About the Author(s)

Dr. Lynn H. Fox
Dean and Professor of Educational Psychology
School of Education
American University

Dr. Lynn H. Fox has done extensive research in the area of gifted and talented education, especially on issues concerning mathematically gifted girls. Dr. Fox was formerly head of the Intellectually Gifted Child Study Group at Johns Hopkins University and an educational specialist at the U.S. National Center for Educational Statistics.

Dr. Gail Humphries Mardirosian
Chair, Department of Performing Arts
College of Arts and Sciences
American University

Dr. Gail Humphries Mardirosian has directed over 100 productions to date, including musicals, serious drama, the classics, children's theatre, and cabaret performances. She is also an arts education consultant, having recently completed the Business Plan for Educational Programming at Imagination Stage, Inc.'s, new multimillion dollar professional theatre and centre for the arts for children, and having developed theatre-based curriculum for various arts organizations, art and culture centers, and colleges/and universities nationwide.

Contact Details

Dr. Lynn H. Fox
Dean
School of Education
American University
4400 Massachusetts Avenue, NW
Washington, DC 20016-8030
United States of America

Lynn.fox@american.edu
Phone: +1 202 885 3730; Fax: +1 202 885 1187

Dr. Gail Humphries Mardirosian
Department of Performing Arts
American University
4400 Massachusetts Avenue, NW
Washington, DC 20016-8030
United States of America

Ghumphr@american.edu
Phone: +1 202 885 3429; Fax: +1 202 8851092

Literacy Learning for At-Risk Students Through Arts-Based Instruction: A Case Study of the Imagination Quest (*IQ*) Model[1]

Main Description

Imagination Quest (*IQ*) is a theatre- and arts-based teaching and learning model that was developed in the mid-1990s in response to a rather dismal picture of student achievement in reading in the United States. *IQ*'s goals are to increase students' academic achievement through *Learning to Read, Reading to Learn* in-class interventions; facilitate teachers' effectiveness in the classroom through *Teach to Reach* professional development programs; and increase the involvement of parents/guardians in their children's learning through *Partners for Learning* workshops. The *IQ* model, a collaborative effort between American University (Department of Performing Arts and School of Education) and Imagination Stage, Inc. (a not-for-profit professional children's theatre and arts education organization), is a work in progress. While it initially focused specifically on instructional strategies for core reading books and standards of learning for literature and language arts, the focus has evolved to include other disciplines, e.g., science and geography, as well as standards and skill sets for the arts disciplines. Future efforts will include: (1) more focus on the ways in which integration of the arts into the basic curriculum can help meet the national and local arts education standards; and (2) a wider variety of teacher training experiences in different school systems, including week-long training institutes for arts specialists who will be trained in literacy learning applied to visual and performing arts.

Preliminary data on both the impact of arts-based instruction on student achievement and the effectiveness of teacher professional development testify to the potential of the *IQ* model. Teachers at both the elementary and middle school levels have been able to learn and apply the *IQ* model. Student outcomes in elementary school reading/language arts (8 and 9 year olds) and in middle school science and geography classes (12 and 13 year olds) indicate that the approach does impact achievement.

Short Description

Imagination Quest (*IQ*) is a theatre- and arts-based teaching and learning model whose mission is to advance active and personal education *in*, *through*, and *about* the arts.

1 The authors wish to thank Yvonne Lewis and Michael Murawski for their editorial assistance in the preparation of the manuscript; the IQ team of artist teachers; and the graduate students who have assisted in the evaluation components of various projects: Jennifer Engle, Karen DiGiovani, and Laura Grassman.

Keywords

Imagination Quest (*IQ*)
Arts-Based Instruction
Theatre-Based Instruction
Arts Integration
Arts Intervention

The State of Literacy Learning for Children in the United States

Literacy learning[2] is a critical issue in American education today. The 2000 National Assessment of Educational Progress (NAEP) reported that only 32 percent of 4th grade students in the United States can read at or above the Proficient Level—the level at which all students should read. Furthermore, significant changes were noted at both the upper and lower ends of the performance distribution; the higher performing students made progress while students in the lowest 10 percent scored significantly lower than in previous assessment years (NAEP 2001). Problems with reading have implications for later learning in all curricular areas. Howe (1997, p.3) describes the problem this way: "A child who has not yet learned to read…has no *real* opportunity to proceed through subsequent levels of the curriculum that depend on reading. Such a child has merely a *bare* opportunity to further his or her education, an opportunity in name only." Evidence of this can be seen in the fact that, in the United States, science learning has declined significantly for 12th graders (NAEP, 2002).

