perfect batch of lemonade.

There was enough for a large cup each, and we sipped it happily as the clean-up process began. The dishes were cleaned, the juicers wiped and dismantled, the tables cleaned and dried, and the lemon rinds toted to the compost as collaboratively as we had begun. We had time for a hasty clinking of plastic green cups together before returning to class, the air still sharp with the smell of citrus and our hands stained yellow from the rinds.

In studying how students interact in class discussions, I have become increasingly aware of the importance of having an established social, even familial, atmosphere in the classroom. This can be accomplished in any number of ways — sharing stories, playing games, or creating something together. For my crew that October, it was making lemonade.

Throughout our first few weeks of school, the three sixth graders in my Seminar had been quiet. The Sevens and Eights dominated our classes and were always the first to speak up in our discussions about the novel we were reading at the time (Kamala



Ben's Seminar students roll lemons and insert peppermint stick "straws" for eager customers. Below, Liam demonstrates proper enjoyment of this favorite Arbor treat.

Markandaya's *Nectar in a Sieve*). The day after our lemonade-making Seminar, we discussed a news article about a six-year-old boy who was suspended from school for bringing a camp tool that had a spoon, fork, and knife attached to it. This discussion was a turning point in the balance of participation in our Seminar. I thrilled to hear my Sixes adding their voices with more confidence. When I looked back at the video a colleague had taken for me, I counted each of the Sevens and Eights speaking 6, 6, 8, 10, 6, and 12 times. The Sixes spoke 5, 10, and 3 times. This was still fewer times than their older peers, but it was significantly more than they had participated in classes throughout the previous month. When it occurred to me to examine *how* my youngest students participated in this particular discussion, I noticed that 9 out of the Sixes' 18 contributions directly built on what someone else had to say.

Was this collaborative, evenly balanced discussion a product of having made lemonade together the previous day? This was the first Seminar of the year in which I noted a true symbiosis in how we functioned during a discussion. We were a unit working together to collectively articulate, examine, and scrutinize our opinions as we tried to arrive at a decision. Should the six-year-old be suspended, or were the school officials being too sensitive? As Sierra asked, "Isn't a school supposed to protect its students?" Connor pointed out that he had brought in sharp knives for the lemonade party, which raised another question: Should independent schools obey the same safety rules as public school systems, or should they be allowed to create their own rules around such issues?

A class that has featured a successful discussion is often a class in which I feel my students have made the most significant intellectual progress. In watching students interact, I find myself marveling at the conclusions that they come to by a lively exchange of ideas as they dissect a poem or newspaper article. Occasionally, a good discussion is picked up again at lunch or after school, which shows me that the question or reading that we discussed as a class has stuck with them. I believe it is important for students to walk out of the classroom feeling as though, in some fashion, they have left behind a sense of what they believe. And I hope each will learn to ask himself, "How has what I have heard from my classmates affected what I believe?"

I made the decision to focus my thesis research on discussions, asking myself a series of questions: Under what circumstances does a discussion thrive? What must a teacher do to tend discussions that support student intellectual growth? What should students be expected and taught to do? How can discussion help students articulate, examine, and perhaps change their own beliefs in light of learned subject matter and the ideas of their peers?

As I began to seek answers, I decided that I needed a way to quantify how my students participate in discussions. In an attempt to break the discussion process down, I started to create a coding system. First, I made lists of what I thought were the most common and most important habits for participating in a conversation. After a few drafts, I formulated a system I called by the acronym BOGDACRA. It allowed me to track how many times each student exhibited the following discussion habits:

- B*uilds on someone else's point
- O*pinions backed by evidence
- G*eneral opinions
- D*isagrees
- A*sks a question
- C*hanges her/his mind
- R*epeats/reiterates what another has said
- A*nswers a question

To see if this system worked, I transcribed another video that a fellow teacher had recorded of one of my previous Seminars. Then I made a crude BOGDACRA chart

with space for tally marks to score each student's contributions. Upon examining my first sheet of data, I was surprised at how often people built on what others had to say. I initially thought that the heaviest column would be "General opinion," followed by "Opinion backed by evidence." In fact, my students supplemented their comments with more evidence than I would have guessed — they provided evidence more than twice as often as they didn't.

10/08/09 Seminar- Senior North (35 minutes)
 Discussion centered on a 6-year-old who was suspended from school for having a camping tool with a fork, knife, and spoon.

	Buils on/agrees with others	Opinion backed by evidence	General opinion	Disagrees with someone	Asks a question	Changes opinion	Restates a point	Answers a question
Xavier----- (Absent)-----								
Rob	2	2	1	0	1	0	0	1
Justin	2	0	1	0	0	0	0	0
Jeff	2	3	1	0	0	0	0	4
Damien	0	3	1	0	0	0	0	2
Sam	3	6	1	0	0	0	0	3
Molly	3	0	1	0	0	0	0	4
Athena	7	3	0	0	1	0	0	3
Tory	5	3	2	0	0	0	0	5
Xena----- (Absent)-----								
Rudy	4	1	2	0	0	0	0	0
Total:	28	21	10	0	1	0	0	22

Ben disguised his students' names for the purposes of the thesis research.

