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The Transformation of Union
City: 1989 to Present

(Abridged and Mapped)

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The Transformation of Union City: 1989 to the Present

Union City

The following facts describe the demographics of Union City, NJ:
- It is the most densely populated city in the U.S.
- Population is 92% Hispanic.
- 75% of students do not speak English at home.
- 80% of students receive lunch aid (more than twice the national average).
- It is classified as one of the most impoverished cities in the U.S.
- Over 9,000 students in 11 schools   (3 *elem*., 5 *K-8*, 1 *middle*, 2 *high schools*).
- About half of the adult population has finished high school.

State of the district - 1989

The Union City School District showed the following deficiencies in 1989:

- Of 52 areas of proficiency the state investigated, the schools failed in 44.
- Attendance, dropout and transfer rates as well as standardized test scores were below state averages.

Action

The school board turned to Tom Highton, Principal of the Gifted and Talented School, and Fred Carrigg, Supervisor of Bilingual/ESL Education.
- Tom and Fred negotiated unprecedented power over budgets, appointments, curriculum, schedules and more.
- They identified the obstacles to improving education, including language barriers, parents with limited formal education and a high student mobility rate.

Results

By 1995 Union City s scores on the state s eighth-grade readiness test were superior to those of its urban counterparts by as much as 20 percentage points.
- *The New York Times* called the system an inspiring example for troubled districts elsewhere (Editorial, August 1995).

The Transformation of Union City, Continued

How did they do it?	How did Union City make the changes work?

1. **Close observation of concrete reality** — They conducted their own research about basic teaching issues and tailored their responses to local conditions.
2. **Reform considered a long-term process** — They gave themselves five years to achieve results and instituted annual reviews of curriculum and methods.
3. **Communication considered essential** — They showed teachers their commitment to change as well as to teacher input.
4. **Trust in teacher autonomy** — Goals were set and guidance was offered, but they did not force teachers to institute new methods. Teachers were rewarded for experimenting and not penalized if scores declined as they worked out new practices.
5. **Conviction that all students can learn** — Reforms were designed to stop making students feel inferior and to change the attitude of teachers.

Phases of transformation	As was to be expected, the transformation was grueling, labor-intensive, frustrating, full of compromise and frightening, but punctuated by moments of exhilaration. The process fell into three major phases: **Phase One:** 12 steps in preplanning (1989-90) **Phase Two:** Eight key areas of simultaneous implementation **Phase Three:** Follow-up

The Transformation of Union City, Continued

Phase One

Step 1: Reform committees

Ten predominantly administrative committees were set up. Many of these dissolved as soon as their objective was achieved. The exception was the Elementary Literacy Committee (ELC), which was designed to be self-perpetuating because its subject was basic curriculum and how to teach it.

- This committee had 14 members of whom 11 were teachers, which recognized the importance of their input and ensured that no one could question where the ideas came from. This was a clear signal to the community that the voices of the teachers would be heard.
- The new leadership made sure that committee members included representatives from all the major groups in the school system.
- As an Anglo who speaks Spanish fluently, Carrigg brought a particular set of strengths to the challenges. He had been the bilingual/ESL supervisor for 12 years. From the outset he embarked on reform with the support of the district s bilingual/ESL teachers.

Note: The ability of the new leadership to speak for and to many groups was to prove essential in the reform process.

Step 2: Long-range thinking

There was a need to develop an educational philosophy with substance and concrete reality. This would take time to enact and be part of the hierarchy from the top down. The members of the committee gave themselves a year to accomplish this. They put together a five-year plan:

- Year one was for research and planning
- Year two focused on reform curriculum for grades K-3
- Year three, grades 4-6
- Year four, grades 7-8
- Year five, planning for change at the high school level
- **Note:** This plan enabled them to take lessons learned from each successive implementation and apply them toward easing transition in subsequent years.

Step 3: Localization

The committee decided to examine their underlying goals and develop practical ways to achieve them, given a population of linguistically and economically impoverished and transient children. They were prepared to change curriculum, texts and methods throughout the entire system if necessary.

Step 4: Literacy as the foundation

Given their research and the demographics of their student population, the committee decided to base systemic reform on literacy.

