

Study of the Feasibility of Implementing a K-5 Mandarin Chinese Dual Immersion Program In Palo Alto Unified School District



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by Becki Cohn-Vargas, Director, Elementary Education
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I. INTRODUCTION

On March 28, 2006, members of the Palo Alto Chinese Education (PACE) organization made a presentation to the Palo Alto Unified School District School Board, proposing expansion of the District's choice programs to include a dual immersion program in Mandarin Chinese. This new program would be modeled on the District's successful Spanish Immersion choice program and would begin with two kindergarten classes and one first grade class in the fall of 2006 at a location to be determined by the District. The Board heard community deliberation both for and against the proposal and directed staff to undertake examination of the feasibility of offering such a program within the District's existing policies and resources. The feasibility study, conducted from August to November 2006, was approved to be funded by private donations from PACE in the amount of \$66,000.

The private donation provided 20% time for Becki Cohn-Vargas, Director of Elementary Education, to manage the overall project, and 20% time for Norman Masuda, credentialed Mandarin Chinese high school teacher and instructional supervisor, to provide expertise in communications in Mandarin and examination of Mandarin materials. Other staff who took time to visit programs and provide insight about programs both in the Bay Area and beyond included Monica Lynch, elementary teacher with BCLAD Mandarin qualifications, Gary Prehn, principal of Escondido Elementary School (site of the Spanish Immersion program), and Marilyn Cook, Associate Superintendent.

This report on the feasibility of implementing a K-5 Mandarin Chinese Immersion Program (MCIP) in the Palo Alto Unified School District (PAUSD) is organized using the "Guidelines for Developing, Implementing, and Expanding/Replicating Large-Scale Alternative Programs," as approved by the Board. The report should be considered as an expanded Step Three of the "Guidelines"—District Review.

The report includes the purpose of the study, process used, description of the program under review, analysis of locations, other issues to be considered by the District, and recommendations. Each section is preceded by a statement of findings for the topic that follows.

II. PURPOSE OF THE FEASIBILITY STUDY

The purpose of this report is to examine the feasibility of implementing a K-5 Mandarin Chinese Immersion Program (MCIP) in the Palo Alto Unified School District (PAUSD). This report does not argue the advantages of dual immersion language programs for young children as their advantages to the students they serve are well documented (see Appendix A); nor does this report examine whether a dual immersion language program can be operated in a manner consistent with the philosophy and values of the school district as the evidence is clear in the District's Spanish Immersion program that it can. This study seeks to define whether it is feasible to implement the MCIP program with regard to start-up or ongoing costs that would be out of alignment or different from normal program costs, and any significant issues that may make it difficult to implement the Mandarin Immersion or any new choice program. It is our intent to provide decision makers with a clear analysis of the pros and cons of program implementation.

III. FEASIBILITY STUDY PROCESS AND BACKGROUND

To complete this study, the following factors were considered: 1) educational requirements of program implementation and 2) the feasibility of implementing MCIP in PAUSD. To determine educational requirements, this study examined research on language immersion programs, curriculum, instructional practices, and program structures in models currently in operation. To determine the feasibility, this study reviewed costs, location, student selection and retention, enrollment forecasts, community demographics and interest, and staffing. The feasibility study also drew from District experience operating a Spanish Immersion program in PAUSD since 1995.

As part of the feasibility study, a team of district staff visited a broad range of language immersion programs in California and Oregon which have been in operation from one month to 34 years. Teams from PAUSD staff, including Dr. Marilyn Cook, Associate Superintendent, Becki Cohn-Vargas, Director of Elementary Education, Gary Prehn, Principal, Escondido SI Program and School, Norman Masuda, World Languages Instructional Supervisor at Palo Alto High School and teacher of Mandarin and Japanese, and Monica Lynch, Mandarin BCLAD classroom teacher from Ohlone Elementary School participated in the series of program visits.

The schools visited included the first immersion program in the United States, El Marino School in Culver City, founded in 1972, which is now a full immersion school of 694 students with both Spanish immersion and Japanese immersion. A team also visited the U.S. Flagship Project K-16 Mandarin Chinese Language Program in Oregon - a cooperative venture of the Portland Public Schools and the University of Oregon, the first comprehensive planned K-16 public school program in the United States. In addition, staff visited three immersion schools in San Francisco Unified School District (SFUSD): West Portal Elementary School, Alice Fong Yu Alternative School with Cantonese immersion programs, and Starr King Elementary School, with a new Mandarin immersion program that started in fall 2006. The team also visited and reviewed materials at the Chinese American International School (CAIS), a 25 year old private Mandarin immersion program in San Francisco that serves as a leader in supporting development of Chinese Immersion programs across the United States; the Confucius Institute for Chinese Language and Culture at San Francisco State

University; and the Cupertino Unified School District Chinese Immersion Language Program (CLIP). Staff also interviewed an administrator from the International School of the Peninsula (ISTP) that has run Mandarin and French Immersion programs in Palo Alto for over ten years. Staff also visited and drew from the experiences of PAUSD's own successful SI program at Escondido Elementary, which expanded from 1.5 strands to 2 strands of Spanish immersion in fall 2006. At each of these schools, district staff visited classrooms and also met with district-level administrators, site principals, teachers, and university professors.

This report represents careful consideration of research and best practices in language immersion together with a review of the feasibility of implementing MCIP in PAUSD at this time.