11/24/09 Seminar- Log House (about 15 minutes)
 Discussion centered mostly on globalization in Nectar in a Sieve and in relation to their own lives.

	Buils on/agrees with others	Opinion backed by evidence	General opinion	Disagrees with someone	Asks a question	Changes opinion	Restates a point	Answers a question
Xavier	1	0	1	0	1	0	0	1
Rob	2	1	2	0	0	0	0	3
Justin	1	0	0	0	2	0	0	0
Jeff----- (Absent)-----								
Damien----- (Absent)-----								
Sam	6	3	4	0	0	1	0	7
Molly	4	4	0	1	0	0	0	1
Athena	1	1	0	0	0	0	0	0
Tory	7	4	2	2	1	1	0	5
Xena	4	4	1	1	1	0	0	3
Rudy----- (Absent)-----								
Total:	26	17	10	4	5	2	0	20

In beginning to categorize classroom discussions, my notions of my individual students' participation changed. I was surprised to see how often certain people talked. Athena and Jeff were both people whom I would not have pegged as big talkers, while it seemed as though Rudy and Rob spoke a lot. I realized that Athena and Jeff spoke up frequently, but just didn't talk for a long time. Rudy and Rob spoke up fewer times, but held the floor for longer periods. How was I to judge who participated more? While using BOGDACRA gave me these new insights into the quality of my students' participation, it made accurately assessing each student's contributions to a discussion that much harder — especially for discussions I was trying to track as they happened, rather than dissecting a video later on. It was becoming increasingly plain that how my students participated was not as clear-cut as I had imagined.

Using BOGDACRA also made me consider more than just which column to add a tally mark to. What does it mean that Xavier participates almost exclusively by asking questions? What does this say about his relationship with the other members of our Seminar? Should I be concerned that very few of Molly's opinions are backed by evidence? This in turn led to larger questions — which categories of BOGDACRA do I want them to use? What do I actually want my students to be able to do? Do those who are not asking questions need to start asking questions? Do those who are not building on others' points need to start doing so? In asking my students to self-reflect and give themselves goals for their discussion habits, what is the end goal that I am pushing them toward? Should there *be* an end goal?

At this point, I began to feel quite overwhelmed about my whole thesis, and about being a teacher in general. Surely it is my responsibility to ensure that they are growing, but there are so many different ways that each student could fruitfully grow. One conclusion I felt I could share with my class in asking them to develop better discussion habits was that their arguments are much more convincing when they are backed by solid evidence. For instance, in a Seminar discussion that centered around how Rukmani (from *Nectar in a Sieve*) was able to keep going after all that had happened to her, Sam made two separate contributions — one that was not backed by evidence and another that was. At first, she stated, "I really like how she's so persistent, full of life, and tough. That helped her keep going." This is a valid statement, but lacks grounding in the book. A couple of minutes later, she raised her hand and said, "There were so many times that she had to deal with bad things, like not being able to have a baby, having her husband die, and getting her money stolen. She got through it by being optimistic. If she hadn't been, she wouldn't have ever been able to survive." Sam's second argument, in which she brought in evidence from the book to bolster her opinion, is much more substantial than her first argument. Tory then built on Sam's evidence-backed opinion. By citing examples that others could use as a frame of reference, Sam had made it easier for Tory to enter the conversation.



Hannah, Ursula, Ben, Connor, and Alex in conversation

I began to talk openly with my students about what works well in discussions. One day we talked about how we put our opinions out on the table. I didn't tell them specifically about BOGDACRA; we just talked about what it means for an opinion to have evidence behind it, and how the discussion participants benefit from hearing a speaker's evidence rather than pure opinion. I asked them what they thought was

important in a good discussion; they unanimously agreed that discussions are effective when people build on each other's points and when they talk to each other, as opposed to just talking to the teacher.

Another big question that I have asked myself throughout my process of using BOGDACRA is this: What am I looking for in a class participant? Every teacher has at least one student who receives (or needs to receive) the message, "I love that you are so interested in the material, but you need to make room for others to speak." A distinction needs to be made between effective participation and active participation. Active participation is definitely not always effective. An opinionated student will not grow as fully if she is not listening to her classmates and examining her beliefs in the context of the subject matter and in comparison to what others believe. Some people need to speak aloud in order to process what they are thinking, but listening is an equally important habit to master. Having students look at their own BOGDACRA results is one way I have tackled this issue. From there, they can make goals for themselves for how they want to participate in discussions, and I can make goals for them, too.