The Arts as a Response

Research findings provide compelling evidence that integration of the arts into the curriculum is an effective means to reach many children in new ways, especially those who have been failing in traditional schools. Some of those findings indicate that: (1) arts experiences help level the educational playing field for disadvantaged students (Catterall, in Champions of Change: The Impact of the Arts on Learning, 1999); (2) students who participate in arts-infused interdisciplinary curriculum schools show greater gains in science scores when compared with students in non-participating schools (Petrosko, et. al. 1997); and (3) 12th grade students who do hands-on activities almost every day and once or twice a week have higher scale scores and are more likely to be at or above the Proficient Level than students who do hands-on activities once or twice a month

[2] In this study, literacy is used comprehensively to mean "knowing how to read and carry out the complex task of reading and writing related to the world of work and life outside the school" (Tompkins 1997).

or never (O'Sullivan & Weiss, 1999). Further, leaders in the English and language arts field advocate—as they have for decades—a greater role for theatre arts in the curriculum. Reading specialists, including Keene and Zimmerman (1997) and Cambourne (1997), for example, endorse dramatization as a way to facilitate learning because it is an "active" form of verbal expression, involving the body, voice, mind, and imagination, generating both cognitive and affective learning.

Both research and practice have demonstrated that integration of the arts into the content area curriculum also has great potential for increasing teacher competency (Deasey, 2002); Fiske, 1999**;** Heinig**,** 1993)**.** Integrative experiences, taught in a manner that shows the complementarities of the disciplines, can provide avenues for in-depth analysis of subject matter and breadth of experience (Irwin & Reynolds, 1995). Seidel (in Champions of Change*,* pp. 83-84) agrees that arts learning could help energize the teaching workforce. He describes interfacing the arts with content learning as "an exemplar of teaching for understanding…and it deserves consideration from any teacher seriously committed to exploring pedagogy built on the ideas put forth by [Howard] Gardner."

The State of Professional Development for Teachers in the United States

Showing teachers the power of arts-based teaching may be one way to improve student achievement. It will not be an easy task. Today's classroom teacher faces complicated and intense challenges. In order to empower diverse learners, teachers must *understand how students think* to create experiences that actually work to produce learning (Marzano, Pickering & Pollock 2001). While collective thinking, scholarship, and research on professional development consistently emphasize the need, possibilities, and importance of teacher change, professional development—the traditional mechanism for teacher change and improvement—has failed to produce the desired results (Fullan 1991; Joyce & Showers 1980, 1983, 1995). The literature is replete with data that show teachers benefit most from programs in which they are active participants, both in planning and actual staff development activities (Guskey 2000), yet this is not the norm (Lieberman 1995). "Hit and run" workshops, without sustained coaching, follow-up, and mentoring fail to deliver significantly improved professional competencies (Darling-Hammond 1996). Effective teacher learning that supports effective student learning calls for new approaches; teachers must consider "new ways for interaction that impact the fundamental relationships of student, teacher, and knowledge" (Elmore 1996, p. 1).

Imagination Quest (*IQ*) as a Response to the Need for Educational Change

Imagination Quest (*IQ*), a collaborative effort between American University

(Department of Performing Arts and School of Education) and Imagination Stage, Inc. (a non-profit professional children's theatre and arts education organization), is a theatre- and arts-based teaching and learning model. Its goals are three-fold: (1) to increase students' academic achievement through *Learning to Read, Reading to Learn* in-class interventions; (2) to facilitate teachers' effectiveness in the classroom through *Teach to Reach* professional development programs; and (3) to increase the involvement of parents/guardians in their children's learning through *Partners for Learning* workshops.