IV. DESCRIPTION OF THE PROPOSED PROGRAM

a. PROGRAM GOALS

The proposed program is a dual-immersion Mandarin Chinese/English K-5 program for which the goal is to ensure that all students become bi-lingual, bi-cultural, and bi-literate in Mandarin Chinese and English. Students in the program would:

- Develop high levels of proficiency in both languages.
- Perform at or above grade level in academic areas in both languages.
- Demonstrate positive cross-cultural attitudes and behaviors, including the ability to be a life-long learner and positive participant in a global society.
- Develop computer literacy in both Mandarin Chinese and English.

Finding #1: Program Goals

It is feasible to provide a Mandarin dual-immersion language program that is consistent with the PAUSD mission and goals.

Alignment with PAUSD Mission, Goals, Programs, and Instructional Strategies

The MCIP is consistent with the PAUSD Organizational Vision--

To be nationally recognized for educational and instructional excellence, for the quality of our graduates, and for leadership in the field of public education at the local, state, and national levels.

The MCIP is consistent with the PAUSD District mission, which states:

We work to enable all students to strive for academic excellence, acquire the knowledge and skills that support learning, value creativity and life-long learning, demonstrate respect for self and others, and participate meaningfully in our democratic society and interdependent global community.

The District has long been viewed across the country as a leader in public education and has been committed to preparing the students of Palo Alto to participate in an increasingly interdependent global community.

MCIP also aligns with the Board Adopted Strategic Goals for July 2004 - June 2007.

Goal Area 1: Educational Excellence

"Thoughtful, resilient students with a passion for learning . . . fostering the genius in each child"

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- *Goal 1a: Ensure academic growth and achievement and appropriate challenge for all students so that every student makes at least a year's growth each year.* This is possible through promoting high achievement. PAUSD has successfully operated an effective Spanish Immersion program whose students achieve at high levels similar to the students in the other elementary schools in the district. In 1994 two PAUSD task forces examined various delivery mechanisms for elementary students and found that the highest fluency achievement could be attained with a dual immersion model. (See Appendix A)
- *Goal 1b: Close the achievement gap among students in different racial/ethnic groups by 20 percent each year as measured by individual student gains on multiple measures.* All racial and ethnic groups have an equal opportunity to participate in the program.
- *Goal 1c: Foster social-emotional-physical health and resilience in every student as measured by improved student behaviors.* Immersion is a student-centered model and data from immersion programs has demonstrated that students in immersion programs have a greater liking of school (see Appendix A).
- *Goal 1d: Provide diverse avenues for student success that honor the unique talents and abilities of each child.* Immersion is an innovative program that draws on culture and language and provides an alternative pathway to learning.

The MCIP program would prepare students academically and provide them with the skills and experiences to be global citizens in our increasingly multicultural community and shrinking world. In addition, the MCIP would add to the wide selection of world language offerings already provided in PAUSD and would strengthen options at the elementary level.

When PAUSD program staff visited dual language programs, they observed students who were actively engaged in learning curriculum that meets the California Content standards. They observed students of all ethnic backgrounds speaking immersion languages and English. Administrators in all the schools shared data showing that not only were the students achieving at levels equal to their peers in English speaking classrooms, but also in many cases their academic achievement scores were among the highest in their district. PAUSD staff observed instructional strategies that were similar to those used in PAUSD, including differentiated instruction, hands-on curriculum, and multicultural education. In short, experiences in the observed districts were similar to those demonstrated in the Spanish Immersion program in PAUSD.

Like the Spanish Immersion (SI) program, MCIP is aligned with PAUSD district goals and the strategic plan. In addition, Mandarin speakers are now the largest language group other than English in PAUSD, totaling 927 native Mandarin student speakers. Spanish speakers comprise the third largest language population at 766. In March 2006 when PACE presented their proposal for a Mandarin immersion elementary program, the proposal was accompanied by a petition with 49 children identified as interested in participating in MCIP. Additionally, PAUSD reinstated high school courses at both high schools in the Mandarin language in 2006-07 because of increasing interest in the language, given the presence of China in the world's economic, scientific, and cultural spheres. The College Board recently added Mandarin Chinese to the Advanced Placement Testing system.

The United States government provides grant funding to public school districts that begin to teach languages of critical importance to the U.S. for the future, designating Mandarin as one of the newly

targeted critical need languages. These are languages that are less commonly taught, yet considered significant for economic or defense reasons. The addition of Mandarin Chinese to PAUSD's current offerings provides students with the skills and ability to interact with China on an educational, political, and business level. Staff encountered a growing interest in Mandarin Chinese immersion and world language offerings, not only from PACE, but also from across the educational community as evidenced in the June 2006 educator delegation to China from nearly every state in the U.S. PAUSD director Becki Cohn-Vargas had numerous conversations with educators from districts across the country about their plans to teach Mandarin. In PAUSD, the implementation of an immersion program, beginning in kindergarten, would provide PAUSD an opportunity to become bi-literate, bi-cultural, and bi-lingual in Mandarin, joining the Spanish immersion choice option in serving the increasingly multi-ethnic and multicultural community in PAUSD.

b. ESTIMATED PROGRAM COSTS AND SOURCES OF FUNDING

Finding #2: Program Costs

It is feasible to implement this program within the funding guidelines of the District with additional start-up costs of approximately \$10,950 per classroom for Mandarin specific materials and supplemental staff training. Numerous sources of funding and support are available as they are for every classroom in the District. Ongoing costs, including a teacher stipend for additional support, are within normal program parameters for other District programs.

Start-up Costs

During the program visits, PAUSD staff learned that all sites had some additional start-up costs. Most programs applied for additional funding at some point, but program administrators stated that a quality program could be started with approximately \$10-20,000. Primarily, additional funds were needed for immersion language curricular materials and staff training. Start-up costs were typically generated through fundraising or donations of parent organizations formed to support the program. Programs also received a share of PTA and per-pupil site SIP and other categorical funds.