1. They believed that literacy is the key to all other learning, which, as opposed to 1989, is now accepted by the mainstream education establishment.
2. They focused on constructing a literacy curriculum that would help develop thinking, reasoning and collaboration skills.
3. Students would learn by doing — demonstrating proficiencies by writing research papers and carrying out projects.
4. The reform committee wanted to produce one inclusive curriculum guide that represented real diversity and did not single out any one group.
   - The previous different guides caused problems. For example, students going from a bilingual program to monolingual were tested for vocabulary and not for reading skills. This held many back who actually read at more advanced levels.

Step 5: More research

The Elementary Literacy Committee examined the way American schools were traditionally organized and found that virtually all American education is based on the following concepts about the development of reading skills:
- K-2 students work on decoding how to read (literacy skills).
- Middle elementary students learn to read meaning.
- Upper elementary students (6-8) learn to read for content.
- High school students diversify their uses of reading; they read for new information and usable knowledge to develop their own creativity and writing skills.

Note: The Union City committee felt the traditional basic outline for education was sound but decided to dig further into how educators achieve these goals.
- They looked at state-mandated lists of skills and achievement levels.
- They surveyed the Union City teachers on what they considered necessary skills and when to teach them.
- They combined the two lists and opened up ways to achieve results.

Step 5: Example	**Example:** The traditional unspoken guidelines stipulate mastering initial consonants, then final consonants and then medial vowels. The reformers suggested that elementary teachers work from authentic stories with obvious initial consonants instead of covering the alphabet from A to Z.

- They selected *The Very Hungry Caterpillar* to teach the initial *H* sound, which is silent in Spanish and therefore difficult for Spanish-speakers to master.
- By reading these stories, children have an opportunity to practice listening and speaking while repeating phrases, as well as to see how letters are used. All this while enjoying a story that captures their imagination.

Step 5: Suitable materials	The various committees conducted an examination of all the textbooks and materials available that claimed to teach state-mandated skills.

- After three months of review they discovered little educational congruency between the desired skill outcomes and the actual materials.
- They demoted the existing materials from core to supplemental level.
- A review of all the textbooks found a dearth of children of color, which for a 95% minority school district showed a lack of relevance.
- The whole system had to be reconceived and they needed to identify suitable materials.

The Transformation of Union City, Continued

Step 6: Whole-language movement

The essential idea of the 1980s whole-language movement was that literacy skills emerge based on purposeful, authentic (real-life) language acquisition.

- Literacy starts at home with parents talking and reading to their children. Literacy is a unified whole, not a group of discrete sub-skills.
- The purpose of reading is to get information to share, and writing and speaking are done to communicate to friends.
- The reformers felt that for their population, literacy would not naturally emerge. In their plan, literacy would be encouraged by specific activities designed to promote oral development.
- Based on research and their needs, the committee abandoned rote learning, whole-group lecture-teaching and basal readers. They would adapt the whole-language ideas, giving the process more structure. This freed the teachers from problems arising from the cumulative sub-skills model, which didn t match the needs of the population.
- The committee decided to institute the reforms throughout the district to address the problem of mobility. They knew also that teachers needed training to successfully negotiate the transition from basal readers to whole language. (They knew that bilingual/ESL students had been successfully using the whole-language approach, and were confident this would succeed with the entire district population.)

Step 6: Pilots

Over time the committee created a complex, labor-intensive system devised to satisfy various needs by working on several fronts simultaneously. Based on research and the experience of the bilingual/ESL teachers, the committee felt confident enough to conduct pilot tests involving 20% of a grade.
- Pilots provide an opportunity for teachers and administrators to experiment and refine strategies.
- Pilots have a good chance of succeeding because they attract innovative and energetic teachers.

Note: The end result was that test scores doubled almost immediately, and the pilot population accounted for virtually all of the improvement.
- Thus the district moved from a formalized rote learning of English based on sub-skills acquisition to a natural approach, building up oral language by reading good stories to students and starting English conversation slowly around topics close to students lives.
- This change in philosophy led to other changes, from selection of materials to block scheduling to teacher mentoring and more.

Step 7: Materials	The next step was to determine how to build skills based on state and national acquisition standards.