IQ's philosophy is centered on two learning principles. First, students have different patterns of abilities and interests that impact how they learn and their motivation to learn; and second, learning is facilitated by activities that engage the learner in the construction of knowledge. This pedagogical framework is informed by the theories and writings of Howard Gardner's theory of multiple intelligences (1983, 1991, 1993); Jerome Bruner's constructivist theory of learning (1960, 1961, 1966); Lev Vygotsky's sociocultural theory (1987); and Stanley Greenspan's affective view of intelligence (1999).

IQ artists-teachers are seasoned professionals from American University and Imagination Stage, Inc., with backgrounds in a given artistic discipline (theatre, music, dance, visual arts) and education. In addition, an educational psychologist and a reading specialist work in tandem with the *IQ* Team. Doctoral students in American University's School of Education assist with research, evaluation design, data collection, and analysis. Undergraduate and graduate students in the theatre and education programs at American University gain training and practical experience as *IQ* interns.

Over the past 6 years, *IQ* has reached over 950 teachers, 250 parents, 600 students, and 40 school principals from Washington, D.C.; Maryland; Virginia; and California, thanks to funding from foundations; corporations; school systems; local, State, and Federal Governments, Arts Councils, and Arts Commissions. *IQ* has served a broad range of students, teachers, and parents with demographics that include inner city schools, suburban metropolitan schools, and rural schools. Most of the schools involved in this project, however, are designated Title I schools or can be identified as "at-risk"—interpreted here to mean a student who, because of limited English proficiency, poverty, race, geographic location, or economic disadvantage, faces a greater risk of low educational achievement or reduced academic expectations.

IQ Offers Arts Integration as a Pathway to Enhanced Student Achievement

The *IQ* instructional model offers an opportunity to examine how the infusion of arts-based activities into teaching strategies in reading/language arts and science can enhance the motivation and achievement of students, especially those who are considered at risk because they perform significantly below the "Proficient Level" on many indicators of achievement. The *IQ* methodology specifically: (1) applies

theatre- and arts-based strategies to classroom instruction, incorporating arts-integrated lesson plans for specific subjects that directly correlate the mechanisms, techniques, and tools of the visual and performing arts to content area standards of learning; (2) places visual and performing arts-integrated lesson plans in the classroom through a progression of teacher coaching/mentoring, co-instruction, and, finally, independent instruction; (3) models instructional practices—involving active engagement and multiple methods of subject matter delivery—within a training process that mirrors the classroom experience for student learning. The methodology empowers teachers to confront both the cognitive and affective development of the student to make a difference in student achievement; and it engages students—through a collaboration of all the intelligences—to channel their energy, stimulate their inquiry, and further their creative thinking and creative problem solving. In the succinct words of one young *IQ*-inspired 3rd grade student, "*IQ* puts more stuff in our brains."

IQ Offers a Professional Development Model to Enhance Teacher Effectiveness

IQ professional development experiences for classroom teachers are designed to teach powerful and complex theoretically grounded strategies and to effectively heed the findings of professional development research. Joyce and Showers (1995) contend that nearly all teachers can learn the most powerful and complex teaching strategies, provided that staff development is designed properly. *IQ* effects teacher change through: (1) theatre- and arts-integrated professional development experiences that are delivered on-site over a sustained period of time; (2) placement of the teacher in an active role that mirrors the activities of the students in the classroom; and (3) provision of modeled practice, coaching, and mentoring, both in instructional strategies and lesson plan development. By generating change in teacher behavior, attitude, and skills, *IQ* provides mechanisms for delivering classroom instruction that ensures the possibility of success for all children (Darling-Hammond 1996; 1997; 1998). The words of one *IQ*-inspired 8th grade social studies teacher are telling: "Teachers feel the pressures of Standards of Learning (SOLs). They [SOLs] are the skeletons underneath everything. What we teach wraps around that skeleton. *How* we wrap it makes the difference. Using the arts makes it visceral and much more exciting than lecturing…this [*IQ*] approach adds imagination to the journey."

IQ Links the Use of the Arts to Research on Cognition and Memory

The basic intervention of the *IQ* project is the infusion of the arts into the regular curriculum. Early work focused on the application of creative instructional strategies, specifically arts-based classroom exercises, to strengthen instruction of the core subjects in the regular curriculum. Most of the early work focused on the use of arts-based strategies from the performing arts. In more recent efforts the instructional strategies are expanded to include more visual arts components.