Initial start-up costs for MCIP are similar to expenses for starting any new classroom. The costs include teacher costs, classroom materials, books, supplies, audio-visual equipment, computers, and other equipment and furniture. PAUSD has a standard budget of \$10,000 for setting up an elementary classroom and this would be applied to the MCIP Kindergarten. No additional facilities or staffing are needed.

In addition to the standard classroom start-up costs, additional curriculum and materials in Mandarin would be needed. We have calculated those costs at \$8,500 per classroom per year (see estimated budget figures below). These materials will be further described in the section on program.

A second start-up cost would be supplementary professional development for teachers. PAUSD provides an extensive training program for teachers new to PAUSD as well as a Beginning Teacher Support and Assessment (BTSA) program for teachers new to the profession. This would be provided to the new Mandarin immersion teachers as part of the standard district expense. In addition to this training, the MCIP teachers would also need additional professional development and three additional days of release time for program planning and collaborative curriculum design (see budget).

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In addition to the standard budget of \$10,000 for setting up an elementary classroom, MCIP start-up cost estimates per classroom (needed yearly for 6 years for each new classroom for Mandarin portion of materials and training) include:

- Kindergarten Curricular Materials: \$6,000
- Classroom Library in Mandarin: \$2,000 (much material has been donated through Hanban)
- Staff Training for each new teacher: \$2,000 for CAIS training and conferences
- Release time for collaborative planning, 3 release days - \$450
- School library collection development – Mandarin language books - \$500
- Estimated Total: \$ 10,950 per classroom

It is important to note that the start-up costs above are needed yearly for each additional MCIP classroom.

Ongoing Costs

During program visits, administrators at all sites stated that the ongoing expense for operating an immersion program is cost neutral. They all operated their programs within their school district's yearly per pupil budgets.

Although non-Mandarin speaking principals handle primary supervision duties for Mandarin program staff, a stipend should be built in for a Mandarin-speaking staff person (we have qualified personnel already on staff at PAUSD) to provide further support as needed. A stipend for these services would be \$1,284 per year.

The continuing immersion teachers will also need to participate in ongoing staff development. However, this cost is part of a site administrator's ongoing expenses for staff collaboration and release time.

Ongoing budget (for Mandarin portion of teacher support)

- Stipend for Mandarin language teacher supervision/coaching support: \$1,284

Fundraising

Most of the programs PAUSD staff visited received additional funding from parent donations, and during some period of their existence, one- to three-year grants. In these programs, additional funds were used for instructional aides, materials, and training costs. In one case, the parent support group initially raised funds for start-up curriculum and library materials. Once all classrooms were supplied, they continued fundraising for field trips and travel scholarships. The SI program also reported that after initial start-up, fundraising needs were greatly reduced.

PAUSD applied for, and narrowly missed receiving, a three-year Foreign Language Assistance Program (FLAP) Grant from the federal government. Grant readers recommended that the proposal be funded. With some modification, the District could submit a revised application for funding as part of a yearly grant-writing opportunity with a reasonable chance of success.

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In PAUSD, site administrators have several possible sources of discretionary funding available for the support of school programs: School Improvement Program (SIP) funds, Parent Teacher Association (PTA) donations, and Palo Alto Partners in Education (PAPiE) funding. SIP funds and PAPiE funds are given on a per-pupil basis. Last year's PAPiE funding for elementary classrooms was \$296 per pupil. PTA donations are for additional items that benefit students and programs in the schools. The per-pupil amounts can be used if desired for program materials and staff needs in the immersion program. This is already the practice for the Spanish Immersion program at Escondido school. For example Spanish-speaking aides are provided to Spanish Immersion classrooms for the same number of hours as English-speaking aides in the non-immersion classrooms.

The Palo Alto Chinese Education (PACE) parent association raised funds for the initial feasibility study in the amount of \$66,000. At the end of the study, approximately \$15,000 will remain and could be directed toward start-up costs. PACE has agreed to raise additional dollars through fundraising and submission of additional grant proposals. These sources of funds can be used for the initial and ongoing expenses within the District's K-12 fundraising policy, which allows donations to be used for non-personnel costs. If the program is approved, the principal of the school where MCIP is housed would need to work closely with PACE to ensure that Board policy on fundraising is followed and that MCIP has adequate materials and services that are equivalent to resources available to other PAUSD students. The program should be neither over-funded nor under-funded.

The policy states:

Donations for individual sites and/or school-based fundraising monies may not be used for personnel costs during the school day (B.4.b 4.02).

The costs for curriculum and training will be off-set by numerous community resources and programs that have offered to support MCIP:

- San Francisco Unified School District Department of Multi-lingual Programs offered support with curriculum, Chinese Language Content Standards.
- Staff from West Portal school has offered to assist with curriculum and lesson design for staff.
- The administrators from El Marino School in Culver City and CLIP in Cupertino have offered to assist the MCIP principal with program development.
- Chinese-American International School (CAIS) has invited PAUSD staff to participate in training sessions for new immersion programs and to assist with curriculum development.
- The Confucius Institute Director, Dr. Christy Lao, has offered to assist with staff recruitment and training.
- The Portland Flagship program is available to assist with curricular support and materials.
- Hanban, the Chinese Governmental International Education Department that sponsored the delegation of American educators, has donated curricular materials to delegates and offered additional materials.

c. TEACHERS AND STAFF

Finding #3: Teachers and Staff

It is feasible to recruit, hire, and train fully qualified Mandarin-fluent, bilingual immersion teachers. It is also feasible to find a principal with the experience, knowledge, and skill to implement a quality dual immersion program.

