New Technology High School

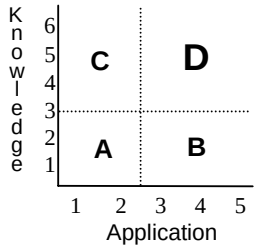
Napa, California

Prepared by International Center for Leadership in Education

A Model of

Project-based Approach
Technology Integration
Authentic Learning
Interdisciplinary Instruction
Personalization
Small Learning Communities

Rigor/Relevance Framework



By the Numbers

350 students
98% attendance rate
38% minority population
11% free/reduced lunch
95% attending postsecondary
2% English language learners
AYP met

Executive Summary

New Technology High School (New Tech) is a model of a highly personalized, small school created through a vision of community business partners and other stakeholders. These organizers challenged the district to create an alternative high school that will prepare students for the workplace of the 21st century.

Opened in 1996 as an alternative public school of the Napa Valley Unified School District, New Tech exemplifies an integrated vision of successful best practices in project-based learning, technology integration, individualized learning, and alternative assessments. It is part of the New Tech Network of schools using the NTH Learning System™, assisted by the New Tech Foundation.

Originally a school of choice for 11th and 12th graders, New Tech has become a four-year high school. Its educational program combines a solid college-prep curriculum with a learning program that equips students with a set of career, life-skill, and lifelong learning competencies. It also makes its students feel respected, responsible, cared about, and fortunate to be part of a dynamic learning environment

Designed for a maximum of 400 students (100 in each grade), there are currently about 350 students enrolled. New Tech is designed to serve students who have struggled with average or below-average academic achievement and engagement, yet have high potential and positive attitudes. Most students who come to the school are technology-adept and real-world focused. The student population reflects the ethnic diversity of the community: 62% Caucasian, 18% Multi-ethnic, 13% Hispanic, 6% Asian American, and 1% African America.

New Tech's success has brought recognition as a demonstration site by California and from the Bill & Melinda Gates Foundation. As a result, New Tech has become a flagship school in providing design elements to 13 schools in California and other states. There are plans to expand the New Tech Network by opening 12 more such schools in 2006-07.

1. School Culture

The distinctive culture of New Tech emerged from the coalition of educators and technology and business leaders who met to discuss ways to organize a school that would address how to live and work in the 21st century. Central to these discussions was finding ways to increase the skill level, knowledge, and workplace readiness of students desiring careers in technology-based businesses. Doing this is embedded in the day-to-day functioning of the school. Specifically, New Tech core values are as follows.

- We believe that all people, regardless of social or economic conditions, must be provided the capacity to take charge of their lives. Through new models of teaching and learning, they will be enabled and empowered to make critical decisions for the future.
- We believe that we must treat others in our school and community with respect, tolerance, a kind heart, and genuine concern for their well being.
- We believe our flexible business/education environment teaches and encourages student responsibility, independence, and resilience, while building life skills in collaboration, project management, and leadership.
- We believe that we must continue to develop and preserve the community of trust that defines the New Tech learning environment.

This thinking and support for high expectations, accountability, independent learning, and learning applications to real-world settings gave rise to the approaches used today at New Tech.

The educators at New Tech understand that rigor, relevance, reflection, and relationships form the core of a great school. There is a strong commitment to the personalization process in which educators help students assess talents and aspirations, plan a pathway that is self-directed, and work in collaboration with others on rigorous tasks. Students use data to maintain a record of explorations and to demonstrate learning against clear standards, using a variety of media and technology. The close support of adult mentors guides the personalization process.

The uniqueness of the education at New Tech is seen not only in the educational philosophy but also in the physical structure. With over 23,000 square feet of open architecture featuring windowed inner walls, the school provides approximately 45 square feet of classroom space per student. Technology is integrated throughout the school. There is a higher than one-to-one ratio of networked computers to students. The school resembles a workplace more than it does a traditional high school.

