

Corona del Mar High School and Middle School Strategic Plan

Preparing for the 21st Century

4/24/06

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I. Executive Summary

Factors Driving High School Change

(Pages 11-19)

There are five factors driving the need to change our approach to Middle School and High School education. These include:

1. Traditional high school education is obsolete and does not meet 21st century needs.
2. The United States' outmoded high school education system is not competitive in the global world.
3. Recent California education reform has missed high schools.
4. There is a wide and growing technology gap between high schools and the outside world.
5. The traditional high school model fails to engage our students.

“No Child Left Behind” Is Not Enough

(Page 13)

The U.S.'s prevailing “No Child Left Behind” policy, which focuses on boosting low performing students is not enough. Our declining international test scores forecast less competitive global job opportunities and declining U.S. productivity when compared to the educational achievements of foreign countries in Europe, Asia and the Pacific Rim.

The 21st Century High School

There is a growing movement among educators, businesses and government to rethink and redesign high school education. Organizations such as *The Bill & Melinda Gates Foundation*, *The Partnership for 21st Century Skills* and the *U.S Department of Education* have done much research into what is needed to develop globally competitive high schools. Many schools and districts are adapting new strategies and implementing innovative programs such as one-to-one computing, project-based learning, small learning communities, more rigorous curriculum and 21st century skills to better prepare students for the global economy.

Engage Every Student Every day

CdM administration has analyzed the profiles of its students and is developing curriculum plans to engage every student every day. We want to create new challenges for our high performers, engage our middle performers with relevant and interesting course work and lift our low-performing students. At the same time, we want to create an environment that focuses on enhancing the process of learning and providing students with the skills they need to flourish in today's world.

Our Plan

(Pages 20-48)

Corona del Mar High School and Middle Schools are dedicated to redesigning our programs to prepare all CdM students for the 21st Century. We have identified five programs to achieve this mission:

- Technology
- Interest-specific academies
- Expanded, engaging and more rigorous curriculum, including 21st century skills (See page 12)
- Staff development
- Community collaboration

Technology

(Pages 21- 35)

The underpinning of CdM's strategic plan is to implement state-of-the-art technology that will support and enhance the education of all students.

The primary goal is to utilize technology to shift the instructional system from a teacher-central to a student-central learning environment where students are engaged and have the tools and resources to take charge of their own learning.

We have identified eight near-term projects:

1. A new **resource center** to replace the library and provide students with the tools and resources they need to learn in the 21st century. Cost: \$112,000 + for technology, with additional costs for infrastructure and furnishings.
2. Three **internet café's** that will allow students to work independently in locations throughout the school on laptops. Cost: \$2,000 +
3. A pilot **one-to-one** middle school computing program, to develop and incubate one-to-one computing at CdM. Cost: Self-funding by participating students.
4. Enhance **classroom technology** by beginning a three-year process to replace teacher work stations with laptops, install wireless connections and provide teachers with enhanced presentation technology. Cost: \$130,000.
5. Replace out-dated and poorly functioning **world language labs** with state-of the art equipment. Cost: \$75,000.

6. Provide up-to-date **presentation equipment and wireless access for CdM's two drop-in labs**, including video-streaming technology. Cost: \$32,000
7. Start a site-based software committee responsible for identifying, purchasing and implementing **discipline-specific software**. Cost \$20,000
8. Evaluate the adequacy for Measure A funded enhancements to CdM's **internet and technology infrastructure**. Identify additional enhancements required to support CdM's technology plan. Cost: TBD

The *starting* price tag for these technology investments is \$370,000. Additionally, significant investments need to be made for internet and technology infrastructure, internet café furnishings, laptop security lockers, structural changes to the library and new furnishings for the resource center. Action groups are being formed to address these additional investments.

2. Academies

(Pages 36 – 40)

Studies show small learning environments to be the most successful model for elevating academic achievement. Likewise, interest-specific academies have been shown to dramatically increase student engagement by tapping into real-world subjects that are interesting to students. Academy students study in the fields they want to work in and have clear objectives as to why they are in school. Technology, core curriculum and 21st century skills are imbedded into academy curriculum.

CdM will introduce its first academy program, Performing Arts and Multi-media Academy (PAMA) in the Fall of 2007. Future academies will be identified based on student, teacher, and parent interest surveys. Possible future academies may include: Entrepreneurship & Business, Engineering, Medicine & Health, Law, International Baccalaureate, and Da Vinci (multi-interest/renaissance) academies.

3. Expanded Curriculum

(Pages 41 – 42)

The third platform of CdM's strategic plan is to expand and enhance curriculum options to provide wider variety, more challenging coursework and 21st century skills for all students. New curriculum will include: nine honors classes, American Sign Language, UC-credited online classes, and on site ROP courses in 2006-07. PAMA and Mandarin language will be added in 2007-08, and International Baccalaureate courses in 2008-09.

Additionally, technology and 21st century skills will be imbedded across all curriculum.

4. Staff Development

(Pages 43 – 45)

Staff development is essential to CdM's strategic objectives. Staff development is planned for:

- Technology
- Information literacy
- Academy-specific subjects
- Instructional practices and techniques
- 21st century skills
- Honors curriculum
- IB curriculum

Training Venues, Policies and Programs include:

- Professional development time such as “zero periods.”
- On-line training programs
- Pay-it-Forward approach to conferences and seminars
- Observation of teachers in best practices
- Buddy tech-support system
- Teacher resource website for technology
- 100% Level II technology proficiency goal

CdM Boosters have earmarked up to \$40,000 for staff development in 2006-07.

5. Community Collaboration

(Pages 46-48)

The CdM parent, teacher and administrative stakeholders have a strong collaborative relationship. We plan to expand upon these affiliations to include community, business, government and local colleges and universities. Our goal is to bring these groups together to obtain funding, mentoring, internships and higher learning opportunities.

CdM parent support groups: the PTA, Boosters and Foundation, currently raise \$600,000 to \$700,000 annually. Our technology and academy plans will require significant funding above and beyond what we have raised in the past. We need to brainstorm new ways of working together and with the outside community to leverage our past success and increase our fund-raising capability.

II. Mission Statement

Corona del Mar High School Mission Statement

Inspire and enable all students to demonstrate a positive attitude, responsible citizenship, independent complex thinking, a developed technology proficiency, and effective communication skills in order to contribute to and be successful in the global community.