In addition to the most vocal participants, what about those students who take part in a discussion by listening carefully and processing internally, but rarely speak aloud? Must all students speak up in order for a discussion to be successful? Is it fair for me to assume that all students must be able to participate orally in discussion, even if they don't want to? Assuming that all students will participate the same way in a discussion is unrealistic.

I think that to teach effectively is to be an anthropologist — to constantly ask questions and to be comfortable living in a state of uncertainty. Using BOGDACRA raised my awareness of the class culture I was building with my students. Additionally, it gave me a clearer window into each student's unique identity as a collaborative, interactive being. It is easy to get caught up when a good discussion is brewing in class, to forget to include quiet students and ensure that everyone is moving toward an academic objective. Rather than getting too relaxed in such a discussion, I try to stay vigilant for the host of questions that will come to the surface. Who is dominating the discussion? Do my students understand what I want them to understand? How do I know? Are they listening to each other? How can I use what happened today to plan for tomorrow's class?

I believe student growth comes about through authentic and collaborative progress toward an academic goal. When the potential of discussion is realized, whole classes thrive. This process of helping students to articulate their views and listen to others is an essential step in helping them become open-minded, engaged, cooperative, and communicative people.

MY PAPER IS LIGHTING UP

PRIMARIES FIX MISTAKES BY FINDING SUCCESSES

by Lauren Kristensen, ACT apprentice 2008-2010

When I began my thesis research two years ago, one thought kept jumping to the forefront of my mind: in our classroom there were 19 students, and out of those 19 students only six could tie their shoes. These students were able to label the ABC patterns on their striped shirts and to solve math problems using algebraic thinking. So why was it that I rarely saw these same small people doing something as basic as bending over to tie their shoes?



The reason for the lack of tennis shoes in our classroom was not a complete mystery to me. Fine motor skills are not a factor when discovering patterns or thinking abstractly about numbers, and in a frenzy to get school on time it takes a special person to patiently wait for tiny fingers to muddle through multiple bunny ears. Yet, it seems to be our desire to give our kids a sense of independence that contributes most to the shoe situation: boots and buckles allow a child the satisfaction (and expediency) of putting on his own shoes.

Our quest to give children independence can make it difficult to know when to assign tasks our kids cannot yet do alone, when to ask them to try and fail and try again and finally master a new skill. The Primary years are full of “setbacks” as children build perseverance and prowess by wrestling with the next challenge. The child who confidently “reads” her picture at age four works hard to identify the letters in the words she wishes to write at age six. Likewise, the child who quickly slips his shoes on in preschool later finds that tying on his new sneakers is strangely time consuming. When do we take away the autonomy that accompanies the quick “slip-on-and-go” and ask them to sit down with us and struggle with loops and knots?

Inspired by the shoe dilemma in our classroom, I began to see situations where my students were ready to build greater independence everywhere. For my action research, I chose to focus on their writing. Thanks to the work of former Arbor apprentice and teacher Fran Hossfeld, our students were able to independently write following such teacher-selected goals as “no crazy capitals,” but the process of sifting through each child’s work to identify needs and dictate these goals was becoming overwhelming. As educators, we are told that good teachers are the ones who avoid general lessons and look instead for places where they can personalize and tailor their teaching. We are told that good teachers are those who stay after hours searching through writing for individual spelling words and mechanics problems, taking the time to write out individual goals and plans. But should a teacher work harder than her students? I would like to act as the voice of opposition and say that setting goals for our students is useful and often necessary, but it doesn’t help our students assess their own work and learn to set their own goals. Realizing this, I asked my kids what areas they felt they needed to work on in their writing. Even the most capable of student writers was unable to respond! I realized that by staying late after school to evaluate my students’ work, I had hidden the goal-setting and assessment processes from them. If students aren’t able to see how we identify problem areas in their writing, how can we expect them to learn how to do so on their own?

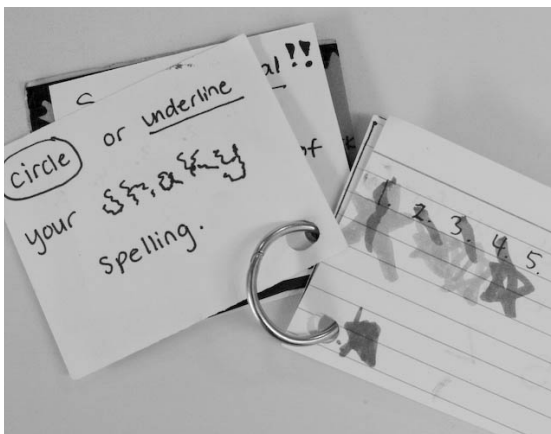
With the help of my colleagues, I developed a system in which the goals that I wanted my students to think about were more visible. Each student was given a small ring of index cards. Her name appeared in a bright color on her ring. Many of the

goals on these index cards, such as “getting onto the second page” and “capitalizing the first word in each sentence,” were general goals for the whole group. In order to make sure that the goals remained individualized, each ring also contained three or four goals that were student specific.