- The literacy acquisition skills system was based on the California Achievement Test and the standards developed by the International Reading Association and Teachers of Reading and Literature.
- They recommended authentic children s literature chosen by a system that awarded points for characteristics such as teaching medial vowels.
- The establishing of a curriculum responsive to students needs represents a different and useful concept of multicultural education. Rather than introducing students to snippets from various cultures, such as African and Eskimo Christmas carols, they examined what the children already knew and what they needed to know to be successful academically. Then they worked to fill in what was needed.
- As a result of the above ideas the district built up banks of authentic materials and genuine children s literature based on themes identified as important by the teachers who would use the books.
- Each teacher received up to 30 copies of a core book and five or six copies of at least four related titles per marking period. Today elementary rooms have classroom libraries containing hundreds of books. A further benefit of multiple texts is that units can easily be changed when materials become irrelevant. Basal series are expensive to change because they cover many classes in multiple grades.

Step 7: Themes	The teachers were polled about themes appropriate for different grades. Themes unify teaching across a grade and within a classroom.

1. The first-grade teachers opted for cats, dogs, precious pets and friends.
2. Three years later, when the teachers felt ready, they voluntarily compressed the multiple categories down to animals.
3. One sub-theme across grades was conflict resolution, an important issue in the climate of violence in America.
   a. Resolving conflicts through words was covered directly in workshops with students and in the curriculum guides.
   b. Books depicting verbal resolutions were given extra points as a way to reinforce the idea of using words instead of violence. An example was *Charlotte s Web,* where serious differences are resolved by words and reason.

Step 8: Methods

The committee felt that moving away from the methods that make children feel like failures on day one to teaching that makes them feel success is possible was essential to students ongoing academic success.

- They retained the basic outline of reading skills but adapted the particulars to suit their homogeneous Spanish-speaking community.
- To give students a positive first experience, the curriculum began with initial and final consonants that were similar in English and Spanish.

Example: For first grade they chose to delay teaching medial short vowels until mid-year because some English vowel sounds don t exist in Spanish, such as the short *A*. These sounds are difficult for Hispanics, and teaching them first virtually guarantees initial failure with reading skills. The final consonant *S* is dropped in oral speech and thus difficult for most Caribbean Spanish speakers. Teaching the final *S* was done later in the year.

- Traditional classrooms begin teaching reading with the letter *A* and its corresponding [ae] sound because the letter *A* opens the alphabet.
- Union City strongly urged teachers to detach the letter-learning process from reading. In order to give the students a sense of success they were to teach *M* and *N,* for example, in September and October. Carrigg reassured traditional classroom teachers who were skeptical that they would still cover the whole alphabet in first grade, but simply in a different order.
- Students were to create their own alphabet books of words that were meaningful to them. For example, if a child wrote Hulk Hogan and drew the wrestler to represent the letter *H*, the teacher understood that the child had mastered the *H* sound and the symbol.

Step 8: Higher grade levels

At higher grade levels the reformers continued the principle of making learning more relevant to the individual learner.

- High school freshmen are not assigned a classic novel in the first marking period but allowed to choose a book for pleasure from a long list of novels keyed to grade-wise themes such as women s roles or growing up or creating America.
- Book choices range from *The Miracle Worker* to *The Three Musketeers* to *All the Pretty Horses*.
- Freshmen join reading groups of four to six students to discuss the book s theme, characters, development, settings, style and other traditional elements of literary analysis.

Step 9: Two systems at the same time

The reformers did not force radical change, and gave teachers the option of using authentic literature as well as the Silver-Burdett 1989 basal at the same time. They knew they had to approach change gradually and offer guidance to the teachers. They provided structure for the teachers by designing activities and suggesting strategies that would replace the pedagogy of basals. Success in reading is based in particular on two aspects of prior knowledge:

1. Oral language development (an adequate background in grammar and vocabulary, because people learn words from context).
2. Familiarity with the dominant culture. E.g., native-born Americans acquire prior knowledge by living in the U.S.; they pick up associations such as red means danger. In Latin cultures red suggests celebration.

Note: Children whose families are new to this country, and who often arrive with limited economic resources and limited formal education, face a documented nexus of obstacles in the American educational system. Their parents are often working multiple jobs, are not fluent in English and are unfamiliar with the American education system. These factors all hinder their ability to provide the kind of background support (especially vocabulary and grammatical structure) that children need to succeed academically.

Step 9: Skills needed

The reformers knew that the school system would have to support children in acquiring a core of foundational skills.