Note: This mission statement was originally developed for the WASC document and is the result of a collaborative effort between administration, teachers and parents.

III. Vision Statement

Corona del Mar Middle/High School will continue to be recognized as one of the top school's in the nation. We will expand upon our success with a focused plan that addresses the needs of all students. In collaboration with parents, businesses and local universities, CdM MS/HS administration and staff will implement researched-based programs that challenge and excite students to learn. Curriculum will include skills necessary for success in the 21st century, as well as those needed to master and exceed the California content standards and Expected Schoolwide Learning Results. Our five-pronged plan will:

- 1) Implement state-of-the-art **technology** that will support and enhance the education of all CdM students.

- 2) Develop **interest-specific academies** or small learning communities within CdM MS/HS (schools within a school),

- 3) Expand and enhance **curriculum options** to provide more classes, more rigor and classes that integrate 21st century skills.

- 4) Provide focused **staff development** designed to imbed technology and 21st century skills into the curriculum, integrate core courses into the academy programs, and embrace research-proven project-based learning and inter-disciplinary approaches to education.

- 5) Develop a **collaborative effort** between administration, staff, parents, community, businesses and local colleges to provide funding, mentoring, internships and higher learning opportunities.

IV. Objectives

We have identified 12 strategic objectives:

1. Maintain and enhance CdM's high national academic ranking.
2. Provide a challenging, dynamic learning environment.
3. Maximize educational success and college opportunities for every child.
4. Integrate technology and 21st century skills into the learning process, communication and assessment systems.
5. Provide rigorous curriculum and high achievement standards.
6. Provide meaningful, real-world education projects.
7. Provide opportunities to explore and develop marketable career skills.
8. Provide opportunities for student development of personal and civic responsibility.
9. Instill a life-long method and passion for learning.
10. Provide staff with development programs that will allow staff to enhance their teaching methodologies, advance curriculum, exceed standards and integrate technology and 21st century skills into curriculum.
11. Promote collaboration with parents, community, business and local colleges for funding, mentoring, internships and enhanced learning and community service opportunities.
12. Engage every student every day.

V. The Challenge

Five factors drive the need to redesign our high school education model:

1. The traditional high school education model is obsolete and does not meet 21st century needs.
2. The United States' outmoded high school education system is not competitive in the global world.
3. Recent education reform has missed high schools.
4. There is a wide and growing technology gap between high schools and the outside world.
5. The traditional high school model fails to engage our students.

1. Obsolete High School Education Model

Our world had changed dramatically in the last 50 years, but our high schools have not. There is a disconnect between both the content and the learning process we teach in traditional high school and the skills needed to be successful in today's world.

The traditional high school teaches discreet subjects in 50 minute lecture blocks with students in passive learning modes taught in soldier-boy seating. Students are asked to passively absorb information, memorize it and spit it back in multiple choice format.

The traditional high school model does little to teach students skills that are rated "most valuable" in the marketplace, including the ability to: learn on their own, work effectively in teams, think critically, exercise independent judgment, communicate and discover outside-the-box solutions to problems.

The **Partnership for 21st Century Skills**, a consortium of business, education and government partners, has researched and defined five essential high school skill sets that prepare students to compete in the 21st century:

- **Core Subjects:** English, language arts, mathematics, science, foreign language, civics, government, art, history and geography.
- **21st Century Content:** Global awareness; financial, economic, business and entrepreneurial literacy; civic literacy; and health and wellness awareness.
- **Learning and Thinking Skills:** critical thinking & problem solving; communication; creativity and innovation; collaboration; contextual learning; and information and media.
- **Information & Communications Technology:** the ability to use technology to learn content and skills.
- **Life Skills:** Leadership, ethics, accountability, adaptability, personal productivity, personal responsibility, people skills, self-direction and social responsibility.

Finally, modern high schools must implement **21st Century Assessments**, using technology to combine standardized testing and classroom assessments to provide students and teachers with a means of measuring progress on attaining the above five skill sets.

2. U.S. High Schools Are Not Competitive in Global World

Our students are not learning the skills needed to keep the U.S. competitive in the global economy. Students around the world outperform U.S. students in math, science and 21st century skills. U.S. 15-year olds ranked 24TH out of 29 countries in the 2003 PISA mathematics exams. Most alarming, research has shown that results on the PISA exams are directly correlated to the viability of labor markets and national growth rates.

“Existing evidence indicates that the (PISA) scores’ importance to national growth is hard to overstate.” Eric Hanushek, Stanford Economist

Countries throughout the world including the U.K., Finland, Singapore and Israel, have recognized the importance of 21st century skills and are aggressively redesigning their education systems to compete globally.

In contrast, the U.S.’s prevailing education policy of “No Child Left Behind” is designed to shore up our bottom achievers. While enhancing the performance of low achievers is essential, it is not enough to keep us competitive with the rest of the world. We must boost our low achievers AND elevate the educational bar for all students.

3. Recent Education Reform Has Missed High Schools

Recent California education reform has focused on elementary education. The theory was if students were better prepared in elementary school, they would perform better in high school. Consequently funds were directed into elementary class size reduction and early literacy. While test scores show these efforts were very effective at the elementary school level, it is clear some of the elementary gains were paid for at the high school level. When elementary class size was cut, we often saw compensating class size increases in the high school to balance the budget.

The results? In international tests U.S. 4th graders perform very well, 8th graders have average results and our high school students lag the developed world.

4. Technology Gap

“Education is the only business still debating the usefulness of technology.”
– Rod Paige, U.S. Secretary of Education

The U.S. high school technology gap is multi-faceted. We lack the hardware, software, infrastructure and teacher training needed to cultivate the promise of technology. Students’ technology proficiency outstrips teachers, and the gap between high school technology proficiency and what is now required at the university level is becoming greater all the time.

Hardware, Software and Facility Gaps

Technology availability, adaptation and integration lags industry. Schools are inadequately equipped, software is limited, internet infrastructure is inadequate, and the predominant 1960’s school architecture and building design often impedes efficient use of technology.

Teacher Training Gap

While many schools have made significant investments in technology, commensurate investments in training teachers to effectively use technology have not been made. Most teachers’ instruction methodology has not changed significantly with the availability of technology. Predominantly, teachers use technology to do the same tasks they have always done -- technology simply allows these tasks to be done more efficiently.