Like its architectural design, New Tech's student protocols are open. There are no bells, no hall passes, and no lockers. Trust, respect, and responsibility provide the basis for most of the rules and structure needed. The suspension rate is almost nonexistent. Students are expected to monitor their own conduct and behavior because they have chosen to attend the school, recognize its advantages, and want to help preserve its relationship-based, intimate culture.

2. Core Academic Learning

The core academic program is delivered through a rigorous curriculum featuring a project-based, technology-supported approach in a nontraditional environment. Employing both interdisciplinary and stand-alone courses, the educational program encourages "depth, not breadth" of subject areas.

A strong feature of the school's project-based curriculum is the portfolio graduation requirement for all students. Throughout the year, student work is displayed, written summaries are graded, and oral presentations are required. Student portfolios are updated to reflect activities and accomplishments. Periodically, leaders of technology, business, and community groups are invited to critique student projects. This approach reflects two elements of the strength of the core curriculum: the building of a sense of respect for one another's learning, and true student engagement in learning. There is a shared intellectual mission within the school that results from the project-based learning, student presentations, and team engagement among students and faculty.

The strength of the core academic areas is readily apparent from test scores even though the school does not place an emphasis on testing. Faculty and students frequently comment on the importance of independent learning to developing core understanding of content. The methodology of hands-on, real-world applications and the strength of liberal arts content produce a work ethic, a mature learning style, and a positive community feeling. The nontraditional setting and approaches serve the students well. One teacher observed, "The collaborative environment for students – classmates working with team members

– is a valuable experience for them. It gives them practice at successfully working with people of different backgrounds, which is an essential skill in today's workplace."

3. Stretch Learning

In a traditional high school, stretch learning reflects how the school prepares students for postsecondary learning and motivates students to challenge themselves to higher achievement levels. At New Tech, stretch learning is built into the core academic curriculum. These educational experiences are scaffolded based on the development needs of the students.

During the first semester of the 9th grade, freshmen students take the Power Skills course, which helps them identify their personal strengths and apply them constructively in the school's non-traditional learning environment. Many entering 9th grade students lack the maturity and responsibility needed to submit assignments on time. The Power Skills course provides them with better time management skills, and increases their technology proficiency and self-direction. Additionally, 9th grade students are given guidance and encouragement by their subject area teachers, while being challenged to become deeply engaged in their own learning plan for the course of their four years at the school.

At New Tech classes lectures are held to a minimum. Team learning is emphasized. The faculty works in interdisciplinary teams. They scaffold instruction by providing much direction and guidance to 9th graders, while decreasing this outer direction over time. The expectation is that juniors and seniors will pursue learning independently by using peer assistance in equal balance to faculty direction and support. Teachers assume the role of resource specialists who set expectations, guidelines, rubrics, and content. Students are responsible for their own timelines, designs, and production of deliverables. In essence, students enter the work world where associates are delegated tasks and expectations and are given a support group to complete the project on time.

In order to graduate from New Tech, students have to do community service, participate in an internship, and take courses at the local community college. Each of these experiences supplements learning opportunities offered by the school. During the junior year, 11th graders are required to spend twenty hours working with local non-profits such as churches, schools, or community-based organizations, to engage meaningfully in the life of their community. Many students reported an increased sense of self-confidence from having a positive impact in the local area. There is also an internship requirement. According to the students, participating as an intern in a local business was one of their most powerful learning experiences. For many, it was their first job, and they learned a lot about what it meant to be successful in the workplace. The internship program is structured; students are provided a "real" task that will contribute to the participating organization.

New Tech requires students to take four semesters of study at Napa Valley Community College. These classes are taken as open electives. Students expressed satisfaction in being able to take classes at the local community college because it helped them "focus on their next steps." Many derive a great deal of self-confidence knowing that they can handle the course load.

New Tech has successfully integrated stretch learning into its core academic curriculum through the use of real-world applications, relevant content, and a project-based approach. Students who submit an application for admission to the school are aware that the educational philosophy is one that encourages and requires self-motivation, self-guided learning, and a supportive peer relationship. The students are truly stretched to develop self-discipline in their pursuit of learning and are challenged to produce high quality results.

