



**“More than half-interested, half-motivated,
half-engaged, half-ready”**

**2010 Final Evaluation Report
The Right Brain Initiative**

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I. Executive Summary

Launched in 2008, The Right Brain Initiative promotes whole brain learning: the logic and order of the left brain harnessed to the inventiveness and emotion of the right brain. The core idea is that the arts are an ideal tool to make this marriage and fire up every aspect of education, from reading to critical thinking, social skills, and motivation. The key strategy is to weave the arts throughout the core curriculum, giving teachers new tools to engage students in a creative process that connects back to other subjects, and in this way, ignite engagement and learning.

In fact, The Right Brain manifesto concludes with this thought:

In a future that will require the full measure of our thinking, it’s no time to leave kids half-interested, half-motivated, half-engaged, half-ready.

In 2010, the Initiative made major investments in its framework and tools for evaluation. Working together, the staff, arts integration facilitators, and outside consultants expanded the project outcomes:

- **Beyond literacy** to include a focus on 21st century skills, such as creativity and innovation, critical thinking and problem solving, communication, and collaboration.
- **Outwards to community:** Teachers and artists further expanded this framework by pointing out the many ways in which the arts also build community and shared values (e.g., mutual respect, learning the traditions of other times and cultures, etc.).

To ensure that young people gained these valuable 21st century skills, the Right Brain community also invested in developing an expanded implementation model that includes:

- **Going beyond five sessions:** By looking at a sample of successful residencies, the Right Brain community developed an understanding of the extended window of time and range of activities that comprise an effective residency. In addition to the face-to-face sessions, effective residencies also include:
 - Pre- and post-residency assessment of student engagement and learning
 - Post-residency reflection
 - Classroom activity that extends learning beyond the bounds of the residency
- **Deepening over time:** Similarly, through conversation with participating teachers and school leaders, Right Brain staff developed a five-tiered plan that

allows schools to deepen their involvement as they develop the capacity to be full partners in the work:

- **Invitational**: Pre-entry experience that introduces the concept of arts integration to key staff members and the program model to the entire faculty.
- **Entry**: Professional development for a team of teachers and an “example” residency in selected classrooms designed to provide hands-on experience on how the program works.
- **Infusion**: Arts integration experiences expanded to all students and ongoing professional development extended to additional teachers with continued support for program implementation provided by Right Brain staff.
- **Immersion**: Build on school-wide arts integration and increase the school’s capacity to facilitate the Right Brain model, supported by a leadership network. Professional development and participation at this stage are ongoing.
- **Model School** (optional): School engages in whole-school arts integration, supported by a network of model schools. All other expectations and services of Immersion phase continue.

Based on this framework, the Initiative developed a set of tools for collecting evidence of the program’s impact. This work involved the collection of:

- Pre- and post-samples of student work
- Imagination interviews: student reflections on their 21st century skills
- Classroom observations of 21st century skills

These data provide several major findings about the concurrent, or immediate, effects of participating in Right Brain residencies:

- **Investment and incorporation of new learning**: Pre- and post-samples of student work reveal that, from the beginning to the end of a residency, students produce more extensive work that signals a greater investment of time and thought.
- **A foundation for 21st century skills**: In interviews about their experiences during residencies, students indicate that they engaged in a range of basic 21st century skills in each of the major categories. (For example, in the area of creativity and innovation, students report generating ideas, creating, and presenting their own work.)
- **The collaborative nature of impact**: When classroom observations are coded for 21st century skills, it is clear that learning soars when teaching artists, classroom teachers, and students all contribute effort and insight.

These same data also point to future work for The Right Brain Initiative:

- **Variations in residencies:** The student work, combined with student interviews, indicates that residencies vary in the depth or extent of the 21st century skills opportunities that they provide. The majority (75%) of residencies provide students with basic opportunities. But for only a quarter of the residencies do students describe engaging in higher-order 21st century skills (e.g., refining and improving their work, continuing to develop ideas outside of school, forging connections to other subjects or aspects of their lives). Making these deeper experiences universal is a frontier for the Initiative.
- **Building impact collectively:** Residencies also vary in the extent to which all contributors are involved. A second frontier for the work is building strategies that will ensure that all players (teaching artists, students, *and* classroom teachers) participate as learners. Only if classroom practice beyond the residency is affected will the Initiative be able to have longer-term effects on children’s success.

Finally, the Right Brain community also developed a longer-term plan for large-scale data collection that could begin as early as 2011. The aim of this plan is to establish the baseline data that will explore the effect of participation in The Right Brain Initiative on standard measures of school and student success. The plan will compare longer-term and more thoroughly-implemented schools with similar schools in their districts that are not yet involved in the Initiative.

II. Why The Work Matters: The Wider and the Immediate Context

Major reports about American competitiveness and continued well-being stress the need to preserve and foster those factors that have given the U.S. a remarkable capacity for creativity and innovation:

America is the greatest engine of innovation that has ever existed, and it can't be duplicated anytime soon, because it is the product of a multitude of factors: extreme freedom of thought, an emphasis on independent thinking, a steady immigration of new minds, a risk-taking culture with no stigma attached to trying and failing, a non-corrupt bureaucracy, and financial markets and a venture capital system that are unrivaled at taking new ideas and turning them into global products.

— Thomas L. Friedman

<http://www.goodreads.com/quotes/show/700>

Underlying that capacity has to be the willingness to invest in the education of a next generation of writers, inventors, entrepreneurs, artists, and scientists. In this spirit, President Barack Obama has called for a major reinvestment in arts education, seeing it as a critical strategy for developing a next generation of creative thinkers:

To remain competitive in the global economy, America needs to reinvigorate the kind of creativity and innovation that has made this country great. To do

so, we must nourish our children's creative skills. In addition to giving our children the science and math skills they need to compete in the new global context, we should also encourage the ability to think creatively that comes from a meaningful arts education.

– President Obama quoted in *Reinvesting in Arts Education: Winning America's Future through Creative Schools*, by the President's Committee for the Arts and Humanities (Draft, April, 2011).

Yet, at exactly the same time, a 2008 national survey by the Center on Education Policy, an independent advocacy organization in Washington, D.C., found that in the five years after enactment of No Child Left Behind, 44% of districts had increased instruction time in elementary school English language arts and math while decreasing time spent on other subjects. A follow-up analysis, released in February 2008, showed that 16% of districts had reduced elementary school class time for music and art and had done so by an average of 35%, or fifty-seven minutes a week.