The promise of technology is not simply to do the same tasks more efficiently, but to devise new learning methods that engage students and promote critical thinking, self-learning, team work and independent judgment. Teaching approaches such as project-based learning and one-to-one computing, utilize technology to achieve these goals **AND** meet state and federal standards. For example, students might write a group business plan where they need to conceive their idea, research it, develop it and present it. Content rubrics are used to insure standards requirements are met, often achieving goals in multiple disciplines, such as research, writing, multi-media, and math – all in the same project!

Teachers Lag Students

Teachers frequently lag students in computer literacy. For most students, home and not school is the access point for computer knowledge. Students independently develop real-world computer competency ahead of their teachers. The *National Education Technology Plan 2004*, sites the technical gap between students and teachers as a major source of student frustration.

The wider the technology gap, between school and the real world, the less relevant high school course work is to students.

High School and University Technology Proficiency Gap

Laptops are the essential tool for today's university student. Virtually every college student uses a personal laptop or notebook. University students use their computers for research, communication, writing, note-taking, and presentations. Furthermore, universities are increasingly providing digital content instead of text books.

To properly prepare our high school students for college, we need to ensure our high school students have the technology skills required to be successful in college.

5. We Are Failing to Engage All Students

The wider the skill-set gap, between school and the real world, the less relevant high school course work is to students. The real world requires technology proficiency, critical thinking, independent research, personal initiative, team work and creativity. Our traditional lecture-based, teacher-dominant education model fails to develop these skills, and likewise fails to engage our students. This lack of engagement is most notable in CdM's invisible "middle" students.

CdM's Invisible Middle

46% of our 9th graders, 57% of our 10th graders and 61% of our 11th graders have GPA's between 2.0 and 3.4. These GPA's are not low enough to hot-list these students as "at risk." Likewise, these middle-performing students fall short of the bar needed to take college preparatory AP courses or to be seriously considered by many of our country's leading colleges.

When you evaluate why these students perform at mediocre levels, capability and intelligence are rarely the culprits. The primary problem is lack of engagement. To tap their full potential, we need to investigate and implement learning methodologies that provide meaningful learning experiences for our students.

CdM's Highly Acclaimed Top Performers

CdM's reputation as a nationally-ranked high school is largely the result of the academic performance of the top third of our students. These students maintain GPA's of 3.5 and above, and virtually all of our top third GPA students (33.6%) enroll in one or more AP courses. These students garner acceptances to the most prestigious colleges in the country. A good measure of CdM's performance is the number of UC and Ivy League acceptances earned each year. The UC's are designed to accept the top 10% of California's high school seniors. *In recent years, approximately 10% of CdM students have been accepted into the two most competitive UC campuses: Berkeley and UCLA.* Additionally, CdM students receive hundreds of acceptances from all nine of the UC campuses.

Chart A		
CdM Acceptances to UC's, Ivy League and Stanford Universities		
	2004	2005
Class size	287	365
UC Acceptances	190 (66%)	234 (64%)
Ivy League and Stanford	19 (7%)	15 (4%)

If our top-performing students are so successful, why would we modify our teaching strategies? While the achievements of the top third of CdM's students are impressive by both state and national standards, questions still remain: Did we engage these students in the process of learning? Did we instill in these students a methodology and passion for life-long learning? Can they think independently, critically and creatively? Did they develop the 21st century skills they need to be successful in college, in the work environment and the global world?

When you evaluate these students, you will find most have excellent resumes but in reality many of these students are stressed-out, overly grade conscious and hyper-achievement focused. Our counselors see these students every day. The stress that results from an over-focus on achievement can and does translate into a variety of stress-related at-risk behavior and health issues.

What is needed is a focus on the process of learning and not simply achievement. Interest-specific academies and learning methodologies such as interdisciplinary project-based learning engage students and provide them with meaningful learning experiences. At the same time, these process-oriented methodologies have been shown to increase achievement as well as student satisfaction with school.

Can you imagine what our top performers could do in a student-engaging learning environment?

At-Risk Students

15% of our 9th graders, 11% of our 10th graders and 4.5% of our 11th graders have GPA's of under 2.0. These students are drop-out risks. These students have not engaged in CdM's traditional high school system.

A recent study, "*The Silent Epidemic: Perspectives on High School Dropouts*" commissioned by the Bill & Melinda Gates Foundation conducted extensive focus groups and surveys of 500 dropouts in 25 U.S. locations. When asked why students dropped out, the most frequent response (47%) was "*classes were not interesting.*" When asked what might have kept them in school, most dropouts (81%) said more "*real-world*" learning experiences.

Engaging and relevant coursework is the key to reducing the U.S.'s startlingly high drop out rates. Engaging and relevant coursework is also the key to increased educational satisfaction and achievement for all students at CdM.

Chart B: CdM HS 2004-05 Grade Analysis

GPA	9th Grade	10th grade	11th grade
4.0 +	13.0%	13.4%	11.5%
3.5-3.99	25.6%	18.5%	21.8%
3.0-3.49	20.0%	22.9%	26.5%
2.0 - 2.99	25.9%	34.1%	35.6%
Below 2.0	15.8%	11.1%	4.5%

Chart C: Analysis of 2004-05 Student Enrollment in AP Courses

33.6% of CdM HS 2004-05 1,433 students enrolled in AP courses. Of those enrolled, 45.6% were enrolled in multiple AP courses in a single academic year.

- 262 (54.3%) students enrolled in 1 AP course
- 102 (21.2%) students enrolled in 2 AP courses
- 86 (17.8%) students enrolled in 3 AP courses
- 30 (6.2%) students enrolled in 4 AP courses
- 2 (< 1%) students enrolled in 5 AP courses
- 854 Total AP seats

VI. Five-Part Plan

To achieve our strategic objectives we plan to implement a five-part plan as follows:

- 1) Implement **state-of-the-art technology** that will support and enhance the education of all CdM students.

- 2) Develop **interest-specific academies** or small learning communities within CdM MS/HS (schools within a school).

- 3) Expand and enhance **curriculum options** to provide more classes, more rigor and classes that integrate 21st century skills.

- 4) Provide focused **staff development** designed to imbed technology and 21st century skills into the curriculum, integrate core courses into the academy programs, and embrace research-proven project-based learning and inter-disciplinary approaches to education.