As I gave them their new tools, the children excitedly checked to see which goals appeared on their classmates’ rings. At the beginning of each writing period my students would take out their rings and flip to the goals they wanted to work on that day. The goal cards remained on their desks as visual reminders while they worked, helping to direct their writing and my feedback as I moved around the room.

Now that they were choosing their own goals, what I really wanted was to put the power of assessment in my students’ hands. I wanted to eliminate the dreaded question, “Am I done?” So I passed out highlighters and asked my kids to search their writing for places where they had met their chosen goals. Instead of a student asking me if he had met his goal, he could look at the highlighter marks on his paper. The more highlighted sections, the better his goal had been met. Simple! The highlighter made the assessment process visible, so the kids could proudly show me where they had met their goals. They could tell whether they were meeting the objectives and could visually track their progress over time by flipping through their journals and seeing the bright marks accumulate.



As my students began to work with the new system, I wondered what a mastered goal would look like. I didn’t want my kids to work with a goal once and then discard it. I wanted them to become practiced in the new skills, confident in applying them and in finding evidence of mastery in their writing. A colleague suggested that I write the numbers 1-5 on the back of each goal card. These numbers represented the number of times my kids would need to find evidence of meeting the goal before they could be

considered a “pro.” Once a child was a “pro,” her old card would be replaced with a “purple pro card,” delightfully decorated and laminated for dramatic effect. The kids *loved* it! It was up to them to look at the colorful marks on their papers and decide whether they had met their goals. My kids took a surprisingly critical

We began using the goal rings once a week as a way to reflect upon our Weekend News writing. I introduced the new system by moving through each step with small groups. After walking through the procedure twice with me, my kids dove into their own writing, questioning whether they should circle, underline, highlight or star the places where the goal for the day appeared. Hearing that they could choose to do *any* of those things gave them even more motivation to get working.

stance in assessing whether there was enough color on the page to warrant a met goal. I provided guidance, but ultimately they were the ones who set the standards. When they could see success, they placed a quick highlighted mark over one of the numbers on the back of the card in order to keep track of their progress toward “pro” status for that goal.



Liam's purple pro cards for "No crazy capitals," "Get onto the second page," and "Use your spaces"

The rings of different goals were what allowed the choice and initiative I had craved all along to finally begin to taking shape. I could customize each ring according to the child's needs to provide a list of suitable choices to improve her writing. But it was up to her to choose what she wanted to work on. She could work on the same goal every week until it was mastered, or she could bounce around between the goals. I was happy because any choice my students made would improve their writing; my kids were happy simply because there *was* a choice.

Searching for evidence that he had met his goals forced every student to analyze his writing. The critical nature with which they approached their work soon caused students to ask if they could “fix” their writing to meet their goals. While looking for places where she had dropped her y, j, g, q, and p “into the basement,” one student ran across a few places where she had not met her goal. Before I knew it her eraser was flying over the paper and she was editing her work. Traditionally, editing requires students to fix their work by looking for mistakes. My kids learned how to fix mistakes by looking for successes! The goal cards created a reverse-editing situation: kids who

were having trouble identifying lowercase letters learned to do so by searching for places where they had already been successful. It wasn't long before my kids were exclaiming that their paper was “lighting up” and showing each other all of the places they had met their goals.

After a few weeks my kids were able to work without me in small groups. I watched my students begin to invest in each other's goals by helping one another search for any “crazy capitals” they may have missed, and I listened with delight as Theo joked with Holden about how his next goal should be to “help people spell the word pizza,” because he was so good at it. My kids learned how to help each other edit their work and they had fun while doing it. Power struggles during writing stopped as soon as I resigned as



Lauren and Celia read together

the enforcer of mechanics rules and let the kids take charge. Students whom I had badgered for months to fix their backward letters were now willing to do so because they had chosen “no backwards monsters” as their goal. My students were able to use their goal cards to guide their corrections; suddenly, my comments were seen as additional observations instead of unwanted criticisms.

The reverse-editing system profoundly changed the way my kids interacted with their writing. If there is one thing that I learned from watching them select their own goals and evaluate their own success, it’s that self-reflection is an invaluable and remarkably joyful part of the learning process. So if you’re tired of burning the midnight oil and suspect you might be working harder than your students are, I invite you to start involving your students in goal setting and assessment... and to head home a little early.

Lauren is currently teaching at Willamette Primary School in West Linn, Oregon.



Lauren assists Zia in writing about a mathematical pattern. Below, Max, Nina, and Sarah work on their Weekend News.