1. They chose to concentrate on training elementary-grade teachers to conduct general preparatory activities before teaching students how to read, by reading many stories and having extended conversations.
2. The objective was to increase the children s vocabulary. Teachers were to create language-rich environments in the classroom by developing oral associations to the stories the children would read.
3. The committee listed the words that needed to be discussed and suggested techniques that help children acquire essential vocabulary such as talk circles and semantic mapping.
4. Guidebooks were provided on how to achieve skills acquisition.
   - The guides, printed in large format, correlated texts, page numbers, suitable activities, proficiencies and state standards.
   - They presented as much information as possible in one place, helping teachers plan their activities and desired outcomes.
5. The underlying question for teachers was, What does a student need to know to understand this story?

Note: Today, basals have disappeared from the classrooms (voted down by the teachers) and the core materials consist exclusively of good stories.

The Transformation of Union City, Continued

Step 10: **Rewriting the** **curriculum**	Instead of using outsiders or a select group, the reformers hired teachers as curriculum developers. They believed that those most familiar with the particulars of their school district would have the best ideas and would also galvanize the broadest support from the teacher population. • They wanted a curriculum that led to student-driven, inquiry-based learning. • They believed that curriculum should not be fixed, but must respond to changing circumstances and feedback from practitioners. • They institutionalized a process of examining curriculum every year to seek out opportunities for improvement in materials, methods, scheduling or any area that made sense to change.

Step 10:
Selection & pay
	The committee made two strong statements about wanting real change:
	
	1. First, they chose a teacher who was a staunch union advocate to be a key member of the Curriculum Committee. She was also known to be open-minded, intelligent and a highly respected teacher. To succeed with this sort of casting choice demands an intimate knowledge of
	   a. the realpolitik of the community
	   b. the talent available
	   c. the conflicting interest groups
	   d. the power struggles and
	   e. how power can be harnessed for peaceful purposes.
	2. Second, a significant change in procedure was that teachers who worked on the curriculum in 1989 were paid the same rate as those teaching summer school rather than half that rate, as before.
	   a. This was a major signal to teachers that the reformers considered curriculum vitally important and were paying attention to what was going on in the classroom.
	   b. In 1990 the Board approved a rate increase so that curriculum writing would pay more than teaching, which ensured that the best talent would do this work.
	Note: In 1989 the pay was $10 an hour and the committee spent $11,600 on curriculum, which was more than had ever been spent on curriculum. Today the Board spends close to $200,000 on keeping curriculum current.

Step 11: Money & budgeting	Related to the change in the priority of curriculum development is a change in budgeting. Funds must be dedicated specifically to this process. In addition, in 1990-91, the committee doubled the costs of materials and supplies for grades K-3 because they were teaching two systems simultaneously across the board. They spent $240,000 in 1990-91, an unheard of amount. This money paid for: • Building banks of books (or class libraries) in the classrooms for the movers and shakers • Transition basals for traditional teachers.

Step 11: Funding	Extra funding was procured in three ways:
	
	1. The budget increased from $37.8 million in 1989 to more than $100 million in 1997 (due largely to the state s Quality Education Act).
	  • In 1991-92 the state Supreme Court increased the allocation of state funds to urban districts, based on the argument that students from poor urban and rural districts were denied equal opportunity in education.
	  • The Union City district was classified as impoverished, making it eligible for extra funds from Trenton to bring its schools in line with others in the state (*WSJ*, Nov. 17, 1997, R18).
	2. In 1982 the city issued $27 million in state-secured bonds to repair the schools.
	3. The district obtained additional support through funding from public, private and corporate funders including Bell Atlantic, the National Science Foundation and Title 1.

Step 12: Results

Embracing literacy and an adapted version of whole-language generated changes that addressed seemingly intractable problems in education, such as teacher isolation, inertia and lack of systemic support.

1. The whole-language approach reorganized the power structure among teachers and broke down barriers that had been in place for years.
    a. One third of all teachers were bilingual/ESL and had felt like second-class citizens.
    b. Another third were certified bilingual/ESL.
    c. Thus two thirds of the teachers were already trained in and familiar with some of the whole-language techniques.
2. Once reform was instituted, monolingual teachers began to perceive the bilingual/ESL teachers not only as equals but also as resources.