- 5) Develop a **collaborative effort** between administration, staff, parents, community, businesses and local colleges to provide funding, mentoring, internships and higher learning opportunities.

1. Technology

1. Technology

The underpinning of CdM's strategic plan is to implement state-of-the-art technology that will support and enhance the education of all CdM students.

Technology was one of the first major investments made by the CdM Foundation 10 years ago. In 1996 the fledgling CdM Foundation provided internet wiring for the entire school, built and equipped a PC and a Mac lab, created a new computer-based language lab, a tech lab, a digital arts lab, and provided teacher work stations for every teacher at CdM. While incremental technology investments have been made in the last 10 years by the District, the Foundation, PTA, Boosters and through a variety of grants, we have not revisited our technology plan in a comprehensive manner since that initial investment.

The real benefit of imbedding technology into the curriculum is the resulting paradigm shift from a teacher-central instruction system to a student-central learning environment where students are engaged and have the tools and resources to take charge of their own learning.

To provide CdM's students with the skills necessary for 21st century success, CdM's technology base needs to be upgraded with state-of-the-art infrastructure, hardware and software. The following is the 2006-07 plan to upgrade CdM's technology program.

Implementation timing is dependent on our ability to raise funding.

Technology Plan & Budget Overview

Spring 2006

- Infrastructure assessment and plan development. *Cost dependent on outcome.* TBD
- Implement software selection committee. \$20,000

2006-2007 and Beyond

- Resource center \$112,056+
 - Internet cafes \$ 2,000+
 - Pilot one-to-one middle school program Self-funding
 - Classroom technology \$130,434
 - World language labs \$ 74,016
 - Drop-in Labs \$ 32,400
- Total 2006-07 Cost: \$370,906+**

*The total investment required will be significantly higher than \$370,000. Cost estimates do not include internet and technology infrastructure beyond what Measure A provides, structural enhancements for research center, furnishing for resource center or internet cafes, or laptop security lockers. Action groups are being formed to better develop these costs.

Spring 2006

Infrastructure Assessment and Plan Development

Internet infrastructure can be thought of in five primary components:

- Band width
- Data drops
- Routers and switches
- Wireless systems
- Various support capacities

Band Width, Data Drops, Routers & Switches

As part of Measure A, the district will provide the first three components: band width, data drops, routers and switches. The current bandwidth of 2.5 megabytes per second will be expanded to 10 megabytes per second, a five-fold increase over our current capacity. Each classroom will be equipped with 6 data drops per classroom, two for teachers and four for students. The capacity of these data drops can be increased by adding additional hubs. Routers and switches will be added depending on need.

Wireless Access

The district is contracting with Cisco for a selective use wireless system that provides password-activated access to school records and other sensitive material, and limited access to unauthorized users. Wireless placement will be determined by need, is not paid for by Measure A, and must be paid for at the site level. Wireless access points are relatively inexpensive at about \$400 an access point, and require plug-in only installation.

Support Capacities

Various support capacities are required to implement a successful internet and technology system, including:

- electrical capacity
- Cooling capacity
- Shared storage capacity
- Shared printing capacity
- Security infrastructure
- Web server capacity
- High availability and disaster recovery provisions.

An action group is forming to assess the Measure A funded infrastructure and determine what additional enhancements are needed to meet our technology objectives and provide for future growth. The time to enhance our infrastructure is now, before the Measure A work is finalized.

Chuck Fay, a Foundation Board member is heading up this study group, along with Brian Tulley, CdM's Technology Site Coordinator. They will work with Steve Glycer and Allan Engard from NMUSD's technology department. Bob Rayburn, an Apple-distinguished educator at Norwalk/LaMarada district has agreed to review our plan.

This group is chartered with evaluating Measure A infrastructure, making recommendations for enhancements and gathering bids for supplementing Measure A-funded infrastructure.

Cost: To be determined based on outcome of study.

Software Assessment and Selection

To maximize the power of technology, an investment in subject-specific software is needed. Additionally, there are many web-based programs that support project-based learning and other technology-rich learning systems. Many of these software and web-based resources are relatively inexpensive and sometimes free.

The primary issue is identifying software and web-based programs that lineup with our curriculum standards.

A software subcommittee of the technology site committee will be formed this spring to address software and database selection, purchases and implementation. The goal is to identify, purchase, install and train teachers on new software programs so they can be integrated into the curriculum in Fall of 2006. A preliminary software list has already been formulated.

\$20,000 is requested from the Foundation to purchase software in 2006-07.

2006-2007 Technology Plan & Budget Detail

Resource Center

CdM's current library is circa 1960. It is stocked with reference books that are largely unused by students in today's online world. Technology available for students is minimal and subscriptions to online research data bases are needed.

We envision transforming the library into a state-of-the-art resource center that provides students with the tools and resources they need to learn in the 21st century. Specifically we would like to provide a wireless environment that includes a bank of 40 multi-purpose online computers that could be used individually or to teach a class. At the head of the computer bank there would be a large screen and video-streaming recording station that would allow the projection of remote courses not taught by CdM staff, as well as course-specific presentations to enhance CdM curriculum.

The resource center would become a venue for teaching students how to research using 21st century tools and skills. It would also provide opportunities to add special interest seminars, conduct teacher training and add 50% capacity to our maxed out drop-in labs. The resource center will provide after-hours services that will allow for individual research and study, as well as after-hours tutoring and seminars.

Two Options

We have two options: 1) Equipment only, or 2) Equipment, Facility and Furnishings

Technology Only

The minimal option is to fund only the technology needed to equip the resource center. We would simply purchase the needed technology and put it in the old library and set it up on old furnishings. Measure A will provide minimal enhancements such as paint.

The technology cost for the new resource center is estimated at \$112,000.

Technology, Facility and Furnishings

The second and preferred option would be to reconfigure and refurnish the library to optimize the space for 21st century learning. This may involve opening up the space, moving walls and creating individual and small group learning spaces in addition to the 40-unit computer bank. New furnishings would provide both aesthetic and functional gains.

An action group is needed to develop the cost for reconfiguring and refurnishing the resource center.