Outside of the arts, in the field of entrepreneurship, the eighth annual Teens and Entrepreneurship survey conducted by Junior Achievement reveals that 51% of teens surveyed (age 12 – 17) want eventually to start their own businesses. But nearly three quarters of them (74%) identified the fear of risks and the possibility of failure as the biggest deterrents that stand in their way. Since risk and failure are always a part of new ventures, we have to ask how we teach young people to dive in, try, and “fail well,” learning from their efforts to take risks, make mistakes, and invent better strategies.

The Pacific Northwest is no stranger to these challenges. Oregon communities face the challenges of reinventing traditional industries: the lumber industry as the stewards of forests, agribusiness as sustainable community agriculture, and replacing the burning of fossil fuels with renewable resources like sunshine, water, and wind. To meet these challenges, the state and its communities will need a next generation whose members can create, invent, and “fail well.” This will take investments in improving and enriching education.

Tax receipts have tumbled as a result of the recession, and the state's shortfalls will become even more acute as the Recovery and Reinvestment Act funds come to an end. In 2010, Oregon faced a \$4.2 billion budget gap, reported to represent 34% of its general fund. Individual family income has been buffeted by 10% levels of unemployment with few signs that jobs will rebound anytime soon. Under these conditions, dollars for afterschool programs, lessons, camps, instrument rentals and art supplies will be scarce. Throughout the state, communities are struggling to think about how to offer a 21st century education at a time when the available resources are dwindling.

III. The “Rightness” of The Right Brain Initiative in This Context

The Portland region has a long history of innovation and creativity that includes Henry Phillips' development of the crosshead screw that became a mainstay of American auto manufacturing and Bill Bowerman who, as an athlete and trainer, developed the waffle iron shoe that became Nike. The region has also supported artists and writers – think

about the two generations of poets in the Stafford family and the wealth of public art throughout cities like Portland. But equally clear is the region’s particular genius – what might be called creativity with a conscience. It is a particular spirit of innovation evident in the green technologies that flourish in the region as well as in the commitment to civic innovation evident in the many forms of regional services, such as the Regional Arts & Cultural Council. The Right Brain Initiative itself is an extension of that shared vision as a tri-county effort focused on arts education.

At the hard-nosed, practical level, in difficult financial times for public education and the support of nonprofit organizations in the arts, Right Brain is an invention that could offer a regional and cost-effective way to ensure that:

- The arts and other creative activities do not disappear from children’s school experiences
- Teachers and principals can translate their broad commitment to 21st century education into sustainable practices
- The region can develop a core of highly-trained classroom teachers and teaching artists who can support the work of arts specialists who may be stretched thin as class sizes grow and staff shrinks.

IV. Shaping a 21st Century Framework for Evaluation

This year marked several important milestones for The Right Brain Initiative. Based on two years of intensive development and implementation, Right Brain staff and partners:

- Adopted the framework from the Partnership for 21st Century Skills as a means to describe the outcomes of the Initiative (i.e., creative and critical thinking, collaboration, and communication)
- Used initial evaluation data to develop and share the expectations for fully-implemented Right Brain residencies
- Created a five-tiered model for inviting schools to join the Initiative, develop the practices of Right Brain partnerships, and eventually serve as model schools, demonstrating intensive engagement with arts integrated learning
- Developed and implemented strategies for capturing the short-term effects of Right Brain residencies
- Designed a sequence of professional development sessions to support the collaboration of teachers and teaching artists in implementing effective arts integrated learning
- Identified dimensions of changing teacher and principal practice to be included in the teacher and principal surveys that will be a part of Right Brain’s work in the Kennedy Center project, *Any Given Child*
- Outlined a multi-year evaluation plan that will examine the longer-term consequences of the Initiative.

The rest of this report discusses the results and implications of this work.

A. Adopting an Expanded Framework for 21st Century Skills

From its founding, The Right Brain Initiative has had a commitment to making a measurable difference to student learning. In the initial two years, that commitment was focused on making a measurable difference to children’s literacy. In the Initiative’s view, literacy included not only the reading, writing, speaking, and listening skills of the academic curriculum, but also the mastery of the many languages the arts offer for capturing and sharing experience: visual arts, creative writing, theater, music, dance, and others.

However, a close examination of the first two years of Right Brain residency plans and the resulting student work collected from participating classrooms revealed that many of those partnerships went beyond the initial focus on literacy development.

At one high-poverty elementary school that had doubled in size, teachers were concerned about several separate groups of students suddenly coming together. They wanted to build a unified community and support the development of social skills and problem solving that would lead to a unified community. Their most urgent question was, “How could the arts allow kids to become someone else?”

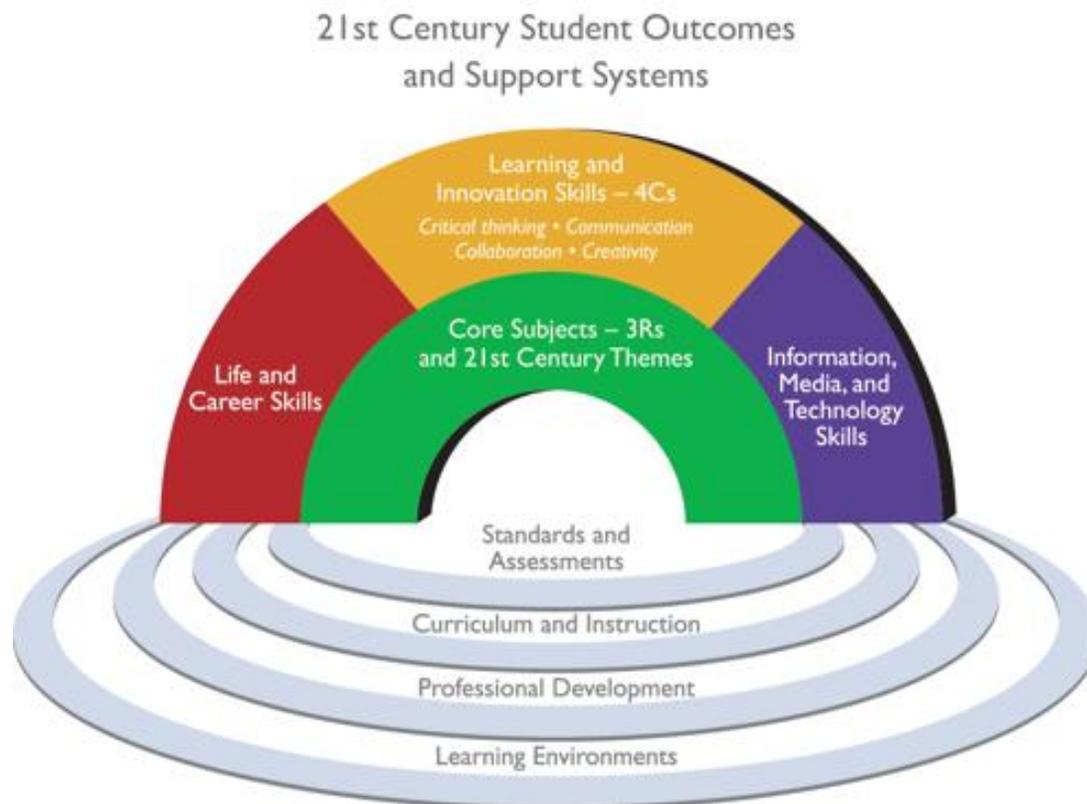
In a residency with a ceramic artist, first grade students kept writing and sketching journals in which they captured the past experiences that made them who they are. Drawing on that personal imagery, they created tiles that reflected treasured scenes from their past. The resulting tiles, along with the personal journals, became the centerpiece of a family learning night, “Focus on First,” where children and their families, delighted by the round, glossy forms and brilliant colors, stretched their memories and vocabularies to recapture hot days at the beach, family meals, and beloved pets.

