BAINBRIDGE ISLAND SCHOOL DISTRICT NO. 303

Bainbridge Island, Washington

PILOT/PROJECT PROPOSAL

Please complete in duplicate

Submitted by: **Julie Goldsmith (Representing the K-5 Math Program Review Committee)**
School: **Blakely, Ordway, Wilkes, Sakai, Commodore, WMS Date April 24, 2013**

Proposed Pilot Project/Program Title: **Stanford Education for Gifted Youth (EPGY)**

Grade Level: **K-8** Department: **Mathematics**

1. **Demonstrated Need:**
   - **How will this innovation promote student learning and the district vision, mission, goals, and core curriculum?**
     The Stanford EPGY program offers a proven method for improving student outcomes. EPGY courses use a combination of multimedia instruction and automated assessment of student work to provide students with a highly individualized, self-paced educational experience. Based on over forty years of research, EPGY courses combine technical and pedagogical expertise to provide students of all ages with an individualized educational experience, optimized in both pace and content. Research has demonstrated that regular and diligent use of the EPGY program improves student understanding and motivation, and thus academic achievement.
   - **Brief description of how this pilot/project will meet current needs not being met by other courses/programs (needs assessment):**
     In an analysis of the Bainbridge Island School District (BISD) Measure of Academic Progress (MAP) data in the area of mathematics, we have found a consistent pattern that students in the top 10% of achievement are not making the same academic growth as a their national academic peers (students with the similar grade level and RIT scores). The EPGY provides a rigorous and complete mathematics curriculum at the elementary school level with a strong emphasis in conceptual geometry and mathematical foundations, beginning at the kindergarten level and progressing through the end of pre-algebra. Topics: simple arithmetic, fractions, decimals, sets, measurement, graphs, functions, geometry and pre-algebra. The program will be used in conjunction with our newly adopted *My Math* and *Spatial Temporal* (ST) math programs.

2. **Statement on impact:**
   1. Personnel: No dedicated staff FTE – coordination provided by Jennifer Ledbetter (Math Teacher on Special Assignment) and lead teachers from each building.
   2. **Inservice/Training Needs**: 1 Day of training for our Math TOSA and Lead Teachers. 1.5 hours of training for each elementary classroom teacher.
   3. **Facilities:** N/A
   4. **Other requirements (special materials):** Site license of EPGY program.

3. **Approximate cost of for pilot/project:**

Item	Cost Trial Period	Year 1 Pilot 2013-14	Year 2 Pilot 2014-15
K-7 Site License	No cost	$20,000	TBD
Onsite Professional Development	N/A	$3000	
Lead Teacher Time (6 teachers)		1 day Training 4 Meetings per year $3000	1 day of training – 4 meetings per year $3000
K-6 Teacher Training		1.5 hours at curriculum rate $5250	As needed
		$31,250	

4. **Evaluation plan:**
   - Population of students affected (either whole class, or subgroup and method of selection, i.e., %-ile MAP score)
   - Data to be tracked: (such as math MAP scores, in-class assessments, etc.)
   - Criteria for success: (such as increase in proficiency of 5%)

Trial	Year One: Pilot Phase 1	Year Two: Pilot Phase 2
May-June 2013	Sept 2013-June 2014	Sept 2014 – June 2015
Perception data: • Student • Teachers Impressions of the program (ease of use, content, engagement)	Perception data: • Student • Teacher • Parent Achievement Data: • MAP RIT scores Fall to Spring measuring growth compared to national peers • EPGY Progress data	Perception data: • Student • Teacher • Parent Achievement Data: • MAP RIT scores Fall to Spring measuring growth compared to national peers EPGY Progress data

	(number of hours in the program and success rate)	(number of hours in the program and success rate)

5. **Timeline for pilot:**

Trial	Year One	Year Two
May-June 2013	Sept 2013-June 2014	Sept 2014 – June 2015
Focus on students in grades 4-6 -students who have finished ST Math -top 10% RIT scores	Focus Students in grades K-6 -Top 10% -Finished with ST Math or instead of ST Math	Focus Students in grades K-6 -Top 10% -Finished with ST Math or instead of ST Math
• Implement EPGY Grades 4-6	• Implement EPGY • Implement My Math (with strategies for 3 levels of learners) • Continue ST Math	• Implement any new or revised strategies
	Analyze data to determine additional or new strategies needed to address needs of high performing students.	

6. **Evidence of program efficacy elsewhere (model program) or in literature:**

The Education Program for Gifted Youth grows out of a long tradition of research in both computer-based education and gifted education, having its beginnings in work conducted at the Institute for Mathematical Studies in the Social Sciences (IMSSS) at Stanford University during the 1960s. This bibliography highlights the research available online at the following website: http://epgy.stanford.edu/research/index.html.