2006-2007 Technology Plan & Budget Detail

Resource Center – Equipment Only

Quantity	Item	Unit Cost	Total Cost
40	Computers online	\$ 1327	\$53,080
1	Laser printer	\$ 1,300	\$ 1,300
1	Color laser printer	\$ 2,000	\$ 2,000
2	Scanners	\$ 100	\$ 200
1	InterWrite, wireless digitizing tablet	\$ 500	\$ 500
1	Projector	\$ 2,000	\$ 2,000
1	Remote	\$ 100	\$ 100
1	Large screen - remote	\$ 1,000	\$ 1,000
1	Video-streaming recording station	\$ 6,000	\$ 6,000
1	Microphone/speaker set up	\$ 200	\$ 200
	Subscriptions to on-line research		\$ 6,000
	Security		\$ 10,000*
	400 hours after-hours personnel @ \$26/hour		\$ 10,000
	Research Center Cost:		\$ 93,380
	20% Contingency		\$ 18,676
	Total Research Center Budget:		\$112,056

Budget does not include furnishing upgrades or structural or infrastructure modifications.

* \$10,000 is for additional security in resource center, world language lab and drop-in labs.

2006-2007 Technology Plan & Budget Detail

Internet Cafes

In addition to providing wireless internet to the resource center, we would like to create three internet cafes located at various locations throughout the school to provide students with independent learning areas where students can utilize their laptops. We believe if laptop friendly and secure environments are provided, students will bring laptops to school. Locations for these cafes need to be determined and student-friendly furnishings identified.

An action group needs to be formed to determine where to locate internet cafes, determine what types of furnishings would be most, identify laptop-secure locker systems and insure the appropriate infrastructure is available to support laptop use.

Quantity	Item	Unit Cost	Total Cost
5	Wireless Cisco access points	\$400	\$ 2,000

Budget does not include internet café furnishings, laptop lockers or additional infrastructure requirements.

2006-2007 Technology Plan & Budget Detail

One-to-One Computing

One-to-one computing, where the teacher and every student has a laptop computer, is the frontier of educational technology. Maine is the forerunner in this emerging education strategy. Since 2002, all 34,000 of its public middle school students are taught in a one-to-one learning environment. Several states are working on one-to-one initiatives, including: Massachusetts, Michigan, New Hampshire, New Mexico, Vermont and Texas. Many private and charter schools have also embraced this educational format.

Why One-to-One?

Schools that have adopted one-to-one learning environments cite many benefits:

- Increased creative energy and engagement of both teachers and students.
- Improved attendance.
- Increased use of technology at school and at home.
- Quick and efficient access to media.
- Greater access to relevant and up-to-date resources.
- Time savings.
- Access to curriculum-related websites reinforces lesson plans.
- Enhanced email communications with other students, teachers, parents and outside experts.
- More spontaneous informal teaching by students to other students, particularly in the area of technology.
- Keeps class on track when teachers are absent.
- Tests can be corrected and returned faster.
- Increased satisfaction and enjoyment of school work.
- School work easier to complete.
- Increased quantity of work completed in and out of school.
- Quality of school work improved.
- Empowers students with ubiquitous “anytime anywhere” learning.
- Levels playing ground for “at-risk” and special ed students.
- Active participation goes up.
- Enhances student-to-student interactions.
- Students take charge of their own learning.
- Parent-staff communication is enhanced.
- Facilitates one-to-one interaction between teachers and students.
- Brings shy students from the back of the room to the front of the room.
- Facilitates individual learning plans and differentiated learning.

- **Most importantly, participating schools report a paradigm shift from teacher-centered learning to student-centered learning.**

Hurdles to overcome for successful one-to-one learning environments include:

- Funding – although laptop expenses can be somewhat offset by reductions in textbook costs.
- Security for laptops at school and at home.
- Obtaining adequate school wireless capability.
- Less than universal home access to internet.
- Various technical difficulties.
- Lost work.
- Need to develop double classroom assignments in case of technical problems.
- Providing effective staff training.

Anecdotally, one-to-one learning environments appear to address many of the shortcomings of the traditional education model. Still, one-to-one learning is new and more quantitative studies are needed to determine the long-term impact on education. Most schools go through a limited incubation to develop an effective one-to-one program before they implement school or district-wide.

Digital Content

One-to-one computing provides an opportunity to transition from text books to digital content. Relative to digital content, text books are cumbersome, out-of-date and expensive. Traditionally, we require students to heft text books weighing 50 pounds or more in their backpacks. In California, text books are used for seven years before new texts are adopted. The result is in their final year of use, textbooks are seven years out-of-date. Furthermore, high school text books run \$75 to \$125 a piece, are in declining condition as they are passed down year after year, and must be constantly replenished as books are lost each year.

CdM's Pilot Middle School One-to-One Laptop Program

In the fall of 2006 CdM plans to implement a small prototype one-to-one program that will include thirty-two 7th grade students. This will be CdM's venue for learning about one-to-one computing. Students will be identified to take part in the program via a lottery/application. Each student will begin the year with either a parent-supplied laptop or a scholarship laptop.

No text books will be issued. Digital content will be provided to each student for English, Math, Social Studies and Science. Teachers interested in teaching in this program must pass their Level II proficiency (See NMUSD Level I, II & II Proficiency -- page 45) and write a proposal for how they will incorporate technology into their classroom. This prototype program will form the basis for the possible future expansion of one-to-one teaching throughout CdM Middle School and High School and will serve as a model for NMUSD.

Funding Pilot One-to-One Program

Because this initial pilot program will be limited to only thirty-two 7th grade students, the CdM Foundation will not provide funding. Instead, the program will be largely self-funded by the participating students. We are brainstorming ways to provide a limited number of scholarship laptops for families who do not have the means to provide laptops. NMUSD will provide digital content required to replace text books.

2006-2007 Technology Plan & Budget Detail

Classroom Technology

CdM's classrooms are equipped with a teacher station for each classroom. Most of our teacher work stations are older, wired, larger and slower than currently available computers. When our parents visit CdM classrooms, many are quick to comment on our outmoded computers. We would like to begin making a three-year transition to teacher laptops that would allow teachers to move around the classroom with their computers, reduce the clutter on their desks, and provide portability so teachers can work at home on their computers. For most efficient use, and to encourage student laptop use, these classrooms will be outfitted with wireless access points. We would also like to enhance our classroom presentation technology with new projectors and InterWrite wireless digitizing tablets.