4. Student Engagement

If the 98% attendance rate is an indication, student engagement is a hallmark of this school. Each student is engaged in pursuing projects that are self-selected. Some students expressed concern about the limited number of Honors and Advanced Placement classes. However, most agreed that the project-based, real-world-context, liberal arts curriculum offers students opportunities for engagement in a high-quality

education that will serve them well in postsecondary experiences and their future life. One student stated, "I came here because I felt the school would open doors for me and help me identify meaningful opportunities after high school."

There is a general consensus among students that their teachers are aware that students learn differently from one another, and that the faculty is able to account for this difference in their instruction of the class. In a typical instructional period, the teacher presents a brief lecture outlining core principles. Some students then break into small learning groups for project work, and others use computers for research and study. Students invite peers with special knowledge to assist with projects. The teacher moves from one group to another, observing, commenting, and suggesting, as appropriate. The relationship between teacher and student is cordial and supportive. The atmosphere is a one of a true learning community in which all are growing intellectually and socially.

The students feel that their interests and aptitudes are taken into account when the teachers develop class projects and assignments. They also appreciate the time and effort teachers give to them as individuals. Students commented, "We feel supported and challenged by our teachers. They give us five to six projects at a time and support us individually so we can be successful."

Students are engaged in their studies because they feel the school's assessment system is fair and allows them to make choices that will affect their classroom grade. Teachers use rubrics to assess student achievement, and occasionally allow students to make rubrics for their own projects. Students commented on how difficult rubrics are to create, and felt they had more appreciation for the hard work of the staff to create good assessments of student work.

Both New Tech teachers and students feel that the strength of the educational program rests in their relationships with one another. The school schedules an advisory period once a week when advisory groups work on activities such as team building, portfolios, and other classroom assignments. This has become a real resource for students. They feel that the school's small size contributes to creating meaningful connections between people. There is no anonymity in the school, which encourages communities of learners, friendships, and supportive relationships.

In terms of after-school activities, New Tech has an unusual practice. School clubs and other extra-curricular activities are based on student interest. This means that after-school activities are not static from one year to the next. A club in existence one year may disband the next. It is the responsibility of students to form their organization and to find a teacher to be the club's sponsor. Since the school is small, it does not have sports teams. However, students interested in inter-mural competition are able to join the teams of neighboring high schools.

5. Personal Skill Development

The instructional program is individualized to enhance the personal, interpersonal, and leadership skills of students by focusing on their strengths, motivation, and abilities. This focus is embedded in learning experiences such as project-based learning (PBL), group work, internships, and service learning.

The emphasis on social and emotional learning is reflected in the school's core values. Students accept the fact that personal skill development based on trust, cooperative learning, and mutual respect is an essential element in the life of the school. They also see that effective communication is vital, and that the faculty encourages it. One student stated, "The student-teacher relationship is tight-knit. If I have a question, they encourage me to ask it. I can tell my teachers anything."

The advisory program provides one-on-one adult-student interaction around academic plans, progress, and aspirations. In addition, small groups of students meet their advisors weekly to build relationships, discuss personal and academic development, and to share strategies for future growth. All faculty members are assigned 15 advisees.

In their junior year, students are required to participate in an internship. For many students this is their first job, and the experience helps them understand how their school learning and personal skills impact performance in the workplace. Many of the students interviewed said that the relationships they developed with their teachers helped them to be successful at their internship sites.

Interviews with students reveal the extent of personal skill development accomplished during their high school experience. Many students acknowledged that they now have time management, independent learning, and interpersonal skills from involvement in projects and small learning groups. Their self-confidence is greatly enriched knowing that they are engaged in real-world tasks, internships, and interactions with adults within the school. Their teamwork fosters the realization that each individual has skills and talents that can contribute to the successful completion of work. The emphasis on displaying student work, digital portfolios, and performance-based assessment contributes to students' belief that they are served well by their learning environment and are well prepared for postsecondary learning and career choices.