PAUSD recognizes that MCIP teachers need to be highly qualified, fully credentialed, and literate in both Mandarin and English. To this end, the Human Resources Department would seek staff with BCLAD who have undergone extensive training in education and language instruction and who have met strict language criteria in both languages. Staff would be recruited in the following manner:

- Existing native Mandarin speakers on the PAUSD staff with BCLAD or Mandarin language fluency would first be contacted about available positions. There are currently three elementary teachers in PAUSD who hold a BCLAD in the Mandarin language.
- Coordination with universities that offer BCLAD teacher preparation programs at California State University, Los Angeles and through the Asian BCLAD Consortium. Also, we have several contacts with teacher preparation programs, including Long Beach State University and San Francisco State University. Dr. Lao, Director of the Confucius Institute, has offered to assist with recruitment.

Teacher Evaluation Process and Role of Site Principal

In the programs PAUSD staff visited, there were different methods and resources available for staff supervision. In all cases, the principal evaluated the immersion staff, although only one of the principals spoke the immersion language of the students. In some cases other site or district staff assisted the principal with evaluating the immersion language acquisition. In PAUSD, the Spanish Immersion principal understands some Spanish and seeks district-level assistance when needed. The principals shared that knowledge of the immersion language is not necessary for observing student engagement and classroom management.

A knowledgeable educator with immersion language proficiency is needed for observing immersion language literacy development and curriculum. In PAUSD, Palo Alto High School Instructional Supervisor Norman Masuda has served as a curriculum consultant for the feasibility study. He is knowledgeable about immersion, Mandarin language instruction, second language acquisition, and Mandarin curriculum, and is certified as a supervisor. He could be asked to provide consultant support to the principal when needed. PAUSD also has other qualified Mandarin speaking staff who could serve in this consultant role.

In each of the visited programs, including PAUSD's Spanish Immersion, the site principal is a major determining factor for the success of the program. The principal not only works to build the program, by hiring and supervising staff and ensuring that adequate resources are provided, but also creates the conditions for the program to be successful at that site. The conditions include ensuring that the immersion program is fully integrated into the life of the school and not held apart, that there is an overall sense of community and of belonging at the site, and that all of the programs of the school see themselves and each other as making the school richer as a whole. Principals at these sites provided opportunities such as the following:

- Students had opportunities to get to know one another in class, at school-wide events, and on the yard.
- Staff from the immersion and other programs collaborated on a regular basis through participating in faculty meetings and grade-level meetings.
- Teachers shared English instruction for non-academic subjects and for certain curricular areas at the fourth and fifth grade levels.
- Parents of immersion students were integrated with other parents in the school and fundraising efforts were equivalent across the school.

Site leadership is one of the most important aspects of developing a strong immersion program.

Training

The PAUSD professional development department provides training to all new staff in the following areas:

- PAUSD teaching standards
- PAUSD and California content standards and District-adopted curriculum in math, science, literacy, and social studies curriculum
- Meeting the needs of diverse populations: English learners, special education, GATE
- Equity Equals Excellence workshops to meet the needs of all ethnic groups and to close the racial achievement gap

In addition to these new teacher trainings, MCIP teachers would be provided supplemental training to ensure they use the best practices for dual language immersion curriculum, instruction, and assessment. Options for training and collaboration include:

- Curriculum development processes like the PAUSD writing summit where teams of teachers plan, implement, and evaluate lessons.
- Ongoing training and release time for Mandarin curriculum selection and development and adapting lessons to PAUSD curriculum and State content standards.
- Departmentalized planning where Mandarin and English speaking teachers in grades 4 and 5 would be provided release time to support teaming efforts.

d. CURRICULUM, INSTRUCTION & ASSESSMENT

Finding #4: Curriculum, Instruction, and Assessment

It is feasible to find necessary curriculum and assessment materials, design new materials, and provide instruction using best practices linked to PAUSD and California Curriculum Frameworks and Standards.

The MCI Program must conform to the District's educational goals and the required District curriculum, assessment, materials, and instructional strategies, similar to the Spanish Immersion program. Held to the accountability systems of the national *No Child Left Behind* initiative, California State Standards, and standardized assessment systems, all immersion programs in the public schools we visited consistently addressed district-adopted curriculum and assessment models. They also used the same instructional strategies used by the rest of their schools. We observed that immersion methodologies are well suited to the type of PAUSD instructional practices that include the use of varied learning modalities and hands-on and meaning-centered curriculum.

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Below is a matrix of curricular content areas together with the learning objectives, teaching strategies and materials that would be used in PAUSD MCIP.

| Content Area | Curriculum Object. | Teaching strategies | Materials |
|--|--|--|--|
| English language arts | CA Language Arts Standards | Guided reading Literature Literature Circles | PAUSD Core Writing Program PAUSD Core Literature Program (two books per grade level) PAUSD Literacy Assessment materials |
| Mandarin language arts | Chinese Language Arts Standards (developed by SFUSD) | Chinese language development strategies Instruction in <ul style="list-style-type: none"> o Chinese characters o Phonetic system | Materials to be obtained from: <ul style="list-style-type: none"> o SFUSD o CAIS o Cupertino o Hanban and sources in China, Singapore, and Taiwan |
| Social Studies/ Multi-cultural curriculum | CA and PAUSD Social Studies Standards | Differentiated instruction Project-based learning | PAUSD Social Studies Adopted Text Materials Purchased and locally developed materials in Mandarin (TBD pending adoption in Spring 2007) |
| Science | CA and PAUSD Science Standards | Hands-on science strategies Science Notebooks (can be completed in any language) | PAUSD Science Units Purchased and locally developed companion materials in Mandarin (TBD, pending adoption in 2008) |
| Math | CA and PAUSD Math Standards | Computation Conceptual understanding Problem-solving activities | Dale Seymour Investigations Program California Math Program Purchased and locally developed companion materials in Mandarin |

Mandarin Language Acquisition Program Model and Design

The program will use an 80:20 model. This model includes 80% of the day in Mandarin and 20% of the day in English shifting gradually each year to 50:50 in the fourth and fifth grades with 50% of the day in English and 50% of the day in Mandarin. The Escondido model is 90:10, with 90% of the day in Spanish and 10% of the day in English in Kindergarten, also shifting to 50:50 in grades 4 and 5.