Quantity	Item	Unit Cost	Total Cost
35	Teacher stations*	\$ 1,327	\$ 46,445
35	Wireless access points	\$ 400	\$ 14,000
20	InterWrite, wireless digitizing tablet	\$ 500	\$ 10,000
20	Projectors	\$ 1,500	\$ 30,000
20	Remote	\$ 100	\$ 2,000
25	PDA's	\$ 250	\$ 6,250
Total Classroom Technology Cost:			\$108,695
20% Contingency			\$ 21,739
Total Classroom Technology Budget:			\$130,434

* New teacher stations will be allocated to teachers who have completed their Level II proficiency (See NMUSD Level I, II & III Proficiency on page 46). The classroom technology plan calls for replacing approximately 1/3 of computers every three years and adding wireless capability as the upgrades from desktop to lap tops are made. 15 projectors have recently been provided by the CdM Foundation, reducing the number needed to be purchased next year.

Technology Plan & Budget Detail

World Language Lab

Our language lab technology is old and has such poor sound quality that it is no longer a useful teaching tool. We would like to upgrade our world language lab with 40 new stations, new presentation equipment and video cameras that are increasingly required for world language projects. These video cameras could also be checked out by other departments for projects requiring video.

Quantity	Item	Unit Cost	Total Cost
40	Student stations	\$1,327	\$53,080
1	Teacher station	\$1,700	\$ 1,700
1	InterWrite, wireless digitizing tablet	\$ 500	\$ 500
1	Projector	\$ 1,500	\$ 1,500
1	Remote	\$ 100	\$ 100
16	Video cameras*	\$ 300	\$ 4,800
World Language Lab Cost:			\$61,680
20% Contingency			\$12,336
Total World Language Lab Budget:			\$74,016

* Video camera would be available school-wide on a check-out basis.

2006-2007 Technology Plan & Budget Detail

Drop-in Labs

CdM has two drop-in labs, each with 40 online computers. These labs are used by all middle school and high school grades and by multiple disciplines. The labs are also available for independent work. These labs are in constant use, with teachers complaining that they cannot get enough time in the labs to support their curriculum. Likewise, when large projects are assigned, students complain they cannot get individual lab time to complete projects. The district plans to upgrade these computers by adding more RAM this summer, thus extending the life of these relatively old computers. The new 40-bank computer lab to be located in the resource center will add capacity and help alleviate the congestion in the drop-in labs.

We would like to enhance the drop-in labs with state-of-the art presentation equipment specifically projectors, screens, video-streaming recording stations and InterWrite wireless digitizing tablets.

2006-2007 Technology Plan & Budget Detail

2 Drop-in Labs

Quantity	Item	Unit Cost	Total Cost
2	Laser printers	\$ 1,300	\$ 2,600
2	Color laser printers	\$ 2,000	\$ 4,000
2	InterWrite, wireless digitizing tablet	\$ 500	\$ 1,000
2	Projectors	\$ 2,000	\$ 4,000
2	Remotes	\$ 100	\$ 200
2	Large screens (ceiling installed)	\$ 1,000	\$ 2,000
2	Video-streaming recording station	\$ 6,000	\$12,000
2	Microphone/speaker set up	\$ 200	\$ 400
2	Wireless access points	\$ 400	\$ 800
Drop-in Lab Cost:			\$27,000
20% Contingency			\$ 5,400
Total Drop-In Lab Budget:			\$33,400

2. Academies

1. Academy model – Schools within a School

The second element of our plan is to develop interest-specific academies or small learning communities within CdM MS/HS (schools within a school).

A. Why Academies?

Academies are created to tap into student interests and strengths and engage them in the process of learning. Interest-based academies provide unique opportunities to develop learning environments that are exciting to students through project-based learning, relevant real-world projects and interaction with outside communities that are focused on the same topics the students are interested in. Students study the fields they want to work in and have clear objectives as to why they are in school.

B. Why Small Learning Environments?

Small, more personal schools have been widely proven to be the most effective model for stepping up the quality of high school education. Breaking up CdM's High School into freestanding smaller schools is practically and financially prohibitive. The best method for utilizing our current facility resources, and providing the benefits of small-school learning is to develop multi-interest academies or "schools within a school."

"Studies show that smaller high schools have higher attendance rates and lower dropout rates, their students have higher grade point averages, and students and teachers report greater satisfaction with the school experience."

-- The Case For Small High Schools, Tom Vander Ark, Bill & Melinda Gates Foundation, 2002

C. Academy Plan at CdM

We plan to evolve CdM into an academy model school, beginning with the first academy, Performing Arts and Multimedia Academy (PAMA), which will open in Fall of 2007-08. Additional academies will be determined by student, teacher and parent interest surveys. Possible future academies include: Entrepreneurship & Business, Engineering, Medicine & Health, Law, International Baccalaureate, and Da Vinci (multi-interest/renaissance) academies.

Academies will be individualized by interest area, but all academies will share the following characteristics:

- Students must apply to academies. Criteria for acceptance will be academy specific and focus on interest level and accomplishment in academy area rather than GPA. For instance, PAMA acceptance will be performance and portfolio-driven.
- Personalized learning plans (PLP's) will be developed for each student.
- Standards-based core curriculum will be imbedded in academy curriculum.
- Curriculum will include collaborative learning, project-based learning, real-world projects, 21st century skills and interdisciplinary coursework.
- Students will apply to academies in 9th grade to begin programs in 10th grade.
- As space and funding allows, learning environments will be developed that meet the needs and objectives of each unique academy.
- Student Ambassadors will represent and promote the academy within the school and outside community.
- Graduation from the academy will require outside curriculum-related internships and/or community service.

D. Performing Arts and Multimedia Academy (PAMA)

PAMA, our first academy will open its doors in fall 2007.