Students demonstrate that the school's embedded social and emotional learning program is working. They are able to express how the choices they make impact on their overall performance. One student commented, "At most schools, what students are taught is to get a project done on time. Here I have a choice. I know that I will get a small penalty for turning in my assignment late. However, I also know if I take additional time, I will be turning in higher quality work. And it's worth it to me."

6. High-quality Curriculum and Instruction

The curriculum is rich and varied for a small alternative high school with a limited number of staff and students. Standard course offerings include the usual core academics, but with some significant and purposeful variations, all of which support the mission of life-long learning and workplace readiness. For example, Physics is combined with Algebra 2; American Literature is intertwined with United States History. The integrated courses are team-taught. The school's emphasis on project-based learning lends itself to collaborative teaching and subject integration. There is also an emphasis on dramatic arts in English and other coursework. In stand-alone classes such as Spanish, student presentations are often videotaped and reviewed by the teacher and students. The intent is to provide students with the confidence and presentation skills needed to complete their internships and community service, and to become successful and effective workplace-ready communicators.

The core curriculum also includes an advisory program organized by grade level. A student is assigned to one teacher for the student's years at the school. Advisory teachers are advocates for their students. The teacher facilitates information flow among the student, administrators, the home, and the community. Additionally, the advisory program engages students in a variety of important skills and topics, including collaboration, conflict resolution, learning styles, career planning, technology skills, portfolio development, and college advisement. Advisory activities are graded and provide 2.5 credits per year. The New Tech common curriculum also requires completion of a senior-year project and skills course, a digital media design course, the creation of a digital portfolio, and 12 college credits.

The advisory course adds another significant element to each student's program of studies: a Personal Learning Plan (PLP). Students work with their teacher-advisors to devise their plans and each PLP is revisited and revised as needed.

A more complete picture of the rigorous and relevant blend of curriculum and instruction comes from an understanding of the school's commitment to project-based learning. PBL is the backbone of New Tech's unique learning environment. Instead of daily assignments, teachers periodically assign projects and problems with multiple and varied components, such as a written essay with a web site, or PowerPoint presentation accompanied by a photo essay. Project due dates are set well in advance so students can develop time management and independent learning skills. Teachers are always ready to assist students to master key skills and the knowledge needed to move ahead within a project, but the hard work and impetus of learning must come from the students.

Projects designed by teachers, consultants, and others in the New Tech Network cover key academic standards in an applied, problem-solving context. A typical New Tech course includes 10-15 projects in a year, each project lasting three to eight weeks. Example projects are stored and published in an online Project Library accessible to all teachers in the New Tech Network. Most are interdisciplinary and require students to demonstrate proficiency in core outcomes across multiple subjects. All use

technology as a learning, reference, and presentation tool. Although students can draw upon whatever source of information they choose, the school has no traditional library; there are no core textbooks in most courses; and all scheduling, tracking, recording, and production of the projects is done electronically. Students are adept at a host of computer applications and digital media. Technology is integrated to such an extent that is has become nothing more than an assumed learning tool and a standard way of doing things. Rich technology supports the project-based learning that is a trademark of the school's programs.

Overall, the engaging combination of a demanding curriculum, abundant technology tools, and a focus on independent, rigorous, and relevant project-base learning has captivated New Tech students. Students almost universally testify to newfound levels of engagement and enjoyment of learning in ways they could never have found in more conventional classroom settings with teach-and-test instruction.

7. Use of Data at Classroom and Building Levels

Since the 10th grade program is in its second year, the school is in the beginning stages of focusing on high-stakes state achievement test data. The school's largely project-based curriculum is adjusted for coverage or emphasis based on student performance on end-of-course tests. Given the largely textbook-free and lesson-free curriculum, teachers find this process to be a helpful use of data and curriculum mapping. That said, the kind of data being used by the faculty in their classrooms reflects the school's innovative program and reform vision.

The most important student data that is used is collected in digital portfolios, which provide the structure and repository for student work and record the evidence of proficiency across a variety of measures. Staff and students believe that these authentic and digitized assessments provide more thorough and more meaningful documentation of how well students are meeting their goals than traditional transcripts and student data records. Portfolios include a personal statement, a current résumé, project and work samples, contact information, internship-related reflections, letters of recommendation, and current assessments.