As the *IQ* model has evolved, the delineation between drama and "theatre" has gained clarity. Generally, arts-based teaching includes all the art forms, but particularly *informal* drama techniques, such as role-play or improvisation, to support learning. The notion of *formal* "theatre arts" is invoked when students craft a performance piece for an external audience. In the majority of *IQ* implementations, the lessons focus on the use of informal arts-based activities in order to support and strengthen instruction in a content area. These activities culminate in a project that becomes a public performance with a script, props, costumes, music, and dance in which the students learn something about the nature of "performing arts" beyond its use in exploring core curricular content. Thus, the philosophy and practices of *IQ* involve the approach to arts study as both essentialist (arts-for-arts sake, an intrinsic view of the arts as discrete disciplines), instrumentalist (utilitarian or extrinsic-valuing "the conception of art's role in general education"), and as a teaching tool (Dobbs 1998, pp.9-10).

As the *IQ* team works with students and teachers, the goal is to help the teachers find ways to use the creative arts to support learning. An overarching template for lesson plan development incorporates the mechanisms of the performing artist—the body, voice, mind, and imagination. These four elements shape the design of each *IQ* lesson. Some lessons involve short activities that use visual or performing arts components as memory tools or ways to help the student construct knowledge through visual or bodily-kinesthetic analogies. Some lessons require extended activities involving dramatizations and elaborations through artistic creations, while others become part of preparation for actual performances. It is particularly in the latter that the arts standards can be most readily addressed. A list of dramatic techniques and the tools that might support them that are used by the *IQ* Team are shown in **Figure 1**.

The links between the techniques or arts-based instructional activities and research on cognition and memory are generated in several areas. One is the notion of "dual-coding." Dual coding theory purports that memory is enhanced when material is experienced in both verbal and non-verbal representations (Paivio 1986, 1991). More recently, the specifics of the theory have been demonstrated explicitly as they relate to cognition in reading (Sadoski & Paivio 1994; Sadoski, Paivio, & Goetz 1991; Sadoski, Paivio, & Goetz, 1994). Other work related to multimodal instruction involving visual aids also supports the use of visualization techniques, prompts, and signs used by the *IQ* team (Gellevij, Van Der Meij, DeJong, & Pieters 2002). Another area is "hot cognition," which occurs when memory is enhanced by arousal of emotions (Ormrod 2003; Tobias 1994). Dramatization activities involve a variety of intelligences as postulated by Gardner (1983, 1993), especially the interpersonal, intrapersonal, verbal, and bodily-kinesthetic ones. When dramatization moves into the arena of scripted and rehearsed performances, it may also engage musical, logical-mathematical, and spatial intelligences.

Some examples of specific lessons and the assessment components that inform our research are described in the following sections.

Figure 1: *IQ* Techniques and Tools

Arts Based Techniques
Characterization Creative movement/dance Design of costumes and sets Dialogue and scene writing Improvisation Musical compositions Singing and playing instruments Oral interpretation Pantomime Role-playing Sign language and gesture Storytelling and oral interpretation
Arts-Based Tools that Support the Techniques
Art Objects Costumes Masks Music and instruments Poetry and stories Props Puppets Sets Scripts

IQ in Action: With Students

To date, the research components of *IQ* have focused on the overall impact of the experience on cognitive outcomes in terms of core curriculum. *IQ* has also sought connections between the use of arts-based instructional techniques and research on cognition, problem solving, and memory. Three broad categories of activities have developed that seem to be linked to or supported by more general research on learning and that seem to support different learner outcomes or objectives. All three categories of activities help students construct knowledge in some way that relies on the arts, with an emphasis on performing arts. The three categories are: (1) *arts-based games*—using movement, body language, and visual symbols to connect language to meaning with body analogies; (2) *dramatic play*—using role-play and improvisation that also develops analogous thinking but in more extended scenarios and with more complex or expansive concepts; and (3) *scripted performance*—a semi-formal or formal presentation is developed over time, refined, practiced, and ultimately performed for others, integrating elements

of theatre, music, dance, and visual arts.