However, in the schools we visited with programs teaching Asian languages, we saw a variety of program models ranging from 85:15 to 50:50. The staff cited two reasons for beginning with at least 15% of the time in English: 1) The process of learning Chinese characters is so different from learning the English alphabet, that students needed more time from the onset to learn English letters as well as Mandarin characters; 2) Students needed to learn academic vocabulary in English from the start as preparation for standardized testing. This and other instructional strategies would be monitored as the program progresses

Materials

In the different programs, PAUSD staff observed the use of district-adopted texts together with teacher-made materials in the immersion language. Staff also reviewed curriculum from China, as well as materials developed in Cupertino, Portland, and San Francisco. Costs for program materials were provided in the program cost section. Program materials would be obtained and developed in the following ways:

- Curriculum materials developed for the American market are currently being produced in China and may be donated by Hanban or otherwise purchased. As part of the educator's delegation to China, PAUSD has already received some curriculum materials free of charge from Hanban.
- Materials may be donated or purchased from the SFUSD Multi-lingual Department.
- Books and other materials would be purchased from publishers in Taiwan and Mainland China.
- Materials would be developed by teachers and adapted to the PAUSD and CA teaching standards
- PAUSD District-adopted texts and materials in English would be used in conjunction with teacher-made student activity sheets

Impact on District Curriculum Offerings and Programs

A dual immersion program would have no major impact on curricular offerings at other elementary schools and grade levels. Depending on interest and program success, a middle school program that builds on the elementary program would be considered for the 2013-2014 school year. The impacts of the program on middle school options would be examined two years in advance of that time to minimize the impact on middle school staffing and non-immersion students and to ensure that appropriate curriculum is selected for the middle school program.

Assessment

Students in all the programs visited participated in State and District assessment programs and were also assessed by classroom methods. This is true with the SI program and would be true with the MCIP. It is expected that students in this program will achieve at levels similar to students in other elementary school programs in the District. By third grade, scores on the California State Tests in core areas would be at parity with English only program students. Assessment materials in Mandarin have been developed by SFUSD.

e. STUDENT SELECTION

Finding #5: Student Selection

It is feasible to recruit and select students equitably, fill vacancies, and maintain full programs. It is feasible to provide support for students with limited English, GATE, and special education needs. It is feasible to provide for a successful transition for immersion students to middle school.

Any Palo Alto student could apply to the MCI program. In a dual immersion program such as the PAUSD SI program, students who are native speakers of each of the languages being taught serve as models for other students as they learn the other program language. Efforts would be made to include English and Mandarin speakers of all ethnic groups and slots would be provided for approximately 1-2 students from the Voluntary Transfer Program per classroom, as is proportionate to all PAUSD schools.

Ideally, the initial program would have two kindergarten classrooms beginning with a total of 40 students (20 English-speaking and 20 Mandarin-speaking) and growing by 40 students per year with each new kindergarten class. After six years, the program would have a maximum capacity of 240 students K-5. This is the same size of program as was approved this year for Spanish Immersion.

Current interest has been demonstrated through petitions and presentations and by the existence of an active community organization with broad membership dedicated to having the program considered and willing to devote energy and support to helping in the implementation.

Students would be selected by lottery in the same manner as they are selected for other choice programs in PAUSD according to Board Policy and Administrative Procedures. For entry into the lottery, students would have to meet the following criteria:

- Residence within Palo Alto school district boundaries
- Enrolled as a kindergarten student for the coming school year

Information about the program would be made available to the public in the same way it is made available for other elementary choice programs in the District. PAUSD would publicize and provide information about the immersion program at annual meetings for parents of entering kindergarteners where all choice programs present information to prospective new families. The principal of the school, along with MCIP staff, are key to providing information to new families. A parent orientation session would be offered in advance of the lottery. Staff would work with the newly formed Parents of Color Network to involve students of diverse ethnic backgrounds.

Attrition and Filling Vacancies

The schools visited all had waiting lists for their immersion programs, as does PAUSD for its choice programs. Some programs were undergoing expansion. Site and district administrators indicated that the attrition for their Mandarin immersion programs was very low and had not caused them any concern. Some programs reported having a rough year at the beginning of the program when they were getting established and lost some students, but all said that the program recovered rapidly. Upper grade level vacancies were filled with bilingual students allowed to test into that grade level.

PAUSD examined data from the SI program and other regular elementary schools. The most straightforward method of calculating an attrition rate is to calculate the percentage of last year's enrollees who are no longer enrolled this year. Using this method, the attrition rate for all PAUSD students is approximately 8 to 9%, with slightly higher attrition at the lower grade levels.

The attrition for the Spanish Immersion choice program at Escondido Elementary School is lower than the District norm. In June 2004, there were 146 students enrolled in SI grades K-4. Out of these 146 students, 141 were still at Escondido and enrolled in SI, grades 1-5, in June 2005, an attrition rate of 3.4%. Similarly, from June 2005, grades K-4, to June 2006, grades 1-5, SI lost 4 students out of 150, an attrition rate of 2.7%.