In their very first lessons with a Taiko drumming ensemble, students as young as seven learned lessons of respect and care for their instruments and one another. They learned to approach their drums with dignity, to pick up and lay down their drumming sticks with care, to move in a measured rotation that allowed everyone equal drumming time, and to bow to their instructors and one another to signal the thankful close of their session.

As a result of participating in these kinds of experiences, teachers were hungry for a more holistic approach to describing the learning in The Right Brain Initiative. In many ways, teachers were saying that incubating imagination is a much broader enterprise that certainly includes information, skills, and literacy, but also stretches far beyond. In order to capture this work, The Right Brain Initiative needed an expanded framework for thinking about the possible consequences of its work.

The Partnership for 21st Century Skills, a national consortium of educators, businesses, entrepreneurs, and policy makers, has been developing a framework that highlights what they term, “learning and innovation skills.” The key elements of 21st century skills are represented in the graphic and descriptions on the following page. The graphic represents 21st century skills and student outcomes (as represented by the arches of the rainbow) as well as 21st century skills support systems (as represented at the bottom).

Table 1: The Original Framework for 21st Century Skills



The arts integrated learning at the heart of The Right Brain Initiative is shown in the top of the “arch” where core academic skills intersect with four clusters of skills:

- Creativity and Innovation
- Critical Thinking and Problem Solving
- Communication
- Collaboration.

In addition to these four skill clusters, many teachers also wanted to highlight a fifth cluster of skills: Constructing a Community of Shared Values. While the definition and elements of this cluster are still evolving, teachers and teaching artists have highlighted the following outcomes in this area:

- Acting on behalf of the larger community
- Sharing and taking care with resources (e.g., materials, tools, and “air time,” or the attention of teachers and artists)
- Raising issues constructively
- Seeking solutions that benefit all
- Respecting the insights, ideas, processes, and traditions of others.

The resulting dimensions of the Right Brain framework for arts-integrated learning are summarized in Table 2 and shown in detail in Appendix A.

**Table 2: The Right Brain Initiative’s Expanded Framework
for 21st Century Skills**

1) EXPANDED LITERACY: CONTENT AND CONCEPTUAL UNDERSTANDING

- Develop and use the skills, techniques, and motivation to express knowledge, ideas, and experiences

2) CREATIVITY AND INNOVATION

- Think creatively
- Work creatively with others
- Implement innovations

3) CRITICAL THINKING AND PROBLEM SOLVING

- Reason effectively
- Use systems thinking
- Make judgments and decisions
- Solve problems

4) COMMUNICATION

- Articulate thoughts and ideas
- Listen effectively
- Utilize multiple media and technologies

5) COLLABORATION

- Demonstrate ability to work effectively and respectfully with diverse teams
- Exercise flexibility and willingness to compromise
- Assume shared responsibility for collaborative work
- Value the individual contributions made by each team member

6) CONSTRUCTING A COMMUNITY OF SHARED VALUES

- Act as a member of a larger community
- Respect the traditions, values, knowledge and art forms of other communities and cultures

Consider the evidence for these 21st century skills that are present in a recent Right Brain residency conducted by a theater artist:

The teaching artist asked teams of young readers and writers to expand on the characters, plots, and themes in the books they were reading, developing podcasts (essentially short audio plays), complete with character voices. As a skilled producer, the artist then added a rich array of sound effects that yielded audio entertainment worthy of “old time” radio that students could share with their families as evidence of the project. Analyzed in terms of the 21st century framework, this residency offers students and teachers a well-rounded opportunity to develop key literacy skills, but also a set of supporting understandings and capacities.

Table 3: 21st Century Skills in a Theater Residency

Arts Integration + Academic Learning	
Expanded Literacy	<ul style="list-style-type: none"> • An understanding of characters’ traits and motivations • A grasp of the plot • Inferential skills to understand underlying themes
21 st Century Skills	
Creativity and Innovation	<ul style="list-style-type: none"> • Inventing new plots and settings • Extending characters • Creating dialogue • Adding humor
Critical Thinking and Problem Solving	<ul style="list-style-type: none"> • The ability to revise early scripts and performances during peer readings and rehearsals • Sharing ideas for improvement
Communication	<ul style="list-style-type: none"> • A clear sense of what dialogue, music, and sound effects can contribute to a radio presentation • Strategies for brainstorming and idea-generation
Collaboration	<ul style="list-style-type: none"> • The listening, speaking, and interaction skills necessary to work together effectively • The skills needed in a “production company” where students share and trade the roles of author, actor, producer, and critic
The Right Brain Initiative’s Expansion of 21 st Century Skills	
Constructing a Community of Shared Values	<ul style="list-style-type: none"> • The development of constructive critique skills • Home – school communication and sharing about the role of creative learning in the school curriculum

B. Investigating Impact: Defining Fully Implemented Residencies

If residencies are to help children develop 21st century skills, they must be consistently and fully implemented. In the first two years of professional development, Right Brain’s Arts Integration Facilitators (AIFs), participating classroom teachers, teaching artists, and Right Brain staff, defined four major features of effective residencies:

- 1) Delivering high-quality arts integration where both arts and academic learning occur
- 2) Focusing on processes and understandings with long-term payoff for both teachers and students
- 3) Ensuring partnerships between teachers and artists in which the residencies spark continued creative learning
- 4) Professional development that integrates the assessment of student experiences and learning into a process of reflection and improvement.