Step 12: Curricular themes

The use of curricular themes provided tremendous cohesion in many areas. The themes were chosen to be broad enough to allow great variation. Themes also meant that all teachers in one grade (traditional classroom, special education, bilingual/ESL) were teaching the same themes at the same time.

-   This broke down barriers between groups of teachers within a school.
-   Within the classroom the teachers found themes made teaching easier. For example, if the subject was whales, they could assign anything from *Moby Dick* to *Amos and Boris*, depending on the reading level of individual students. Themes encouraged whole-class discussion as well.
-   Literacy is about communication. An additional benefit of themes is that students go home and tell their parents, I learned about parrots today. Themes invite parents into children s school life in a way that sub-skill strategies in basal readers never do.
-   Themes were and are the unifiers from K-12. No unifier had existed before, and this change was a great advance for the Union City schools. There is now one curriculum guide per grade instead of four or five (one each for monolingual, bilingual, special education, etc.).
-   In addition, themes were instituted across buildings, so that when a child moved into a house across the street and thus into a different school, he found himself in a classroom with familiar themes and teaching approaches.

The Transformation of Union City, Continued

1990-94	During restructuring, the summer was used to plan the implementation of next year s reorganization and curriculum for successive grades in the five-year plan. • Year two focused on implementing the new K-3 curriculum • The third year on 4-6 • The fourth on pilots and reorganizing 7-8 • The fifth on implementing the new curriculum for grades 7-8, piloting reforms and developing new curricula for 9-10 • A second five-year planning process, begun in 1994, focused on comprehensive reform at the high school level.

Eight Key Areas of Simultaneous Implementation — The second year of restructuring

Second year	The decision that literacy was key led to the recognition that several fundamental changes were needed that must be enacted at the same time to be effective. Changes were made in eight Key Areas.

#1 Time	The first major change was in the use of time. **Old style:** Teacher was allotted 20 minutes each for homogeneous reading, writing group, seat work for non-involved groups, math groups etc. **New style:** Whole-language approach depends on sustained silent reading, authentic writing, proficiency-based research and hands-on activities. The old bell schedule also contravened the idea of inclusion, which is necessary for academic success. • Whole language treats literacy as a unified subject whose objective is communicating with oneself and others. • Literacy skills would be taught through a variety of reading activities (reading, discussion, themes, personal alphabet, etc). • It was evident that literacy skills could not be effectively acquired under the old bell schedule and that at least three subject areas — reading, writing and social studies — needed to be pulled together to reinforce learning from different perspectives. • This produced a 111-minute block of time known as the whole-language block or the communications period. Whenever possible this period was preceded or followed by social studies, so that the block was extended in fact to 160 minutes. It was further decided that no child could be pulled out of class. Teachers use this period to establish classroom knowledge and to be sure everybody knows certain things, which is especially important to primary teachers.

#1 cont. The process

Within the 111-minute block, teachers were told what to accomplish — to cover reading, writing and speaking on the pertinent theme — but not how to do it.

- They were to organize the time as they saw fit.
- If two students could work productively on their own, they should be allowed to do so, and the teacher would be free to work with students who needed more guidance.
- For the first time teachers were asked to provide instruction in accord with individual needs. This was a radical change that offered teachers unprecedented power and increased their sense of professionalism. *It is also a change that is key to the success of reform.*

Note: Most veteran teachers responded with enormous enthusiasm and energy. Novice teachers needed tremendous support and training in practical strategies and techniques (training not provided by education schools). The committee knew that the concomitant of choice is responsibility and that the district needed to help teachers accomplish the new goals. They developed a tiered method of professional development and peer coaching (described later).

#1 cont. The effect

The new block of time also allowed an interdisciplinary approach to flourish.

- Themes that emerged as part of a historical period of study were also covered in literature, the arts and the sciences.

Example: Seventh-grade students learning about the Civil War study not only political and social issues but also analyze primary source materials (e.g., personal journals and art from the period), and read contemporary novels about the war to enrich their understanding of the human experience of ordinary people during that time.

- Union City also created a math-science block of time. While the goals and methods for achieving literacy seemed fairly straightforward, those for math were less clear. Although most students understand the need to be adept with time and money, they are less clear about other reasons to think quantitatively.
- Union City is still developing strategies and modules for teaching the fundamentals of math and science. They have, for example, a long-standing partnership with Swarthmore College s Math Forum on developing technology-rich algebra and geometry units that help children discover the applicability of mathematical concepts in everyday life.