A unique grade book provides current transcripts of student performance and achievement for each of eight key learning outcomes or Expected School-wide Learning Results (ESLRs), by subject area. These digital transcripts, accessible 24-7 by both the teaching staff and each individual student, provide a percentage-based grade for each learning outcome and for overall indicators. They also maintain a record of absences and tardiness, which directly impact the student's grade for work ethic and effort. From the master transcript, viewers can check scores on specific assignments to determine how the overall grades were determined. Rubrics are available and used for each ESLR and for each project.

Survey data is also collected regularly from students. Students and teachers debrief after projects are completed to assess student effectiveness and efficiency in driving learning. The school is also conducting an attitudinal survey of seniors and an alumni-tracking survey. All survey data is directed toward program improvement.

Because the school must recruit its students from across the district and beyond, retention and intake rates are important data. Recruiting and retaining the right students and teachers are critical to the school's success, so staff is conscious of transfers out, new student recruitment, and upper-class enrollments. For example, the school is aware that 30 of the 85 juniors have indicated that they will transfer back to their community high schools after this school year, an abnormally high rate. Although such a loss will leave a gap in the school's enrollment, transfers out are not unusual. Every year, a certain number of students who are attracted to the school by its approach soon discover that the high expectations placed on them are beyond their levels of comfort or interest.

Overall, New Tech makes effective and creative use of data to complement its vision and mission.

8. Transitions

The small size of the school allows the staff to identify needs and plan in an efficient and effective manner. The ability to work with small groups of students (100 per grade) has allowed staff to focus on the unique needs of the students, which is clearly evident in the school's efforts to create an effective transition for entering 9th graders and exiting 12th graders.

There is an extensive recruitment and information-generating initiative that occurs during 8th grade to encourage students to apply to the school's 9th grade. New Tech's message to middle school students is that its educational program is designed to "stretch" average students to greatness. Since the number of student applicants exceeds the 100 spaces available in 9th grade, a blind lottery is used to select students.

This is the second year for enrollment of 9th graders at New Tech, and resources devoted to 9th grade success are considerable and growing. The advisory program was developed in response to this group's needs. Peer support programs are in place and there are several academic interventions. The staff is implementing literacy initiatives for those struggling with reading; a summer boot camp is sponsored for incoming 9th graders. Extra content is offered for freshmen challenged by math and reading, and supplemental classes are offered. One teacher, selected as a peer coach, has designed a special math tutorial model.

The staff is currently in the process of reviewing the 9th grade transition process for next year's class. There was an unexpected difference in the maturity level between this year's freshman class and the first group of 9th graders. The students who enrolled in the 9th grade during the 2005-06 school year had a more difficult time adjusting to the academic course load than the 2004-05 class who, as a group, were more self-directed. For example, this year's 9th graders had difficulty juggling multiple projects and being responsible for getting them in on time. It is important to note, while this was an unforeseen problem, the staff is taking responsibility to help less mature students grow and become more self-confident, self-directed, and knowledgeable individuals. Based on this year's experience, New Tech faculty is determining what additional supports need to be in place to help entering students become more successful at the school. One idea is using the Power Skills class to support the projects being done in the academic classes.

Equal attention is paid to transitions for the senior class. The rigorous, relevant, and reflective 12th grade program is intense. Students say that they are "stressed to the end." The educators are committed to a quality transition from grade 12 to the college and career opportunities the students face after high school. In addition to the district's graduation requirements, in order to receive the New Tech Diploma students must successfully complete other requirements, which include:

- A 20-hour community service project and a senior year 50-hour community internship
- Required interdisciplinary courses in American studies and political studies
- A required course entitled Digital Media I
- A web-based professional digital portfolio which is outcomes-based
- Five computer application competencies: Word, Excel, Access, PowerPoint, keyboarding
- Four Napa Valley Community College courses (12 units total).