As a contrast, Escondido's overall attrition rate fluctuates due to the Stanford student enrollments and overflows. In June 2004, there were 267 non-SI students grades K-4 of which 74 had left by June 2005, an attrition rate of 27.7%. In June 2005, there were 250 non-SI students grades K-4 of which 36 had left by June 2006, an attrition rate of 14.4%.

Vacancies would be filled in the following manner: Students who speak only English are able to enter the program in Kindergarten and first grade. Bilingual students with grade level language skills in both languages can enter at the appropriate grade level. MCIP staff would administer a test to determine Mandarin and English language levels.

Special Programs to Meet Student Needs

In staff visits to public schools with immersion programs, all students had access to special education resource programs and to teachers with certification to teach English Learners. Program staff shared that they wish they could provide services in the primary languages of immersion students, but that was only available in some cases for Spanish immersion programs. We found few programs with services in the primary language of the non-English speaking students.

All PAUSD choice programs, and MCIP would be no exception, are required to serve students with a range of special needs, including an Individualized Education Plan (IEP) or 504 Plan. The MCIP students would be served by site-based English Learner teachers, special education resource program teachers, speech and language specialists, and school psychologists, as are all other students. This staff would provide services in English. According to current PAUSD practice, schools provide translation for Student Study Team (SST), IEP, and other meetings, if needed. ELD services would be offered to all EL students at their appropriate academic and language level. GATE students in PAUSD are served in the regular classroom through differentiated instruction and that would also be true for MCIP students.

Transition to Middle School

The goal for fifth graders is to be able to read, write, and speak fluently in English and Mandarin by fifth grade; therefore, they will have no problem transferring into a mainstream program. As stated above, depending on interest and the long-term success of the program, the District may extend immersion into the middle schools.

V. LOCATION**Finding #6: Location**

Due to increasing enrollment, the District preference for small, three-strand neighborhood schools, potential displacement of neighborhood children, and the potential for attracting additional enrollments, no feasibility assurance regarding location for the full two-strand program as proposed can be given at this time. This finding will incorporate the report of the Attendance Area Review Group with considerations for location to be made to the Board in January 2007.

Of all of the elements considered in the feasibility study, the question of location of the program is the most problematic. Through examination of other program experiences as well as the District's own experience with placement of Spanish Immersion, staff established the following criteria for placement:

- Placement of the program should not displace neighborhood children;
- Placement of the program should not draw children from across the District to already impacted areas;
- Placement of the program should allow for one and a half classes per grade level (one and a half strands) or two classes per grade level (two strands).

An examination of where interested families reside indicates that MCIP would draw students from all parts of the District.

On size of program: All schools visited advised, and SI staff also recommended, not having a one strand program (one class per grade level) for either the choice program or the neighborhood cohort. One class per grade level eliminates flexibility to move children from one small cohort over six years if there is a problem; and one class per grade level isolates the teacher who is teaching the single strand class.

On displacement of neighborhood children: All of the programs visited had in common a location where there was sufficient room that neighborhood children were not displaced. In one case, a closed school was reopened; in other cases, areas affected by declining enrollment had left classrooms empty that could accommodate a new program. Because of the challenge created by having to ensure that programs within a school come together as parts of a whole rather than seeing themselves in competition for scarce resources, program representatives advised uniformly to avoid displacing neighborhood children as much as possible. In addition, PAUSD experienced this phenomenon first-hand in the placement of Spanish Immersion at Escondido when enrollment at that school barely filled two strands of neighborhood children. In accommodating the new program, Escondido School met its enrollment needs and become stable over time.

On areas of the District where enrollment is already impacted: A study of attendance areas and projected future growth by the Attendance Area Advisory Group considered that elementary enrollment growth might be increasing at a faster rate than was originally predicted last year. Expansion of District capacity will continue to be required until enrollment numbers stabilize, and more importantly, growth will need to be monitored continuously. If high growth continues as forecast, the District may need to consider opening a 13th elementary school. Growth over the next five years is projected to be largely in the South and West clusters. The North cluster of schools is

the area where growth has recently occurred and that overflows students to spaces in other parts of town.

On number of classrooms needed for 2-strand or 1.5 strand program: The proposed immersion program would have two options:

- Two classrooms per grade level per year for six years to a total of 12 classrooms to house the full two-strand K-5 program. This would require a site that can accommodate four strands—two choice and two neighborhood—in order that neither program be reduced to only one class per grade level.

Or

- One and a half classrooms per grade level per year for six years, to a total of 9 classrooms, to house a one-and-a-half strand K-5 program. This would require a site that can accommodate 3.5 strands—1.5 choice and two neighborhood—in order that neither program be reduced to only one class per grade level.

The District's commitment to small schools (the three four-strand schools—Hays, Duveneck, and Escondido—are waived from the Board's desired school size of 340-450) results in the preferred site configuration of three classes per grade level. It is not recommended to place a two-strand choice program on a site that can only accommodate three strands total. That would put the neighborhood cohort in the position of being a one-strand option with the issues as described above.

Potential for Increasing District Enrollment

Implementation of Mandarin immersion has the potential to further increase enrollment growth from two sources. First, the District currently has approximately 1,000 students who live within District boundaries and who attend private schools, including International School of the Peninsula (for Mandarin immersion). How many families might be drawn into the District for this new choice program is unknown. Secondly, the District has received many inquiries from parents who have not yet moved to the District wishing to purchase homes in the vicinity of the new proposed Mandarin immersion program. How many families might relocate to Palo Alto specifically because of the attractiveness of a new choice Mandarin program is unknown. Since the District is currently facing increasing enrollment, this potential for increased growth challenge must be recognized.