Programs

Programs will include:

- Graphic arts
- Animation
- Drama, stage craft, lighting and set design
- Instrumental and vocal arts
- Electronic music production
- Film, television & video production
- Publicity & journalism
- Dance

Facilities

PAMA will be located in the 400 building and include the following facilities:

- Digital print shop
- Dark room
- Black box theater
- Video conferencing room
- Art gallery
- Recording studio
- Dedicated dance room

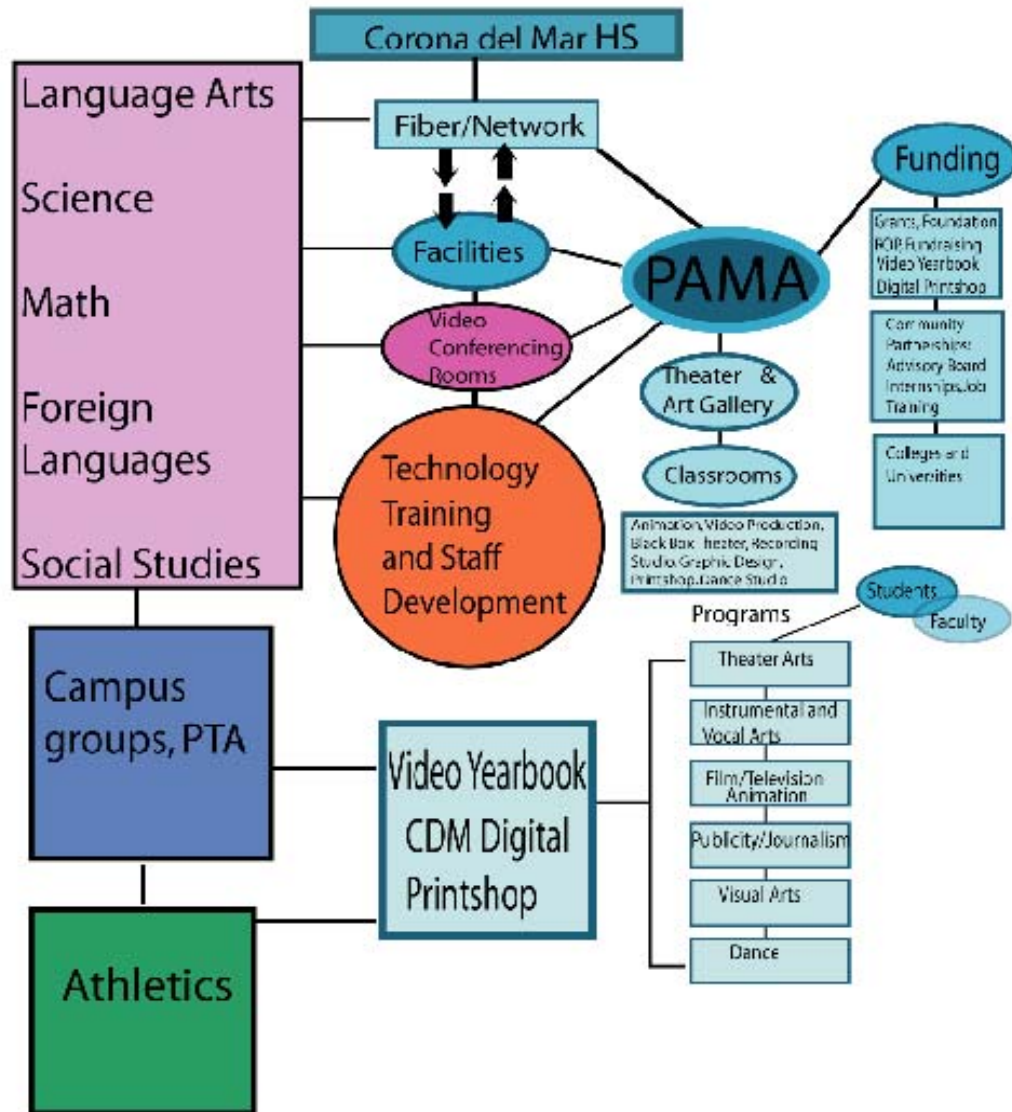
PAMA Developers

PAMA is still very much in the planning stages. Teri Brudnak, our Digital Arts instructor and Ron Martin, our Theater Arts teacher are the inspiration and work horses behind this developing program.

Funding

Adequate funding is a key hurdle for PAMA. Ron Martin is writing several grants to get this program underway. Multiple funding sources will need to be accessed including: grants, parent support groups, ROP, collaboration with businesses and student-generated profits from the video yearbook and digital print shop.

PAMA: Performing Arts MultiMedia Academy Organizational Flowchart



3. Expanded Curriculum

3) Expanded Curriculum

The third platform of CdM's strategic plan is to expand and enhance **curriculum options** to provide wider variety, more challenging coursework and 21st century skills for all students.

The number one predictor of success in college is rigor of high school course work. A key factor in engaging students in high school is providing interesting course options. It is our goal to increase the number of college preparatory courses by expanding our limited honors program, and to increase the number of options our students have by providing a wide range of courses. Technology and other 21st century skills will be imbedded in all curriculum.

Planned curriculum expansion is as follows:

2006-07

- Expand current honors program from 2 to 11 courses.
- Add UC credited American Sign Language course to expand World Language options.
- Expand online UC-credited course options. Econ & American Democracy was available in 2005-06. Health and World History will be added in 2006-07
- Add CAD drafting through ROP program.

2007-08

- Continue to expand honors program.
- Add Mandarin to World Language options.
- Work with ROP and AVID to expand career-focused programs.
- Further expand online course options.
- Open PAMA academy and related courses

2008-09

- Offer International Baccalaureate (IB) coursework through an IB academy

4. Staff Development

4. Staff Development

“The problem is not necessarily lack of funds, but lack of adequate training and lack of understanding how computers can be used to enrich the learning experience.”

-- Toward a New Golden Age in American Education: How the Internet, the Law and Today’s Students are Revolutionizing Expectations, National Education Technology Plan 2004, U.S. DOE

Enhanced staff development is an integral part of Cdm’s strategic plan and is essential to ensuring its success.

Development Areas

Cdm’s plan includes staff development in:

- Technology -- for instruction and assessments
- Information literacy
- Academy-specific subjects
- Instructional practices and techniques such as project-based learning
- 21st century skills
- Honors curriculum
- IB curriculum

Training Venues, Policies and Programs

Our goal is to create a climate whereby professional development is identified as a school-wide priority. We plan to provide:

- Professional development time such as “zero period” training sessions
- On-line training programs
- Pay-It-Forward approach to conferences and seminars
- Observation of teachers in best practices
- Buddy tech-support system
- Teacher resource website for technology
- 100% Level I proficiency, moving towards 100% Level II proficiency

NMUSD Level I, II and III Technology Proficiencies

NMUSD has developed a 3-step proficiency program for technology and information literacy.