The digital professional portfolio requires students to demonstrate proficiency in the eight learning outcomes that contain the knowledge and skills necessary for success beyond high school. These are (1) curricular literacy, (2) technology literacy, (3) written communication, (4) oral communication, (5) critical thinking and problem solving, (6) collaboration skills, (7) citizenship and ethics, and (8) career preparation. All assessments of student work and grades are linked to the learning outcomes.

All 12th graders complete the New Tech senior project. This is a yearlong project that culminates in a presentation to a panel of community members that evaluates student skills in problem solving, time management, decision making and the ability to work independently.

A teacher in the role of coach coordinates the 50-hour educational internship required of seniors. The internship prepares students for success in the workplace and strengthens their skills for real-world

employment. The motivated 12th graders have many skill qualifications, but need a place to practice and polish them in preparation for life after high school. Students fulfill their internship requirements in a variety of areas including education, government, law, business, medicine, and technology.

The 12th grade is rigorous, relevant, and reflective. It reinforces what some students think they might like to do after high school. For others, it is an eye-opener about what they thought they wanted to do. At the end, all 12th graders reflect upon how the real world is different from the classroom. They consider their achievement of the eight learning outcomes and contemplate how what they learned will benefit them the rest of their lives.

9. Leadership/Systems Approach

Leadership is an expectation for students and staff members. During the 2005-06 school year, there was a change in school leadership. The founding principal joined the New Technology Foundation to train principals of new schools in the New Technology Network. The new principal, Carolyn Ferris, was a math teacher and instructional technology head at New Tech. Her style is one that is demanded by the vision and mission of the school — optimistic, collaborating — with leadership distributed to all students and staff members. In talking with faculty members, they reported the staff was in "a good place." For the second year in a row, a majority of the staff would be returning, which would provide greater continuity in the program. All of the teachers interviewed believed that their contributions were valued, opportunities were provided to participate actively in improving the school, and they were encouraged to take initiative.

An elective leadership class for students is offered. There was recognition by educators and students alike that three character expectations — trust, respect, and responsibility — had eroded and needed attention. The leadership class was assigned a project to reestablish these three exemplars, and students and adults alike provided the emphasis and strategies. In addition, PBL requires a leader/learner partnership between every teacher and student in every class. As a result, students recognize their teachers as learning partners. Together, both lead in all classes.

The relationship between the bargaining unit (union) and the teachers and administrators of New Tech is important. The superintendent and board of education have a commitment to interest-based bargaining. As a result, teachers receive a set percentage of funds coming into the district each year for salary raises, which means during good times they get more, but during lean times, less. A special feature is that the staff of each building may request a waiver for certain contractual conditions. Buildings can apply for these contract waivers if the entire staff agrees. One "no" vote will veto the desired waiver request. The result is that at New Tech there are numerous waivers that allow the staff and administrators to conduct business in a different kind of way in order to achieve the vision and mission of the school.

Because teaching at this school requires different skills and a unique commitment to excellence, the teacher recruitment and selection process is especially important. Again, leadership is distributed through a process whereby candidate teachers deliver demonstration lessons to students and faculty and are interviewed individually by several teachers before being offered a position.

The teaching staff selects one peer to be their site coach and the mentor for first-year teachers. This person plays a critical role in leading and coaching all members of the faculty. Because New Tech is a demonstration site for other high schools, there are numerous opportunities for teachers such as the site coaches to be moved to a facilitator role assisting the new schools. This means that the faculty has a regular opportunity to select its new peer leader.

10. Professional Learning Community

There are no subject-matter departments at New Tech. Teachers are organized into interdisciplinary teams and are the primary directors of the curriculum delivered to students. Teams have common preparation times each day and are able to collaborate extensively in planning appropriate activities for students. All of the teachers interviewed stated that they enjoyed working in team-taught

classes because it enriched their curriculum and strengthened their professional practices. A math teacher collaborating with a physics teacher commented, "The physics projects in the class, such as planning a fireworks display, help give math a context. We require the students to work in groups, and they see our working relationship as a good model. The strength of this school is in the relationships among people, building communities of students and teachers."