Choice vs. Neighborhood Concept

Finally, there has been considerable community concern raised over whether the District's three choice programs pose a threat to the neighborhood school concept, and whether the District has reached the "tipping point" where expanded choices will have a negative impact on neighborhood schools. The District has worked to maintain a balance between schools/programs of choice and strong, community-centered neighborhood schools. There is strong parental support for both types of programs. The District's commitment to the strategic goal of meeting the differing needs of all students is the basis for the commitment to choice programs. All of the District's schools have maintained strong programs, atmospheres of commitment to their community, and high performance for children. The three choice programs have been stable and have had waiting lists for many years. In the last five years, elementary school enrollment has increased by 25% without a similar increase in the size of existing choice programs. Historical patterns suggest that choice programs could be expanded as the enrollment grows without threatening the viability of neighborhood schools. In addition, choice programs have been an effective mechanism for serving the interests of

neighborhoods in two ways—relieving enrollment pressure in the North and South clusters and allowing a very small neighborhood school to remain open with stable enrollment (Escondido).

Current sites considered: Given the criteria listed above, and based on current enrollments in PAUSD, staff first considered the under-enrolled schools in the West cluster, followed by other potential locations. As potential sites are selected, an examination of traffic safety issues must be conducted.

- **Juana Briones and Barron Park** each currently house about 2½ classes at each grade level. Their capacity will be three classes per grade level when the campuses are expanded with additional classrooms. Neither school can accommodate four classes per grade level. While a single strand immersion pilot program might temporarily be accommodated at either school, there is insufficient room for the program to grow over time. Forecast enrollment growth in the West cluster will fill the seats that can be made available through a limited number of modulars.
- **Escondido** will house two strands of Spanish Immersion and two strands of neighborhood children and, with two SDC classes, is currently approved to grow to a maximum enrollment of 520. If the District had an interest in growing a larger elementary school, this site could be viewed as an international language school and could accommodate two immersion programs (Spanish and Mandarin) along with the neighborhood population. The site would have to be examined for classroom capacity and the potential for being designed for 750 students. This would also require a change in the District's current school size policy.
- **Nixon** has been adding classes as enrollment growth has continued for the last few years and does not have the capacity to be a four-strand school.
- **North cluster schools (Hays, Duveneck, Addison)** are at capacity with **Hays** and **Duveneck** being full at four strands and overflowing neighborhood children to other sites. **Addison** does not have four classes at each grade level but is unable to expand due to the small size of the campus and must overflow to other sites. Sites involved in overflowing neighborhood children are not in a position to consider offering a choice program that would attract children into the neighborhood from other parts of town.
- **South cluster schools (El Carmelo, Fairmeadow, Palo Verde)** are at capacity and depend heavily on the two choice schools in the area to accommodate children from the neighborhood that they are unable to accommodate. **Fairmeadow** could take more classrooms because of its location adjacent to J.L. Stanford Middle School, but not only is the South currently impacted with high enrollment, it is forecast to be a location of increased growth over the next few years and expansion will be needed to accommodate that increase.
- **School choice programs (Hoover, Ohlone):** **Hoover** currently offers a choice structured learning environment to three classes per grade level (three strands). The site cannot be expanded to a full four strands. **Ohlone** currently offers a choice multi-grade learning environment to seven classes each at K-1, 2-3, and 4-5 grade levels making it a 3½-strand school. Ohlone has a large enough site to be a full four-strand school with the addition of three modular classrooms.
- **When/if the District opens Garland or adds additional classrooms.** If the current forecasts hold, the District may need to add more classrooms or open Garland in the next three to five years. Garland could be expanded to be a four-strand school and might be

considered to house a Mandarin Immersion program when/if it opens in the fall of 2009, 2010, or 2011.

Summary Thoughts on Location

There is a conflict between the District's preference for small, three-strand schools, low class size and the desire to locate a 1.5 or two-strand choice program. A choice program, which occupies two of the three classes per grade level of a neighborhood school, would eventually dominate the small single strand regular program. This is not recommended.

Schools outside the North cluster with the capacity to be four-strand schools or larger include Ohlone and Escondido, both of which offer choice programs already and both of which are comfortably at capacity but could be expanded. Implementation of a new choice program could have the beneficial effect of drawing some students away from heavily impacted areas. On the other hand, the District's enrollment forecasts indicate a growing challenge in housing incoming enrollees over the next few years, a challenge which could be exacerbated by opening another attractive choice program. The problem of location is the one area that the feasibility study has been unable to resolve.

VI. COMMUNICATION AND PLANNING

Finding #7: Communication and Planning If the program could be located in January 2007, it would be feasible to implement the program with kindergarten classes in September 2007.

This section is provided following the "Guidelines for . . . Implementing . . . Large Scale Programs." If the PAUSD School Board were to approve the implementation of a K-5 Mandarin Chinese Immersion Program as outlined in this feasibility study, and if the implementation date were to be the fall of 2007, then the following steps would be taken:

- Finalize the location of the program: January 2007
- Involve teachers, administrators, staff, School Site Council, and PTA at the proposed site in the planning process: February 2007
- Provide extensive professional training and observation/collaboration opportunities for the principal
- Advertise, provide informational meetings, and conduct program lottery using District procedures for choice lotteries: February/March 2007
- Form Parent Advisory Group: March 2007
- Conduct meetings and trainings to ensure integration of the choice program in the selected school: February-May 2007
 - Staff meetings: information and awareness opportunities
 - Parent meetings with parents already at the school
 - Parent meetings with choice program parents and parents already at the school
- Recruit and select credentialed teachers and support staff March/April 2007
- Select and/or develop instructional materials: March 2007
- Provide staff development to teachers and staff at the site: April-August 2007
- Provide ongoing program and professional development August 2007- May 2010

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- Provide yearly progress report: April/May each year as the program grows, beginning April 2008
- Conduct development of middle school program 2011.
- Conduct Evaluation: December 2013

This is a very tight timeline. Implementation in 2007-08 is dependent on approval and placement in January 2007.