During the spring of 2010, drawing on examples of highly effective residencies (such as the ceramics, theater, and drumming residencies described above), Right Brain’s staff and Arts Integration Facilitators (AIFs) worked with the evaluator to define the differences between modestly- and fully-implemented residencies.

A major insight of this work was that the effectiveness of residencies is the result of a process that spreads over a much longer period and many more interactions than the five explicit teaching artist sessions. Every one of these four phases affects the quality of the work:

- Pre-residency planning and classroom preparation
- Artist residency visits including pre- and post-residency assessments of student engagement and learning
- Post-residency reflection
- Classroom activity that extends learning beyond the bounds of the residency.

While residencies should vary in their design and content, with each having its own distinctive flavor, these four ingredients add to the impact of the experience and should be included. Professional development for both classroom teachers and teaching artists needs to address how to design the full life-span of a residency.

Appendix B summarizes the characteristics of a fully-implemented residency in detail.

C. Building a Five-Tiered Model for the Development of Right Brain Partnerships

During 2010, Right Brain staff also developed a tiered model for partnerships to allow for and support the growth of increasingly rigorous and in-depth work in individual schools. This model is comprised of five tiers in which the demands and responsibilities grow gradually.

- **Invitational:** Pre-entry experience that introduces the concept of arts integration to key staff members and the program model to the entire faculty at no cost to the school district.
- **Entry:** Professional development for a team of teachers and an “example” residency in selected classrooms designed to provide hands-on experience on how the program works. Program implementation supported by Right Brain staff. All services are offered at no cost to the school district.
- **Infusion:** Arts integration experiences expanded to all students and ongoing professional development extended to additional teachers with continued support for program implementation provided by Right Brain staff. School district contributes \$15 per pupil for direct cost of artist services for students. One to three years expected at this stage.
- **Immersion:** Build on school-wide arts integration and increase the school’s capacity to facilitate the Right Brain model, supported by a leadership network. Professional development and participation at this stage are ongoing as well as school district contribution of \$15 per pupil.
- **Model School (optional):** School engages in whole-school arts integration, supported by a network of other model schools. All other expectations and services of Immersion phase continue, including \$15 per pupil contribution by the school district.

V. Moving from Framework to Findings

The adoption of the expanded 21st century framework has provided the foundation for a first round of The Right Brain Initiative findings.

A. Examining Student Work

In each school, a focus teacher agreed to collect a pre- and post-residency sample of student work from at least three students: one who is thriving, one who is striving, and one who is struggling to succeed in school. The process is designed to serve multiple purposes:

- To focus attention on learning goals for the residency
- To ensure that the residency works for all learners
- To provide concrete data to anchor professional development discussions about residency design and student learning.

In a primary grades residency, a teaching artist and classroom teacher focused on using the art of puppetry to help students push their basic writing skills to capture

more than the most necessary information. They wanted to use the creation of a large-scale whimsical puppet figure made from recycled materials to motivate youngsters to try writing words in their spoken vocabulary, to go from writing words to whole sentences, and to try writing connected prose. To track whether this growth occurred, the classroom teacher collected a short sample of descriptive writing prior to the residency, photographed students as they created and performed with their puppets, and used the photos as a “jumping off point” for students writing a post-residency sample. Across the three students, all showed increased numbers of words.

One student went from no writing at all to a detailed description of his puppet.



Given the range of residencies, projects, art forms, and grade levels, it is very challenging to develop common approaches to examine this evidence of student learning. However, across the 2010 data, where there are pre- and post-work samples, there are clear differences for children of all grade levels along a number of broad dimensions:

- Investment: How big, how detailed, how colorful, and how long the work is
- Incorporation of new learning: The use of new vocabulary, techniques, and skills that were the focus of the residency.

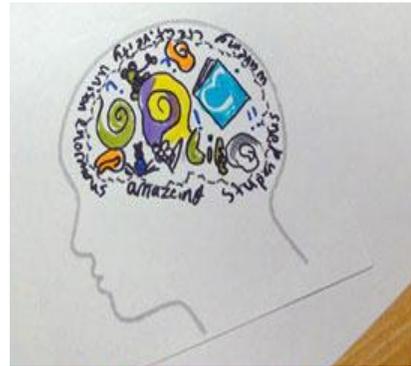
B. Examining the Concurrent Effects of The Right Brain Initiative

This evidence of investment and the incorporation of new learning, while important, is quite broad. In order to look more deeply into what students might be learning, Right Brain staff and the evaluator developed an additional set of tools. These tools included both student interviews and observations of classroom interactions.

Imagination Interviews

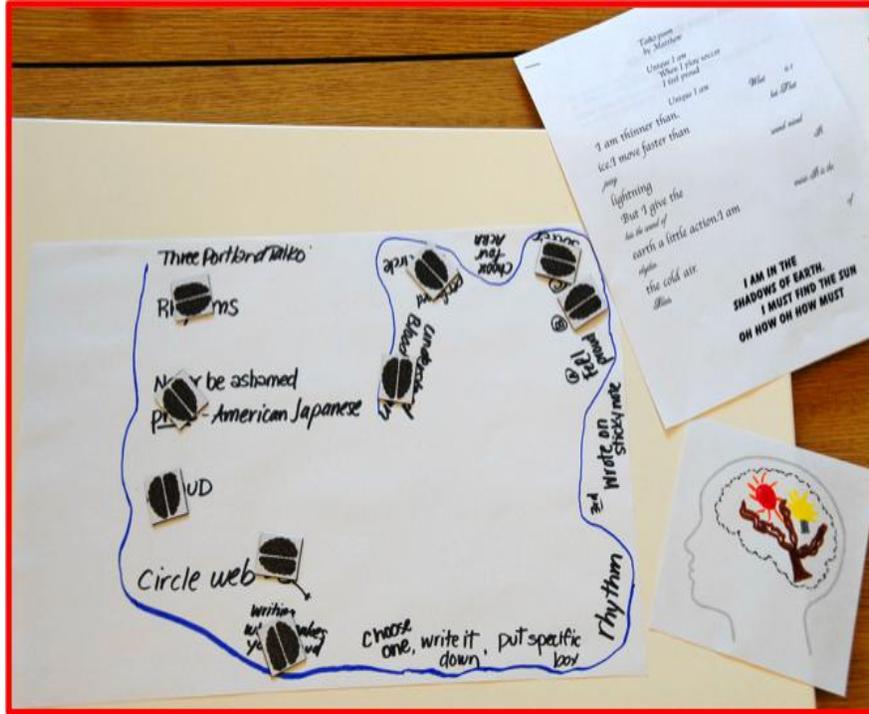
Since 2009, Right Brain staff and volunteers have been conducting Imagination Interviews, one-on-one conversations with young people about their experiences throughout the residencies they participated in. In each focus classroom (one per school), the classroom teacher identifies a range of students with different academic profiles to spend 30 to 45 minutes talking about their experiences during the residency.¹ In the course of this interview, the young person:

- Looks at a series of images from their residency to refresh their memory about what happened.
- Practices talking about internal processes (like wondering, planning, and inventing) by looking at a series of small “brain cartoons” and describing what they think that person/ brain might be thinking, imagining, or feeling.
- Makes and then explains a drawing of their own brain during the residency, using colors, shapes, and lines to depict how their mind was working during those sessions. (This illustration shows how one fifth grader depicted her brain while working on the graphics and writing for a “zine” produced during a Right Brain residency.)
- Narrates “the story” of the residency (i.e., what happened, when, and what they were thinking or feeling at that moment). As they narrate, the interviewer creates a diagram (typically a curving path) that depicts this process.
- Places a set of small markers (in the shape of brains) at the points on the path where their brains were working hard to think, imagine or invent, make something better, share ideas, etc. (The illustration on the following page shows the map one elementary student made to show the many times during a Taiko residency that his brain was at work. To the right are the poems he wrote to accompany the Taiko rhythms he composed, along with his brain drawing. The drawing shows how his Taiko experience will continue to grow like a tree, light up his thinking, and help him to understand other complex undertakings like reading *Under the Blood Red*



¹ Each participating teacher selects: 1) a thriving student who is highly engaged with and successful at learning; 2) a striving student who is making an effort to become more engaged and successful at learning; and 3) a struggling student who has a difficult time engaging with learning with the result that s/he is not currently doing well in school.

Sun, a historical novel that details the experiences of a Japanese-American boy growing up in Hawaii during WWII.)



The process of conducting Imagination Interviews has been designed “to make thinking visible.” Its use of multiple forms of expression and concrete props makes it possible for elementary school children to reflect on what they experienced during the Right Brain residency. In essence, these interviews provide a child’s eye view of what a residency means: what it leaves behind as a learning experience. In addition, the interviews provide evidence that in the context of residencies, children experience themselves as 21st century learners. For instance, Table 4 shows how, in the context of learning Taiko drumming, this young man claims and discusses his skills:

Table 4: Evidence of Being a 21 st Century Learner	
Extended Literacy	Draws, speaks, and writes about his experiences
Creativity and Innovation	Sees himself as a capable writer and musician
Critical Thinking and Problem Solving	Learns the importance of effort and persistence in mastering a new skill
Communication	Learns to make the drums “speak”
Collaboration	Describes being a responsible member of an ensemble
Constructing a Community of Shared Values	Learns about the values embedded in Taiko drumming and the traditions it carries

Based on this work, we coded an initial sample of 24 interviews for the 21st century skills that students claimed for themselves. (The sample was drawn from eight residencies, representing all participating districts, as well as a range of grades and art forms.) The initial results are shown in Table 5 below. The center column indicates the types of 21st century skills that were highly characteristic (occurring in three quarters, or 75%) of the interviews. The far right column describes activities that were present, but rare, occurring in no more than six of the interviews.

Table 5: Evidence for 21st Century Skills in Imagination Interviews		
21st Century Skills	Characteristic Right Brain Activities Present in 75% of Interviews	Less Frequent Right Brain Activities Present in 25% of Interviews
Expanded Literacy	Learn basic skills and techniques of an art form, reflect on these through writing and discussion	Striving for excellence in the form as evident in multiple drafts
Creativity and Innovation	Brainstorm, draft, and create a work	Extend these processes to own time outside of residency or school (dreaming, observing, or planning)
Critical Thinking and Problem Solving	Rehearse, practice, and improve; select best ideas or works for inclusion; recover from mistakes	Set goals for future work, transfer learning to new areas or subjects
Communication	Discuss, write in journals, perform, or display work for an audience; be a tour guide for visitors	Review journals, class documentation, or the evolution of a project to think about next steps
Collaboration	Working in small groups on a joint project	Peer editing and critique
Constructing a Community of Shared Values	Mutual agreements about respecting the work of others, collaborating in constructive ways	Explicit life lessons about effort, persistence, or striving for quality

These initial data indicate:

- Right Brain residencies, taken as a whole, are currently providing young people with fundamental opportunities to practice a range of 21st century skills.
- At the same time, students report varied range and depth in their experiences with 21st century skills opportunities. The activities in the far right column are more extended, independent, and challenging versions of the skills in the left-hand column and were rarer in this initial sample. They are the “frontier” for residency work in The Right Brain Initiative.
- The Right Brain Initiative is supporting several examples of very strong, fully-implemented residencies where children have an opportunity to experience a set of more extended and demanding 21st century skills. These

residencies are typically close partnerships where excellent work on the part of a teaching artist is supported and extended by classroom teachers. They are the “greenhouses” for the Initiative and should be used in every possible way to incubate and model strong practice.

Further analyses in which students are matched by age and level of academic achievement will be necessary to corroborate this finding.

Classroom Observations

In a similar spirit, Right Brain staff and volunteers, along with the evaluation consultant, have collaborated on the development of a classroom observation tool to look at the concurrent or immediate effects of the residencies. In using this tool, observers collect low-inference running records of classroom activity at two-minute intervals, capturing what was said and done by educators (classroom teacher and teaching artist) and children. These records are then coded for the occurrence of 21st century skills. These records produce “x-rays” of where and under what conditions this kind of learning is occurring.

The following running record is taken from a Right Brain photography and writing residency in second grade. It records two short excerpts from the opening day of the residency. In the first episode, the teaching artist used a slide show of his own and children’s photographs (from earlier residencies) to discuss the many options a photographer has in portraying what he or she wants to say about the visible and invisible world. In the second episode, the children receive digital cameras and leave the classroom for a recently rained-on schoolyard full of puddles, reflections, and wet surfaces, making their first round of choices as photographers.