While New Tech has established community practices for groups of teachers to work together, bringing the entire staff together as a community is an emerging practice. The new principal has introduced a monthly lunch gathering for staff. She is also thinking about other ways they can regularly be brought together to strengthen their instructional practice. She would like to address projects such as a whole-school curriculum map, and interdisciplinary projects among and between grade-level teachers in team-taught and stand-alone classes.

Engaging the whole staff in rethinking how their individual and collective practice could be strengthened is a topic to be addressed through the school's established and successful professional development program. The innovative and differentiated student learning program is supported by a parallel, but equally individualized and informal, system of professional development for teachers. Professional development is a major school-wide emphasis, especially reinforcing the school's relationship-based, technology-enhanced, small learning community culture and instructional approaches.

All teachers receive initial and ongoing training on PBL, the primary learning and instructional mode, from the principal, staff mentors, and New Technology Foundation coaches. The theoretical underpinning of PBL at New Tech includes constructivism, Howard Gardner's eight multiple intelligences model, and the work of the Buck Institute of Education. Although most teachers in American public schools have touched on PBL in their pre-service training, New Tech teachers are purposefully recruited, hired, and supported to ensure they possess advanced levels of proficiency and comfort in this type of learning. There is a high degree of collaboration among teachers and time is set aside in teaching schedules for reflecting on, planning, and reviewing student learning. Many of the teachers, like the students, are at the school because it offers clear alternatives to instructional and curricular approaches found at other, more conventional high schools. As with students not comfortable with New Tech's approach, teachers who find the environment not well suited to their teaching styles or interests tend to move on.

Teachers must be highly adept in computer skills and have the capacity to develop specific and considerable expertise in deploying the school's NTH Learning System™, the set of proprietary, networked desktop applications that drives learning and curriculum. The "tools" in the system that teachers must master include the following.

- Project Briefcase holds all of the materials and resources needed to run a project/unit in one secure digital document library.
- Course Agenda/Calendar allows teachers to create an online course agenda to organize classroom activities in long blocks with PBL. Teachers can "push" deadlines or reminders on to students' personal calendars as well as onto the school's master calendar.
- Digital Journal can be used by teachers to post a prompt and ask their students to respond to it. They can also use the journal to collect homework assignments and for class warm-up activities. Student responses and postings are restricted so that only the teacher can see them. Teachers can address students individually as well.
- Bulletin Board is used by teachers and administrators to create student and teacher discussion forums for instructional or general-interest purposes. Moderators can control content and access.
- Staff Agenda is an interactive communication tool used for meeting agendas, announcements, and staff discussions.
- Awards and Certificates can be used to create digitally secure text, used as evidence of achievement in student portfolios.

- Internship Management captures tracking, progress, and evaluation information on student internship experiences.
- Parent Participation documents parent involvement. This device allows the school to post and track mandatory parental participation. Parents can access the digital posting to choose from tasks listed by administrators and teachers.
- Digital Polls allow students and staff to cast secure and authenticated ballots or express opinions on school surveys.
- Evaluation Tool allows teachers to create, post, and store rubrics used to evaluate student performance on projects. Students can enter peer evaluations of projects and exhibitions as well as see their own evaluations; however, they do not know the authors; only the teacher knows the source of the peer remarks. Students can designate their own records as publicly available for use as evidence in their graduation portfolio. Teachers also use this tool for record keeping, and to track and store student performance data.

Each teacher is also specifically trained in use of the school's digital grade book. This innovative grade book, accessible in school and from home, disaggregates student course performance and overall progress into the component learning outcomes, including subject knowledge, presentation skills, writing mechanics, collaboration, work ethic and effort, and critical-thinking skills. By understanding the workings and philosophy behind this evaluation tool, teachers become increasingly adept in PBL and committed to the school's overall approach.

The NTH Learning System™ drives and reinforces the learning mode of the school. As well as being an instructional, curricular, assessment, and administrative tool, it is also an ongoing in-service support structure for all teachers. Just by using the system, the teachers and other staff reinforce and enhance their understanding of the school's approach to learning.