#2 Learning methodology

Every year 20% of the students in Union City are new entrants into the system. Trying to teach skills acquisition in a linear format was virtually impossible and the linear model had led to district failure. It made sense to base the system on strategies that help students learn to learn rather than on skill acquisition. This meant mastering objectives generally referred to as Bloom s Taxonomy : learning to remember, comprehend, apply, analyze, synthesize and evaluate.

- This was done by using the thematic learning that is integrated and interdependent and teaches skills within the context of the thematic units.

  Example: For seventh-grade history, a class might be divided into groups of four and read different texts depending on ability, but each group is asked the same question: What are the causes of the Civil War? Write them in priority order and cite the page number where you found the information.

- In this approach the task is *not* Answer all the questions at the end of the chapter. With only four or five in a group, all the students must read and talk together; no one can get away with skipping the work because their peers know and disapprove.

- They are using a higher-order thinking skill when prioritizing, and the recording of citations prepares them to write research papers.

#3 Cooperative learning

A critical component of making education for Union City students more relevant to work and life is the idea of cooperative learning.

- Its real world premise is that very few people are responsible for an entire body of work from goal-setting to final result.

- Students work in teams and are accountable to different departments and demands.

- What students and teachers alike need to learn are the skills of cooperative learning: goal-setting, dividing work into various units, negotiating differences in skills, temperaments and schedules; synthesizing the work of different people into a coherent whole.

Note: For more on cooperative learning, see works by David Johnson and Robert Johnson (*Learning Together and Alone*, 1975; *Cooperation in the Classroom*, 1998) and Robert Slavin (*Using Student Team Learning*, 1986).

#4 The end of pullouts

As one manifestation of embracing cooperative learning, the reformers worked on replacing the model of teacher as owner of the knowledge with the model of both teacher and students as active members of the learning process.

- The most significant outcome of this change was the elimination of pullout services to help all students acquire foundational knowledge by being in the classroom the entire block time.

Note: The no pullout rule was not absolute. Students who cannot read at all were pulled for one-on-one attention. This occurred in only a few instances compared to 80% formerly assigned to various pullout programs.

- In addition, as articulated by the Corrective Action Plan Committee, separated, segregated learning contravenes thematic planning and labels students as remedial.
- It is tremendously important that children feel accepted as part of the group. When they are pulled out, especially for remedial work, they are often aware that something is wrong with them and must be fixed and this by itself impedes their progress.
- Not only were pullouts eliminated but the district also eliminated the word remedial and now refers to students not on grade-level as emerging readers instead.
- To replace pullouts, the committee instituted co-teaching (team teaching), whereby resource and support teachers no longer sat in their offices while students came to them. Instead they went to the different K-3 classrooms to provide extra help.

#4 cont. Implementation

Implementing this new philosophy on pullouts was a major struggle.

- Co-teaching meant that both specialists and traditional classroom teachers had to learn to work together to determine which instructional practices would best meet the needs of individual students. Some quit or retired.
- On the other hand, ESL/bilingual teachers had co-taught for years, some with teachers who didn t even speak the same language, much less use the same styles. They knew co-teaching would work.
- It took a year to see if this element of reform would be effective or disruptive. The committee members were heartened to see teachers circulating among groups, giving attention where needed. Over time they saw more team-teaching going on. Now co-teaching is second nature.

#5 Evaluation & Supervision

Innovation is defeated when the reward system punishes failed experiments and honors old levels of achievement. On the other hand, experimentation must be linked to reality and the likelihood of success.

1. Union City tested various methods of evaluation.
    a. It retained traditional criteria on classroom management, cleanliness and noise level.
    b. The new simple test was, Tell me what this group is doing and how it supports how to learn. Any teacher who was trying new materials and could answer this question persuasively would not be penalized if student test scores dropped.

Note: Test scores did not drop, but improved. The superintendent had originally suspended analysis of teacher performance by test grades for two years. Since the scores went up, this period was extended indefinitely.