Table 6: Classroom Observation of Residency Coded for 21st Century Skills		
Time	Activity (Observed speech and action) CT- Classroom Teacher; TA – Teaching Artists S1, S2, S3 – Students; G – Group of students	21 st Century Skill
EPISODE 1: LEARNING TO LOOK		
2	TA showing slides of kid photos from earlier residencies; Eyes up here, want us to learn from what each other sees; slide of boy, tall, taken from ground; Look closely, notice everything, what you see and what the photographer is telling you by how he sees. Ss - looking at slide, quiet S1 - He looks like a giant, even though he’s a little kid, he’s huge S2 - How did he do that? TA - What do you think he did?	CL EL EL EL /CT CT
4	TA - Everybody look closely at the clues. What do you think? Talk to your neighbor about what you see. G – Pull chairs together, move so both can see, take turns standing up to see better/ The stuff at the bottom is tall like the grass, the tree branches are smaller/So I bet...(they continue talking, hard to hear) TA - Okay, so what did you all decide? (Asks another group.) S3 - We think he crouched down (shows this) S4 - Yeah, we decided he pointed the camera up (shows this) S3 - To make the little kid look big S4 – Like proud.	EL CL EL EL EL EL EL/CI EL/CI
6 - 14	The showing and discussion of slides continues	
16	The class transitions to taking pictures outside	
EPISODE 2: CREATING FIRST IMAGES		
18	S5 – Sees that a puddle captures the reflection of the sky, walks around, what different things it reflects, and chooses shot with gym equipment, then another with clouds reflected in the surface. S6 – Takes turn, focus on raindrops on gym equipment, experiments with distances, looking before taking, then from side, head on, very close, mid-distance TA – Points out what S6 just did. I just saw XX do something. She used the camera to look in lots of ways before she decided.	CI CI/CT CL/CI
20	Students continue to move around the playground looking for shots. TA + CT mingle with kids, focusing them on the photos, not splashing in the puddles and playing.	CI
22	TA – We only have about 15 more minutes to take pictures. Concentrate on looking. Try different things. CT – Don’t just trade the camera back and forth. When your partner is shooting, look at the choices he or she is making. They might see things that you would miss. You can learn from them.	CI CL/CSV
24 - 36	Picture-taking continues	
38 - 40	Return inside, take care of equipment, forecast of next session.	
EL – Expanded Literacy CI – Creativity and Innovation CT – Critical Thinking and Problem Solving		CM – Communication CL – Collaboration CSV – Community of Shared Values

This tool makes it possible to identify potentially high-impact moments where:

- Teaching artists, classroom teachers, and students all contribute to 21st century skills.
- High levels of collaboration leads to bursts of focused and innovative activity (see Table 7 below).
- Where artistic learning and 21st century skills are occurring simultaneously (see Table 8 on the following page).

Table 7: “Bursts” of 21st Century Skills						
A Portrait of 21 st Century Skills in a Photo Residency						
# 21 st Century Skills						
			EL/CI			
			EL/CI			
		CT	EL			
		CT	EL			
		EL	EL			
		EL	EL	CL/CI		
		EL	CL	CI/CT		CSV/CL
	CL	EL	CI	CI	CI	
Time (min)	2	4	18	20	22	
	Episode 1		Episode 2			
EL Expanded Literacy CI Creativity and Innovation CT Critical Thinking and Problem Solving			CM Communication CL Collaboration CSV Community of Shared Values			

Table 8: Co-occurrence of 21 st Century and Artistic Learning Skills			
Min	Episode 1	21 st Century	Artistic Learning
2	TA showing slides of kid photos from earlier residencies; Eyes up here, want us to learn from what each other sees; slide of boy, tall, taken from ground; Look closely, notice everything, what you see and what the photographer is telling you by how he sees Ss - looking at slide, quiet S1 - He looks like a giant, even though he’s a little kid, he’s huge S2 - How did he do that? TA - What do you think he did?	CL EL EL EL CT CT	Focus and observation Non-literal thinking Technique (Point of view)
4	TA - Everybody look closely at the clues. What do you think? Talk to your neighbor about what you see. G – Pull chairs together, move so both can see, take turns standing up to see better, The stuff at the bottom is tall like the grass the tree branches are smaller/So I bet...(they continue talking, hard to hear) TA - Okay, so what did you decide? S3 - We think he crouched down (shows this) S4 - Yeah, we decided he pointed the camera up (shows this) S3 - To make the little kid look big S4 – Like proud.	EL CL EL EL EL EL/CI EL/CI	Focus and observation Technique (Point of view) Non-literal thinking
EL – Expanded Literacy CI – Creativity and Innovation CT – Critical Thinking and Problem Solving		CM – Communication CL – Collaboration CSV – Community of Shared Values	

Correspondingly, these same analyses make it possible to identify and address residencies that do not yet exhibit this level of shared engagement and learning and to think about the professional learning opportunities that are needed.

In order to continue this work, during the winter and spring of 2011:

- A representative sample of Right Brain residencies is being observed (sampling across districts, schools, and grade levels).
- A complementary sample of ongoing instruction in the same classrooms is being observed during the same time period.
- Both samples will be coded for the frequency and level of 21st century skills (as shown in the foregoing examples).
- The data from ongoing classroom instruction and residency-based instruction will be compared in order to ask what the added value of Right Brain residencies is with respect to students’ opportunities to learn 21st century skills.

- The data from modestly- and fully-implemented residencies will be compared in order to examine the combined consequences of professional development, school-wide support, and artist-teacher collaborations.

VI. Moving the Evaluation Forward

A. Surveying Teachers and Principals

In 2010, The Right Brain Initiative was selected as one of three national sites for the Kennedy Center’s *Any Given Child Initiative*. As a part of that initiative, Right Brain staff are designing a set of new surveys for participating classroom teachers, principals, and superintendents. These surveys will build on earlier baseline surveys collected in 2008 and 2009.

These surveys contain a set of items that can capture the ways in which The Right Brain Initiative is affecting teaching and learning in classrooms, as well as the ways in which increasingly scarce resources are identified or converted in order to sustain children’s and teachers’ experiences with the arts and arts integration.