A classic example of how arts-based games work is the game "Juicy Word." In this activity students must express what the word means through a quick, body-movement analogy, sometimes with accompanying sounds. In one implementation, words from the 3rd grade core book, *The Korean Cinderella* (Climo1993) were introduced with physical and vocal manifestation of the interpretation of the word, such as *shrilled, snapped, tipped, whirred, demanded, picnic hampers, magistrate, acrobats,* and *palanquin*. Students read the word, interpreted it, and shared their understanding of the word by communicating their interpretation in gesture, movement, and sound. In some cases, students worked as a team such that the two might lock arms to form the function and shape of a palanquin.

The work that the *IQ* project has done with arts-based games in 3rd grade has been assessed in several ways. In the early sessions, simple definitions of terms from the story were given pre and post. Data from the first formally evaluated program at one inner city school in the District of Columbia are shown below in **Table 1**.

Table 1: Supply Definition Pre and Post Mildred Green Year I (N=19)

Words	Pretest	Posttest
Invisible	89.5%	89.5%
Shores	5.3%	15.8%
Wigwam	0	47.4%
Justice	0	15.8%
Character	10.6%	26.3%
Haughtily	0	15.8%
Moccasins	0	57.9%
Scarred	0	15.8%
Village	15.8%	36.8%
Drama	0	10.5%
Vanished	21%	73.7%
Stammered	0	21%

The core book was *The Rough-Face Girl* (Martin & Shannon 1992*),* a Native American version of *Cinderella*. Students showed large gains in vocabulary knowledge. Before the *IQ* intervention, the only word that was known by most students was *invisible.*

Another more sophisticated arts-based game connects cognition and memory to text by incorporating sign language to help facilitate understanding and retention. Martin Luther King, Jr.'s *I Have a Dream* speech is an example of such an *IQ* activity. The construction of meaning is enhanced by the use of the body, signs, etc. In one implementation, middle school language arts students analyzed the text of this famous speech of August 28, 1963, synthesizing their analysis into the

following 7 basic chunks of the speech and linking them to sign language:

1. A promise
2. Now is the time
3. Fatal to overlook
4. New militancy, realize destiny
5. I dream
6. Let freedom ring
7. Free at last, free at last

Students linked the sign language to additional gestures, movements, and oral presentation to explore the text and subtext of each key point. Student learning was evaluated at the end of the activity by asking each student to list the 7 points of the speech and write down their interpretation of that point. In one language arts class, only 2 students out of 20 students weren't able to list and describe all 7 points with credibility. These two remembered 5 and 6 points respectively.

An example of improvisation would be a skit reenacting historical figures and significant moments of their lives, such as Rosa Parks trying to sit down on the bus in Montgomery, Alabama, or Charles Lindbergh's challenging transatlantic crossing, nearing the end of his flight with no sleep and little fuel. Another example includes a human tableau generated to symbolize the crumbling of the Berlin Wall. Students' bodies depict the wall, used in varied ways, with statements from individuals who actually escaped East Berlin.

An example of large-scale dramatic role-play involves a simulation of workers in the former Soviet Union. This example demonstrates how extensive role-play can facilitate understanding of complex concepts, such as the failures of the Soviet economy, including inadequate materials, consumer good shortages, and worker apathy. Activities focused on characteristics of Communism and considerations of Communism, the Soviet Union, and Soviet reforms in the transition to *Perestroika*. Students were introduced to new terms, including *Perestroika*, *glasnost*, rubles, and comrades, as they worked in brigades to "produce" cars by drawing them and cutting them out of paper. They wore monocolored protean scarves to look alike. The teacher acted as the floor manager. A metronome ticked away to signal the beginning and ending of shifts. The floor manager (teacher) paid all workers equally for their work, regardless of the quality or volume of the work produced. The students then formed a line to buy food (candy) with their "rubles." The shop closed before all students received candy and workers returned to their brigades for the "next day" of work. Each day the students received progressively inferior materials and were paid equally, regardless of productivity, and then encountered limited buying power with their money. One student remarked: "Rewards just weren't fair—it didn't matter how hard you worked, you got paid, but sometimes you money couldn't buy anything. It wasn't fair—no one could reach their quota. Not everyone in my group worked

as hard as I did. I hated waiting in line and then not being able to buy any food with my money—it was frustrating. The ticking sound made me nervous and I was bored doing the same thing over and over...this type of thing [*IQ*] puts you in the past and helps you remember. School should be like this."