VII. EVALUATION

Finding #8: Evaluation

If the program could be located by January 2007, it is feasible to conduct appropriate annual evaluations and to provide a comprehensive report of effectiveness.

The effectiveness of the program would be evaluated on a yearly basis to include data from the following sources:

- Documentation of the completion of activities to realize program goals and the implementation process including: staffing, professional development, and parent involvement
- Student achievement data from all district and state assessments in English and Mandarin
- Attendance and attrition data for MCIP classrooms
- Analysis of numbers of students who participated in the lottery
- A summary evaluation would be completed in December 2013 to include and summarize data from all previous reports

VIII. UNINTENDED CONSEQUENCES

Finding #9: Unintended Consequences

It is feasible to monitor for unintended consequences. This is a standard part of evaluating the overall effectiveness of any program implemented.

District and site program staff would work together to address any unintended consequences. Two areas that would be monitored closely are 1) Assurance that there is a parity of classroom experience for MCIP students and other students across the district. 2) Attendance at neighborhood schools is not adversely affected by the addition of another choice program in PAUSD.

IX. SUMMARY CONSIDERATIONS AND FINDINGS

In summary, this feasibility study takes into consideration many factors that impact the District's potential options. Considerations are offered in four categories:

- 1) Consideration of Mandarin as an appropriate option for a new choice program in PAUSD;
- 2) Current district demographics and attendance area conditions;
- 3) District readiness; and
- 4) Alignment with District mission and goals.

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The District should consider the growing national and regional interests in the teaching of Mandarin. There has been a gradual demographic shift in the Palo Alto community, making Mandarin the language most spoken after English by PAUSD students. There is increasing interest in world language offerings at the elementary level. The PiE Benchmarking findings indicate that similar districts across the country offer a range of world language options to elementary students including immersion programs and Foreign Language in the Elementary Schools (FLES) programs. The U.S. Government has made a priority for public education to implement instruction in critical languages, and provided the opportunity for districts to receive considerable government funding for implementing Mandarin instruction whether that be through immersion or FLES.

The District should consider current and forecasted enrollments and District policies regarding school size. Enrollment forecasts indicate increased growth and the need to provide additional space for new enrollees over the next few years. The District also has a longstanding commitment to small schools. Three-strand schools preclude the addition of a two-strand immersion program and provide limitations for adding new choice options. However, a strategically placed choice program has the potential to relieve the pressure on over-enrolled areas of the District by attracting students to less populated areas.

The District should consider its readiness and capacity to undertake a new initiative. The District has recently undergone a sustained period of budget cuts and program reductions. A District and community process will be undertaken next year to renew the strategic plan and goals. A community concern was raised regarding whether an MCIP would reduce opportunities for students not in the program. Through the completion of this feasibility study, it became apparent that an immersion program would not use resources needed to operate other district programs. Unlike the Foreign Language at the Elementary Schools (FLES) option, which is an add-on that can be implemented at considerable ongoing expense, immersion programs deliver the core program in two languages at neutral ongoing cost.

Examination of the mission and goals of PAUSD confirms that this effort is certainly aligned with the long-term vision of the District. Through visiting other programs and listening to the thoughts and feelings of community and staff with a range of perspectives, many of the concerns raised by those who opposed the MCIP program could be alleviated. These were addressed in the various sections of this feasibility study.

Appendix A:

Why Immersion

Interest in dual language education has grown dramatically over the last ten years as global awareness and international understanding, known as global literacy, have become increasingly important to prepare students for today's world and the future. "Two-way immersion education is a dynamic form of education that holds great promise for developing high levels of academic achievement, bilingualism, biliteracy, and cross-cultural awareness among participating students."¹ In a dual immersion program, beginning in Kindergarten, English-speaking students learn regular school curriculum through a second language. Target immersion language speakers study the curriculum in their primary language while learning English. Two-way immersion programs utilize both English speakers and target language speakers as native language models for each other.

Research from dual language immersion programs has shown that both immersion language native speakers and those who enter without knowing the language achieve at high academic levels, becoming bilingual and bi-literate in both languages by the fifth grade. Research has also shown that students in dual immersion programs perform academically at the same level or above their monolingual peers.² The students in dual language programs had higher levels of reading proficiency in both languages. They also scored an average of 10 points higher on mathematics tests than English speaking students educated only in English. Students in dual language immersion programs also were found to have positive attitudes toward school, their teachers, and the learning process.³ Dr. Kathryn Lindholm-Leary's research has reinforced the notion that students in Asian dual-immersion programs perform as well as or above their English cohorts on standardized tests in English.⁴

¹ Christian, D., and Howard, E. (2002). (page xii) *Two-way Immersion 101*, CREDE, University of California, Santa Cruz

² Thomas, Wayne P., and Collier, Virginia P., (2003). *National Study of School Effectiveness for Language Minority Students' Long-Term Academic Final Report*, CREDE, University of California, Santa Cruz

³ Lindholm-Leary, K. (2001). *Dual Language Education Multilingual Matters*, Clevedon

⁴ Lindholm-Leary, K. (2003). *Language and Education Issues Affecting Asian Pacific American Students, Keynote Speech*, California Association for Asian Pacific and American Education and the National Association for the Education and Advancement of Cambodian, Laotian, and Vietnamese Americans