Based on pilot interviews about changes in classroom and building-level practices, it is clear that the *Any Given Child* surveys could incorporate the following information:

For Classroom Teachers

- Continued involvement in Right Brain activities (professional development, mentoring new teachers, supporting all-school events, etc.)
- Spill-over (i.e., the continued work with Right Brain concepts, skills, techniques, or strategies)
- Collaboration with peers around arts and arts integration
- Engagement of families as volunteers, audiences, or in other ways that support Right Brain activities
- Purchase of materials, books, or tools to support arts learning or arts integration
- Personal engagement with creative learning (e.g., related courses, doing arts in own free time, attending arts events)

For Principals

- Persistence in The Right Brain Initiative
- Numbers of teachers continuing and new teachers involved in the Initiative
- Number of family and community events based on Right Brain residencies
- Funds raised to support or extend Right Brain activities.
- Funds converted from other purposes to support or extend Right Brain activities

- Participation in Right Brain classroom events, all-school events, inclusion in school bulletins and calendars
- Participation in Right Brain events for principals

These indicators will provide an Initiative-wide picture of the ways in which classroom- and building-level practices support and extend the impact of The Right Brain Initiative.

The evaluation has taken four significant steps forward in 2010:

- The identification of the goals for fully-implemented residencies
- The adoption of the 21st century skills framework as a way to define and measure outcomes
- The development and refinement of a set of tools to track the concurrent effects of the residencies: 1) the Imagination Interviews, 2) the classroom observations, and 3) collection of pre- and post-work samples
- The proposal for a set of survey items about teacher and principal practice to be embedded in the *Any Given Child* surveys

This means that the 2010 – 11 evaluation could include the following information for all Right Brain schools:

School Level Data on the Intensity of Involvement in Arts Learning

- Length of participation in Right Brain (1,2, 3, etc. years)
- Number of participating teachers and classrooms
- Number of modestly- and fully-implemented residencies
- Survey data on teacher practices that support Right Brain work
- Survey data on principal practices that support Right Brain work
- Number of arts learning positions and programs

Student Outcomes

- Evidence of 21st century skill outcomes (5 C's) in ongoing classroom instruction and Right Brain residencies
- Evidence from a range of students about their experiences, in the form of Imagination Interviews, coded for 21st century skills
- Evidence of student learning based on pre- and post-work samples from residencies

B. Developing a Longer-term Evaluation Plan

Understandably, participating districts, principals, and funders are eager to know more than this. Particularly during hard economic times, when each of them is making difficult choices, they want to know about the longer-term effects of choosing to invest in The Right Brain Initiative.

In taking up this question, it is important to bear in mind that The Right Brain Initiative brings each classroom approximately five classroom periods with students – less than 4% of the instructional time given to an academic subject like science or social studies that is taught for a period every day.

With the cooperation of participating districts, it will be possible as early as the end of 2011 to collect baseline data on schools that are participating in The Right Brain Initiative, as compared to similar schools that have not yet joined the project. As time progresses and more schools are involved, it will be possible to compare schools with longer and more robust involvement with similar schools that are just joining the Initiative. These comparisons can focus on large scale, common measures like attendance, student progression through the grades, and state assessments of literacy (possibly including measures of the progress of English Language Learners).

However, based on research into other whole school interventions, it takes three to five years to develop a stable and high-quality delivery system, clear outcomes, and a learning community that can affect the overall culture in a school building.

To collect this data in efficient and cost-effective ways, The Right Brain Initiative and the evaluation consultant will need to develop strategies to:

- Train a cadre of AIFs or volunteers who can help to collect the requisite data in reliable ways.
- Form a working group of principals and superintendents to advise on developing profiles of participation for individual schools and relating these profiles to large-scale measures of school success.

C. Considering the Broader Implications

The work of 2010 and the initial evaluation data point to several important goals for The Right Brain Initiative:

- **Developing the quality of residencies:** As with any sophisticated practice, the current level of implementation varies widely. A drumming residency can be an exercise in regimented imitation or in deep learning, depending on how it is carried out. Teaching artists deserve to be auditioned, observed, and members of a learning community with high expectations. Classroom teachers and school leaders deserve the same.
- **Developing a stable set of valued outcomes in the form of the expanded set of 21st century skills:** For the Initiative to have the impact it aspires to have, it is vital that all aspects of the Initiative use a common and stable framework: selection of artists and residencies, professional development, coaching, development, and publications.

- **Ensuring that this framework speaks to the needs of schools and districts:** Many of the schools in the tri-county area have initiatives that echo the 21st century skills framework. There could be tremendous synergies – *if* language, goals, and measures are shared. But such synergies don't just happen. Right Brain staff and their district colleagues will need to collaborate.
- **Expanding the range of residencies:** The Right Brain Initiative is embedded in a region that values green technology and sustainable innovation. There is considerable human capital in areas like design, architecture, landscaping, and environmental preservation. In light of the Initiative's growing emphasis on 21st century skills, there is an opportunity to expand the range of residencies the Initiative supports. Potentially, the interactions between teaching artists, designers, and other innovators will stimulate vigorous conversations about the intersection of the arts and the development of 21st century skills.

Appendix A: Six Dimensions of Right Brain Learning

1) EXPANDED LITERACY: CONTENT AND CONCEPTUAL UNDERSTANDING

- Develop and use the skills, techniques, and motivation to express knowledge, ideas, and experiences through the materials and means of an art form.

2) CREATIVITY AND INNOVATION

- **Think Creatively:** Use a wide range of idea creation techniques (such as brainstorming); create new and worthwhile ideas (both incremental and radical concepts); elaborate, refine, analyze, and evaluate ideas in order to improve and maximize creative efforts.
- **Work Creatively with Others:** Develop, implement, and communicate new ideas to others effectively; be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work; demonstrate originality and inventiveness in work and understand the real world limits to adopting new ideas; view failure as an opportunity to learn; understand that creativity and innovation require iterative thinking.
- **Implement Innovations:** Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur.

3) CRITICAL THINKING AND PROBLEM SOLVING

- **Reason Effectively:** Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation.
- **Use Systems Thinking:** Analyze how parts of a whole interact with each other to produce overall outcomes in complex systems.
- **Make Judgments and Decisions:** Effectively analyze and evaluate evidence, arguments, claims, and beliefs; analyze and evaluate major alternative points of view; synthesize and make connections between information and arguments; interpret information and draw conclusions based on the best analysis; reflect critically on learning experiences and processes.
- **Solve Problems:** Solve different kinds of non-familiar problems in both conventional and innovative ways; identify and ask significant questions that clarify various points of view and lead to better solutions.