In another implementation, 8th grade students in science experienced dramatic play activities with the *IQ* Team and with their teacher in a unit on space. Assessment of this implementation was revealing. Before the treatment, students in both the control and treatment groups were unable to name many astronauts, describe space travel, or list items that resulted from the exploration of space. On the post measures the treatment group was significantly better on these tasks. A particularly gratifying result was that some questions about comets and asteroids showed marked improvement for the treatment group (especially gratifying since this came from the lesson that their regular science teacher developed and taught using the *IQ* template). Some of the evidence of the emotional impact of the dramatization activities for middle school science can be seen in students' post-assessment journal writing in response to the prompt: *Write a letter to a relative or friend telling him or her about the things you have done in science class over the past several weeks. Describe which things you liked the best and why.*

Students in the treatment group responded to the journal questions in a variety of ways. The themes that emerged focused on student self-esteem/self-reflection, attitude toward science, and the importance of science. Sample responses include:

> "I learned a lot more about Sally Ride, June 18th, 1983, first woman in space. I remember how much we practiced it to show it to the school board.
>
> "During our time with them we did many projects. Making up songs was a project we usually did. The songs we made were based on the things we learned in class…the night of the performance was great! Many of our teachers, the principal, and the assistant principal came. We had some funny parts and some more serious parts. Which, put together they looked great!"
>
> "There were two interesting things I did in the space unit. One of them was the space song to the tune of Ode to Joy. The other thing was a project we did on the planets. For the space song routine, we made our own space-related lyrics to the tune of Ode to Joy. After that, we were given a name of an astronaut. We had to find a date for the astronaut we were assigned…we added movement to the singing to make it more lively and interesting. Finally, we went to the school board."
>
> "Science changes everything we do. It changes the way we think and learn and think. We can express ourselves with it, like I did with the song. We will always be studying the wonders of science."

> "Before I knew space exploration had such an impact on us, I just thought all these fancy gizmos were just invented by some people or person. I had no idea that without space exploration itself, we wouldn't have so many accomplishments going into space and inventing new things."

In scripted performance activities, students: recall the sequence of story events and the sense of beginning, middle, and end; comprehend the plot, the setting, the mood, and character; understand the "meaning" of events cause and effect, conflict resolution; and create dialogue.

As an example, in a 3rd grade *IQ* implementation, students reading *The Rough-Face Girl* (Martin & Shannon 1992) created a dramatic retelling of the story. They used their own words, interpreting the content of the story and acting it out in the roles of the characters of the story and with narrators. Some students assumed roles of the characters in the story while others became part of the "symbolic scenery," assuming positions on stage to embody elements of nature in the story such as the trees, lake, and even a rainbow. They created a chant to enhance the dramatic effect of the performance and to reinforce their interpretation of the content and developed a rhythmic dance using basic steps in a circular pattern along with percussion instruments. Costumes were designed for each of the characters and simple props, such as beads, shells, and feathers, were utilized. In developing and presenting the scripted performance, students used language to communicate their understanding of the story, but they also used a wide range of symbols to demonstrate that understanding. The students developed multiple endings to their retelling of the story in their performance: the one in the book, followed by two different endings that they imagined as possibilities. They included all three endings in their performances and asked the student audiences to decide which one they liked the best and to describe why they preferred that ending. The *IQ* Team considered this amazingly sophisticated for a group considered to be "low performing students."

IQ in Action: With Teachers

In *IQ*'s professional development implementations, teachers, like their students, are introduced to arts-based experiences that model students' classroom learning. Their activities, like the students' experiential learning, range from simple arts-based games to more sophisticated enactment and a more complex application of arts-based techniques and tools. An example of a basic arts-based game is the "Musical Staging of the Family of the Sun." The planets of the solar system are translated into a physical state, with teachers (and subsequently their students) "becoming" the planets. The relationships between the planets—relative distances and broad characteristics of the planets, such as hot, cold, small, large, tilt/axis—are considered. The sun is placed at the center of the stage with all of the other planets arranged in relation to the sun. A song, during the course of which each planet is added to the solar system until all of the planets are revolving

around the sun, accompanies this activity. Simple props are used to represent the characteristics of the given planets, such as hula hoops for the rings of Saturn or red scarves for Mars.