Predictions of Student Performance

- Patrick Suppes, Paul W. Holland, Yuanan Hu, and Minh-thien Vu (2009) Effectiveness of Stanford's EPGY Online Math K-5 Course in Eight Title I Elementary Schools in Three California School Districts, 2006-2007(to be published).
- Xuejun Shen, Edward Haertel, and Patrick Suppes. How well do EPGY curriculum variables predict student performance on the California Standards Test? pp. 1-33, April 2005.
- Pamela Paek, Paul W. Holland, and Patrick Suppes. Development and analysis of a mathematic aptitude test for gifted elementary school students. *Social Sciences and Mathematics*, **99**, pp. 338-347, 1999.

Individual Differences

- Brigette Le Roux and Henry Rouanet. Geometric data analysis of individual differences. pp. 1-36, 2003.
- Kalee Tock and Patrick Suppes. The high dimensionality of students' individual differences in performance in EPGY's K6 computer-based mathematics curriculum, pp. 1-34, 2002.
- Tammy Rosenthal and Patrick Suppes. Gifted students' individual differences in computer-based C programming course, pp. 1-44, 2002.
- Eric W.Cope and Patrick Suppes. Gifted students' individual differences in distance -learning computer-based physics, pp. 1-28,2002.
- Eric W. Cope and Patrick Suppes. Gifted students' individual differences in distance-learning computer-based calculus and linear algebra. *Instructional Science,* **30**, pp. 79-110, 2002.
- Constance Stillinger and Patrick Suppes. Gifted students' individual differences in computer-based Algebra and Precalculus courses, pp. 1-26, 1999.
- Patrick Suppes and Tryg Ager. Computer-based advanced placement calculus for gifted students. *Instructional Science,* **22**, pp. 339-362, 1995.
- Patrick Suppes, John Dexter Fletcher, and Mario Zanotti. Models of individual trajectories in computer-assisted instruction for deaf students. *Journal of Educational Psychology,* **68**, pp. 117-127, 1976.
- Patrick Suppes, John Dexter Fletcher, and Mario Zanotti. Performance models of American Indian students on computer-assisted instruction in elementary mathematics. *Instructional Science,* **4**, pp. 303-313, 1975.
- Barbara Searle, Paul Lorton Jr., and Patrick Suppes. Structural variables affecting CAI performance on arithmetic word problems of disadvantaged and deaf students. *Educational Studies in Mathematics*, **5**, pp. 371-384, 1974.
- Patrick Suppes. A survey of cognition in handicapped children. *Review of Educational Research,* **44**, pp. 145-176, 1974. Reprinted in S. Chess and A. Thomas (Eds.), *Annual Progress in Child Psychiatry and Child Development.* Brunner/Mazel, 1975, pp. 95-129.

Performance in Online Mathematics and Physics Courses

- Raymond Ravaglia, Richard Sommer, Marc Sanders, Gary Sanders, Gary Oas, and Charles DeLeone. Computer-based mathematics and physics for gifted remote students. *Proceedings of the International Conference on Mathematics/Science Education and Technology*, pp. 405-410, 1999.
- Raymond Ravaglia, Theodore Alper, Marianna Rozenfeld, and Patrick Suppes. Successful pedagogical applications of symbolic computation. N. Kajler (Ed.), *Computer-Human Interaction in Symbolic Computation.* Springer-Verlag, pp. 1-29, 1999.
- Raymond Ravaglia. Design issues in a stand-alone multimedia computer-based mathematics curriculum, pp. 1-5, 1995.
- Raymond Ravaglia, Patrick Suppes, Constance Stillinger, and Theodore Alper. Computer-based mathematics and physics for gifted students. *Gifted Child Quarterly*, **39**, pp. 7-13, 1995.
- Raymond Ravaglia, J. Acacio de Barros, and Patrick Suppes. Computer-based advanced placement physics for gifted students. *Computers in Physics,* **9**, pp. 380-386, 1995.

7. **Communication Plan (for Medium and Large Scale Projects)**

Explain EPGY and who it is for by:

a. Introduction for Teachers
b. Welcome letter for parents
c. School Newsletters
d. School websites
e. District website

SIGN-OFF FOR NEW PILOT/PROGRAM APPROVAL

APPROVED BY: SIGNATURE DATE

Associate Superintendent/Curriculum & Instruction_____

Assistant Superintendent/Business Services_____

Superintendent/Board_____

(Copies to Principal & Associate Superintendent/Curriculum & Instruction)