Level I Proficiency

Level I proficiency requires demonstrated skills in Internet, email and word processing. Additionally, teachers must demonstrate basic skills in at least three elective modules:

- Spreadsheet
- Presentation
- Database
- Video Editing
- Teacher Web Builder System
- Easy Grade Pro
- Podcasting
- Blogging

The district provides both training and options to test out of required skills and optional modules.

Level II Proficiency

Level II is specific to the application of educational technology skills in an educational setting. This includes customizing the curriculum to enhance its relevance and value, improving student access to relevant technologies, and using technology to more effectively meet the individual student's needs.

Level III Proficiency

Level III proficiency provides teachers with the credentials to teach other teachers Level I and Level II skills.

Proficiency Tied to District Technology Placement

NMUSD is developing a program that will tie a schools' district funded technology to the proficiency of their teachers. The greater a school's collective teacher proficiency, the larger the technology placement will be for that school. CdM believes all of its teachers are currently qualified at the Level I proficiency. CdM teachers need to test out to obtain their credentials. The goal is to move all CdM teachers to Level II proficiency to enhance CdM's curriculum and to maximize district technology funding.

Staff Development Budget and Funding

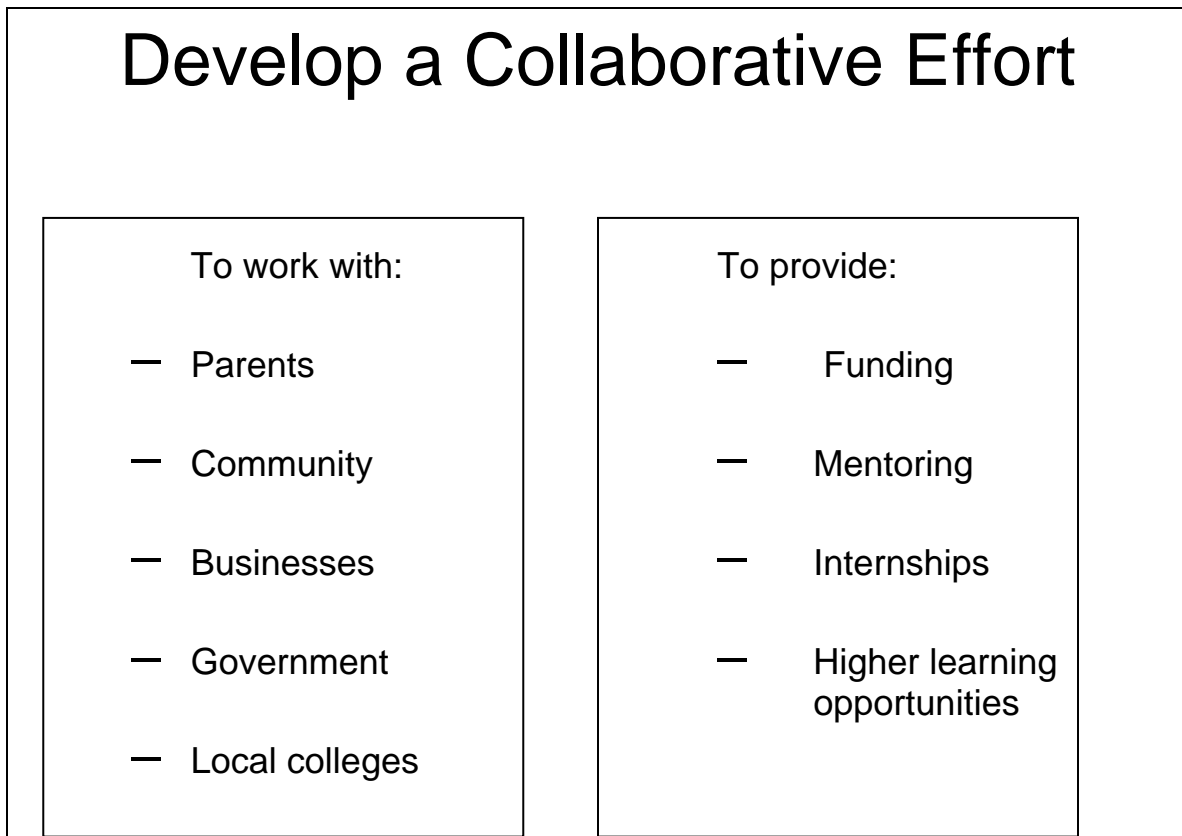
The CdM Boosters will provide up to \$40,000 in funding for staff development for 2006-07. Level I and II Proficiency courses are funded by the district.

5. Funding & Community Collaboration

9. Funding and Community Collaboration

Goal

We plan to develop a collaborative effort with all of CdM's stakeholders to provide funding, mentoring, internships and higher learning opportunities.



Parents

CdM has an incredibly supportive parent community organized into three fund-raising groups: The PTA, The Boosters and The Foundation. Collectively they raise \$600,000 to \$700,000 annually.

The majority of these parent-raised funds are earmarked for ongoing salaries and programs. New approaches to fund-raising are needed to raise additional funding to support CdM's Technology and Academy plans.

While CdM's parents raise a significant annual sum, the fundraising boards find that year after year, no more than 20% of families make donations. One strategy is to identify

methods for increasing the percentage of annual donors. This is a perennial topic among the boards, and one that an effective solution has not been found.

The three fundraising organizations work very well together and often collaborate on investments. Some parents are confused and sometimes frustrated by three different fund-raising organizations. Identifying strategies for unified communication and collaboration between the groups may be valuable.

Parent support groups need to be organized to work with community groups, government and businesses to access additional funding as well as mentoring and internships. Parent support and involvement in grant-writing would be very valuable.

Businesses, Government and Community Partnerships

Businesses, government and community groups provide a host of opportunities including: grants; technology equipment and expertise; internships; mentoring; project-based learning and community service. Students, parents, teachers and administration need to organize, identify and develop collaboration opportunities. A public relations committee needs to be organized and a grant-writing coordinator appointed.

Local Colleges & University Alliances

Local colleges and universities may provide opportunities for additional on-site and online course work for CdM students. Likewise, these institutions may provide academy-specific opportunities that CdM cannot provide. Once again, we need to organize and assign responsibility for creating these opportunities.

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