Another example focuses on Apollo 11/Saturn V Rocket. The objective of this game is to understand the rocket segments in Apollo11/Saturn V and their functions. The six sections that comprised the Apollo 11 spacecraft (including the Lunar Module) are physicalized from top to bottom and the four sections of the Saturn V Rocket are represented through movement. In this activity, each participant is assigned a section of either the spacecraft or rocket and develops a phrase that relates to that section, such as, for Section 1 of the space craft—"I provide a safe escape;" or for Section 4 of the Rocket—"What has 5 engines and a total thrust of a million pounds? It's me." The student director for the game guides the course of the spacecraft and rocket in space, with each stage "detaching" at the right moment. This enactment guides the "Spacecraft" to reach the moon, land, and return to earth.

IQ in Action: With Parents/Guardians

While *IQ* has conducted several single parent/guardian workshops or seminars, only one comprehensive parent/guardian initiative, a 10-week program with parents/guardians and their children, has been implemented. Pre- and post-measures of student performance on the core book used for reading/language arts learning and parent/guardian feedback suggest promise in the initial findings, as well as the need for further implementation and research efforts. Parent/guardian responses were generally positive and insightful when responding to the question: *What have you learned as a parent to help your child's learning at school?*

Responses from the first 10-session seminar included:

> "There is more than one way of looking at things. I've learned how to break their academic work down to their learning level."
>
> "By asking my child questions, we are able to work problems out together."
>
> "The transfer of knowledge comes in many different forms. Sometimes the transfer provides for learning that was unintended. My child became more aware of his body and importance of projection. He also now understands the importance of repetition. He sees how important it is to memorize lines. And now he applies that same understanding and patience to other areas, such as multiplication tables."

Future Plans for Imagination Quest (*IQ*)

American University and Imagination Stage, Inc., anticipate a continued

partnership to research the impact of *IQ* theatre- and arts-based teaching on student achievement and on the professional development of teachers. Future efforts will include more focus on the ways in which integration of the arts into the basic curricular core subjects can also help meet the national arts education standards as well as local arts standards that are being developed in most school systems. *IQ* is continuing its work in reading with a planned 3-year longitudinal study at an inner city elementary school. Research will focus on the use of arts-based instructional strategies, with continued intensive professional development for both 3rd and 4th grade teachers, and with rotating in-class student residencies. The research will also incorporate informal to formal experiences, i.e., after completing their classroom intensives, students will attend a professional, formal stage production of the book they are studying.

Research will continue with classroom interventions at middle schools, focusing on the use of the arts expanded to link with other content areas, including social studies/geography and math. One proposal submitted for federal funding would tie the field testing of *IQ* Team- and teacher-developed lesson plans—using the *IQ* template—to large scale efforts to spread the *IQ* model school system wide at the middle school level for science and geography teachers. This project would involve a quasi-experimental design, include assessment of student learning in the visual and performing arts and in arts education, as well as in science and geography, and produce instructional materials for development of staff nation-wide.

As the project implementation matures at the various elementary and middle school sites, the *IQ* Team intends to place greater emphasis on *IQ*'s third important component, *Partners for Learning*, affording parents/guardians the opportunity to receive training in theatre- and arts-based teaching that can be readily transferred to learning at home.

Conclusion

The *IQ* model is still in its formative stage. It has, however, begun to develop the research evidence to support its goals of advancing teacher competence, facilitating parental involvement, and thus enhancing student achievement. By encouraging teachers to generate content delivery in multiple, engaging manners, and by showing parents/guardians ways to support school learning, *IQ* hopes to demonstrate the power of the arts to enhance the construction of knowledge for all learners. *IQ* seeks to empower the teacher as well as the learner so that the classroom can become a truly vibrant community for learning.

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