4) COMMUNICATION

- Articulate thoughts and ideas effectively using oral, written, and nonverbal communication skills in a variety of forms and contexts; listen effectively to decipher meaning, including knowledge, values, attitudes, and intentions; use communication for a range of purposes (e.g. to inform, instruct, motivate, and persuade): utilize multiple media and technologies and know how to judge their effectiveness a priori as well as assess their impact; communicate effectively in diverse environments (including multi-lingual).

5) COLLABORATION

- Demonstrate ability to work effectively and respectfully with diverse teams; exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal; assume shared responsibility for collaborative work; and value the individual contributions made by each team member.

6) CONSTRUCTING A COMMUNITY OF SHARED VALUES (still evolving)

- **Act on behalf of the larger community:** Share resources (materials, tools, “air time,” and the attention of teachers and artists); raise issues constructively; seek solutions that benefit all; respect the ideas, processes, and work of others.
- **Respect the traditions, values, and art forms of other communities and cultures.**

**Appendix B:
 Differences in Modest and Full Implementation of
 Right Brain Residencies**

Modestly Implemented Residencies Fully Implemented Residencies		
PLANNING THE RESIDENCY		
School Planning	<ul style="list-style-type: none"> • Planning meeting involves School Arts Team • Team develops a plan for identifying arts providers • Connection between choice of arts provider and school needs and goal. 	<ul style="list-style-type: none"> • Planning meeting involves School Arts Team, with input gathered from whole staff • Map of school’s arts education history is utilized in developing a cohesive school plan for current year • Strong connection between prior arts projects, choice of arts provider, and school needs and goals • Creative, thoughtful use of resources • Maximize available resources and student time with artist.
Planning Meeting	<ul style="list-style-type: none"> • Planning meeting involves necessary personnel. • Chief topics are logistics • Plan meets stated student needs and interests. 	<ul style="list-style-type: none"> • Planning meeting includes necessary and supporting personnel, and has all school “buy-in” • Chief topics also include possible extensions and connections to deepen or extend impact • Plan sets high expectations for students.
Pre-residency in the Classroom	<ul style="list-style-type: none"> • Teachers and students discuss the specifics of the residency: times, topic, artist, etc. 	<ul style="list-style-type: none"> • Teachers and students actively prepare for the residency (e.g., begin related work, discuss connections, and research the artist(s) and their work.
Resulting Plan for the Residency	<ul style="list-style-type: none"> • The residency has a clear focus on: <ul style="list-style-type: none"> • Specific 21st century skills • Specific arts contents and skills • Implied or modest ties to other subjects or areas of learning • A culminating project/performance. 	<ul style="list-style-type: none"> • A residency with a clear focus on higher order artistic and learning that includes: <ul style="list-style-type: none"> • A range of 21st century skills (with at least one developed in depth) • Arts contents + skills that include big ideas and powerful ways of working • Explicit ties to other subjects or areas of learning • Clear learning expectations that build over time (pre-, during, and -post) • A culminating project designed to share what students have learned with internal and external audiences.

CONDUCTING THE RESIDENCY		
Pre-assessment	<ul style="list-style-type: none"> • Featured teachers collect a pre-sample (may be whole class or 3 – 6 students who represent a range of engagement and achievement) • The pre-samples represent the kind of processes/works/performance s students will be learning how to do. 	<ul style="list-style-type: none"> • Featured teachers collect a pre-sample (may be whole class or a sample from 3 – 6 students who represent a range of engagement and achievement) • The pre-samples represent the kind of processes/works/performances students will be learning how to do. • Teachers and artists review these samples to fine-tune their residency plans • Teachers, artists, and students may use these samples to set goals or to think about where they could take their work.
Artist Visits	<ul style="list-style-type: none"> • A sequence of sessions that build students’ interest, skills, and understandings over time • Students learn from models and examples the artist provides. 	<ul style="list-style-type: none"> • A sequence of sessions that deepen students’ interest, skills, and understandings over time • Students learn from models and examples the artist provides • Students have active roles as creators, innovators, models and mentors to their peers.
Classroom During Residency	<ul style="list-style-type: none"> • Teachers and artists work together to keep the process organized and moving forward • Teachers support and learn from the artist. 	<ul style="list-style-type: none"> • Teachers and artists work together to keep the process organized and moving forward • Teachers and artists collaborate with each learning from the other • Teachers and artists forecast next steps in residency for students • Both engage in deliberate “kid-watching” and reflect on student learning and next steps • Student work, ideas, and needs shape the residency • Students make connections to other subject matter and life experiences • Students reflect on their learning throughout.

<p>Post-assessment</p>	<ul style="list-style-type: none"> Featured teachers collect a post-residency sample of processes/ performances/works students learned how to do (from whole class or the same small group of students who participated in the pre-assessment). 	<ul style="list-style-type: none"> Featured teachers collect a post-residency sample of processes/ performances/works students learned how to do (from whole class or the same small group of students who participated in the pre-assessment). Teachers and artists collaborate to document the evolution of student learning in multiple ways (on-going and post-residency samples, reflection discussions, exhibitions, etc.) Teachers and artists use the pre- and post-samples to discuss the growth that has taken place with their students and to design ways to share that growth with multiple audiences.
<p>Reflection</p>	<ul style="list-style-type: none"> Teachers and AIFs reflect on the residency as a whole in a school-based meeting, and/or in Right Brain professional development sessions. 	<ul style="list-style-type: none"> Teachers and AIFs reflect on the residency as a whole in a school-based meeting, and/or in Right Brain professional development sessions Teachers, AIFs, and artists share what they have observed about their students’ learning informally, in school-based meeting, and/or with other participants in Right Brain professional development sessions Teachers and artists design ways in which to display this growth and share it with the wider school community with one another, other classes, with families, across schools, in the community.

<p>BUILDING TOWARD FUTURE RESIDENCIES</p>		
<p>Thinking Ahead</p>	<ul style="list-style-type: none"> Teachers, artists, AIFs, and Right Brain staff make use of lessons learned in earlier years to plan future residencies. 	<ul style="list-style-type: none"> Teachers, artists, AIFs, and Right Brain staff make use of lessons learned to plan residencies for the coming year Ideas are shared with other staff and principal as part of forward planning Teachers build additional classroom learning based on what they and their students have learned during the residency including: <ul style="list-style-type: none"> Strategies for learning Ways of working together Big ideas Links between the arts and other forms of learning.

