

## **Virginia Association for the Gifted Grant Proposal:**

A Strategy Lab for the Classroom

Proposal by Josie Mani and Jennifer Kalletta for Annandale Terrace Elementary School, FCPS

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### **Overview:**

Our goal is to help provide a bridge between our Strategies Lab and the classroom by making "bridge kits" available for checkout. These kits would include many of the same games, puzzles, and activities that are in our Strategies Lab (to be explained later).

### **Purpose:**

#### **To Foster Thinking**

- To foster hands-on critical thinking
- To create a concrete format for abstract thinking

#### **To Extend Learning**

- To bridge the learning from the school lab to the classroom
- To enable teachers with tools to conduct small group strategy work

#### **To Provide Opportunity**

- To allow gifted students in general education classrooms the freedom to independently explore their critical thinking and problem solving abilities.
- To allow ESOL and twice exceptional learners the opportunity to problem solve in a non-verbal and relaxed environment.

#### **To Aid in Identification**

- To give teachers more opportunities to observe their student's problem solving abilities in a non-verbal environment, helping with the identification of gifted behaviors in ESOL and twice exceptional learners.

### **Audience:**

- Identified gifted students
- Young Scholars
- Classroom Teachers
- Students who need the chance to demonstrate their superior problem solving abilities in a non-verbal way, e.g. ESOL and twice-exceptional students

### **Direct Benefits for Gifted Students:**

- Hands on critical thinking
- Re-enforcement of strategies
- Meta-cognition
- Opportunity for independence
- Development of effective habits of mind, such as perseverance

## **Background:**

### **Our School:**

A multicultural school, Annandale Terrace Elementary hosts a student population which includes students from as close as Mexico and as far as China, with a few nations in between such as Ethiopia, Uzbekistan, Iran, and India, to name a few. Because of this wide diversity, students come to school with a variety of learning needs; each grade level has one ESOL and one special education teacher to help support students in the general education classroom. Furthermore, our school has one gifted resource teacher four days a week to work in all classrooms (FCPS level 1 GT service) and to help teachers differentiate, as well as work with small groups of Young Scholars (level 2 services). In the upper grades, students needing levels 3 and 4 are included in our school-based GT Center.

Through student focused classrooms, teachers and specialists create a learning environment to adapt and differentiate learning to best help the student. Effective practices in use at our school include lateral and team planning, literacy collaborative, guided reading, writing and math workshops, hands-on science and social studies, and using alternative and authentic assessments.

We are also on a modified calendar, a decision we made four years ago to increase time in school for our students, and to decrease the effects of a long summer break, such as drops in reading levels.

### **The Strategies Lab:**

This year, our school began a Strategies Lab to provide another way for students to practice their strategic thinking and to develop perseverance. Our hope was that the students would be motivated to work hard and persevere even when confronted with very challenging problems, and develop problem solving skills while at it. The students and teachers have responded very positively to the Lab. The two most frequent comments we hear when students are in the lab are "This is hard!" and "This is fun!." The most common question is, "When can we come back?"

We are now working to increase the effectiveness of the lab with a two-pronged plan:

- 1) Provide staff development on the big concept of strategies and how to get the students to generalize their game strategies to content areas.
- 2) Provide "bridge kits" for teachers to check out so that they may do small group strategy work, or use the games as options for the students during centers, free choice time, or any down time.

### **Rationale:**

A strategies lab allows students a hands-on opportunity to think critically. Through the games and subsequent discussions, students practice flexible, fluent, and original thinking. Furthermore, the challenge of the games motivates students to persist through hard parts, where traditionally they may have shut down or gone to a teacher for help. Through focus lessons and class discussions of strategies, students will begin to collect game specific strategies; and later, create generalizations of game strategies that they can apply to other problem solving situations. In this way, students learn to be "strategic learners" (Storey) which helps them to become aware of their learning and motivates their life long learning drive.

“Bridge kits” in the classroom would give students both time and opportunity to further develop their critical thinking and problem solving strategies. Teachers would be able to work with small groups of students or create an environment for independent thinking. By having the games integrated into classroom life, rather than limited to once a month visits, students would continually be making connections between the strategies they associate with the concrete games and the abstract problems of everyday learning. Students, therefore, would create a system to understanding and solving all problems, not just game based problems. Teachers may also be motivated to pose even more high-level questions across the content areas to see how the students are doing in making this transfer.

In such an environment, as well, all students would have the opportunity to demonstrate superior problem solving ability, even the ones with limited English or learning disabilities, such as verbal processing issues. We have seen this happen on many occasions in the Strategies Lab.

**Budget:**

\$500.00 will be a great start to building our kits.

The prices of the games are as follows:

(We will purchase 4 of each game to start with.)

Gridworks	\$ 9.60 x 4 = \$38.40
Square by Square	\$ 8.00 x 4 = \$32.00
Block by Block	\$ 8.00 x 4 = \$32.00
Rush Hour, Jr.	\$12.00 x 4 = \$48.00
Safari	\$16.00 x 4 = \$64.00
River Crossing, Jr.	\$12.00 x 4 = \$48.00
Sudoku, 4x4	\$ 8.00 x 4 = \$32.00
Izzi,	\$ 4.80 x 4 = \$19.20
Rush Hour	\$12.80 x 4 = \$51.20
Hoppers	\$10.40 x 4 = \$41.60
Brick by Brick	\$ 8.00 x 4 = \$32.00
TipOver	\$12.80 x 4 = \$51.20
River Crossing	\$12.80 x 4 = \$51.20
Sudoku, 5x5	\$ 8.00 x 4 = \$32.00

Grand Total \$572.80

We will look for other funding to make up the remaining \$72.80.

**Sharing/showcasing our project:**

We will be happy to summarize our project in the VAG newsletter.

**Timeline of implementation:**

Feb: Purchase Games and Containers; assemble kits; and develop a check-out system

March: Create teacher guides for implementation; pilot with select classrooms (before 2-week intersession and 1-week spring break)

April: present to staff at staff meeting; model in classrooms

May: kits will be made available for all teachers to check out

07-08 school year: New presentation on how to integrate lab into classroom, focusing on making the bridge between the Strategies Lab and the classroom by using discussion/reflection/generalizations along with the “bridge kits.”

Throughout year: assist teachers with implementation

**Evaluating the project:**

Since these kits will not be available to teachers until May, it will be difficult to evaluate their effectiveness by May 15. We would hope to do teacher and student surveys in June, and periodically during the 07-08 school year.

Possible critical thinking assessments to be used during the 07-08 school year.

- Pre and post observation of the same game
- observation of how student approaches a new game
- oral discussion of thinking
- grade appropriate problem from *Awesome Math Problems for Creative Thinking* or some other source, to look for transfer of strategies.

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