In addition to accepting the embedded NTH Learning System™, teachers and staff also reflect on and embrace the school's mission of education reform, reinforced and modeled daily by the school and foundation leadership. The teaching staff embraces project-based, technology-enriched, and student-centered active learning and minimizes lecture, textbook-based, and other passive, teacher-centered instruction. Teachers are expected to know each student well and to address individual needs on a one-to-one basis. They collaborate with colleagues and value shared support and encouragement. They also discuss individual student progress and how to keep students on task. Teachers recognize the extra time and effort that such an instructional approach entails and understand that teaching at this school would not be the ideal fit for every teacher.

One-on-one collaboration and shared knowledge are the primary tools of professional development. Teachers have five hours built into their weekly schedules for non-instructional co-planning activities. Teachers are expected to take responsibility for their own professional growth, but all recognize that assistance and support are no farther away than their closest colleague.

Professional development of a more structured nature is provided by an annual, five-day summer conference for all teachers, those at New Tech and at other affiliated campuses supported by the New Tech Foundation. Foundation staff, administrators, and experienced teachers facilitate the sharing and learning experiences provided. Three times a year the foundation sponsors "Meeting of the Minds," day-long conferences for all New Tech Network schools, to bring together teachers with similar roles; and "Director's Dialogues" for principals, to share best practices, and plan and discuss issues of long-term impact on the New Tech movement. In addition, weekly Monday morning staff meetings and bi-weekly teacher collaboration meetings provide focus on school and professional learning topics and training. The small learning community environment of the school also facilitates regular and informal collaboration and planning. In the integrated courses, teacher-to-teacher conferences and meetings happen daily and on an as-needed basis. Administrators and staff participate in professional development training as part of the district's master in-service plan for all educators.

The emphasis is clearly on helping teachers help themselves to become comfortable and optimally effective in the school's particular approaches to learning and instruction. Within the framework of the school's overall philosophy and its mission, teachers are given relatively free rein to help their students succeed. Teachers are encouraged to be flexible and versatile problem solvers who can be effective without formal structures and rules. They recognize that initiative, improvisation, and experimentation are supported.

Lessons Learned

- When students are respected, supported, valued as individuals, and expected to engage in relevant tasks that challenge their abilities, they rise to the level of expectations set by the faculty.
- Teacher selection is important. There is a steep learning curve to deliver an effective PBL curriculum, embrace the educational philosophy of the school, work as a member of a teaching team, and handle the multiple assignments resulting from being part of a small staff.
- All constituents in the school and community feel that the small size of the school contributes to the personalization and strong school culture that exists.
- Partnerships with business and the community provide necessary support and real-world experiences for students, especially with regard to community service and internships.
- A strong vision, an educational philosophy, and guiding principles enhance the work of the faculty and unify the educational program under a common set of beliefs.
- The administrator is committed to removing obstacles that get in the way of teaching and learning; creating a team culture; and empowering staff to be the essential element in creating and delivering an exciting, rigorous, and relevant curriculum for students.
- The social, emotional, and cognitive development of entering 9^{th} graders is different from 10^{th}-12^{th} graders, and the school's education program needs to address these differences.

Principal's List of Three Greatest Strengths

Principal Carolyn Ferris identified the following strengths of New Technology High School.

1. PBL Curriculum: There is cohesive thinking in the school about creating real-world learning experiences that engage students' interest. All educational experiences are supported by the school's learning system components: technology as the backbone, course calendars, project briefcases, and assessment portfolios.

2. Small Size: The small size of the school allows the students and staff to create a community and to build meaningful relationships. Problems are more transparent in a smaller environment. It is easier to communicate what the problems are and to fix them. Also, working with a staff of 20, rather than 120, allows the principal to know the staff and to identify how to support their work.

3. Community Partnerships: The relationships with education and business partners strengthen the educational program and give the school some of its distinctiveness. Students take classes from community college professors, both at New Tech and at the local community college. This provides students with opportunities to see how their learning is connected to the outside world. Students also receive the additional benefit of earning college credit without paying tuition. The business partners provide internships, service learning opportunities, and financial support for the school's program.