2. This form of evaluation freed teachers to try new methods and materials, without which no change is possible.

#6 Professional development

Union City considers staff development a process, not an event. They learned from the early years of restructuring, particularly during the massive staff in-service retraining in the whole-language philosophy of literacy acquisition.

- Training increased from fewer than 8 hours a year to a high of 40 hours a year, with many more opportunities available for voluntary staff development.
- The training included counseling on differences in teaching styles so teachers would understand and respect what others were doing.

#6 cont. Five-stage model

The district used, and still uses, a five-stage model to support teachers working toward proficiency in the new educational paradigms: awareness, practice, sharing, peer coaching and mentoring.

Stage One: Awareness

In this stage, broad or new core concepts are introduced to large groups of faculty.

1. During the first in-service session of each new year, revised curriculum guides are presented and discussed with grade-level department-level faculty.
2. Whole-language and cooperative-learning technique orientations are presented through awareness workshops.
3. Hundreds of teachers attend trainings sponsored by professional groups out-of-district and at state and national conferences.

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#6 Five-stage model cont.

Stage Two: Practice

Specific basic strategies and techniques are introduced and practiced.

1. One technique is Wall Story, a single story made up by an entire class over time. One group starts drawing a picture on the wall (on paper) and writing accompanying text. A second group continues both the picture and story. The entire class produces the completed result and each student feels a part of it. The lesson communicates that many small contributions can add up to a unified whole.
2. Another popular exercise is KWL   what I already know, what I want to learn and what I learned. The habit of thinking in terms of KWL is valuable for both students and teachers. For teachers it is a reminder to build assessment into every lesson. For students, it is a built-in period of reflection and recognition of progress.
3. Another exercise includes computer orientation. Basic computer skills are introduced and practiced over several days.

Stage Three: Sharing

In workshops, practitioners of new approaches discuss their experiences, both successful and unsuccessful.

1. At least two half-day sessions are conducted every year, run by local School Improvement Teams (SITs). Teams consist of principal, teachers, parents and, at the high school level, students. These are particularly effective with site-based groupings drawn from one grade level or department. Periodically the district will gather team members from several schools to participate in more advanced workshops   for example, to find common ground across the disciplines for collaborative support and team building.

Stage Four: Peer Coaching

In response to the need for extensive training for the new system of teaching, Union City developed a two-tier mentoring system, short- and long-term.

1. The first approach is peer coaching for new teachers.
   a. A new teacher is paired with an experienced, confident colleague who teaches the same grade.
   b. They spend two to five days going over the curriculum guide and will meet every three to four months for consultations.
   c. In the beginning of the year, the pair will work together and team-teach in class. The peer coach observes and provides suggestions and ideas on successful practices.
2. Originally, peer coaches were half-time coaches, half-time teachers. This system of one-on-one individualized support proved so effective that Union City now has five full-time coaches.

Stage Five: Mentoring
As an extension of peer coaching and as required by the state, there is a system of mentors with at least one mentor per building.

- New teachers can consult these mentors on a one-to-one basis for any bureaucratic issue on a classroom, school or district level, from filling in lunchroom forms to insurance payments, over the entire year.
- Each mentor is assigned no more than three teachers for a marking period or a full school year and they all might teach different grades.
- The needs of Union City have evolved over time, and workshops and activities are planned in response to changing needs.

Note: During the initial five years of the staff development the district kept records on every teacher to track what stages they had completed.

#7 Refurbishments

Basic refurbishment of buildings was effected in 1992 with bond funding. Windows were replaced, classrooms and hallways painted and graffiti removed.

- Teachers who embraced the new curriculum were rewarded with refurbished classrooms.
- The same teachers were allowed to purchase cooperative learning tables, classroom libraries and, often, computers.
- The district offered to buy furniture for a second classroom center that could be used for listening to tapes, as a community center (focusing on cultural and community workers, such as firemen) or for science, math or art.
- Over the years, the classrooms slowly added one center at a time, and now most elementary classrooms have five to seven centers. One preschool has 11.
- Today, instead of static rows of desks facing front, cooperative learning tables are the norm at elementary and middle schools, and are becoming common in the high schools.

#8 Math and science

In math and science, the reformers wanted to connect to students interests and real-world problems. They wanted to ground the development of students understanding in prior knowledge.

- Whenever possible, the content of math and science units is thematically and conceptually related. For example, at the middle school level, food boxes of various size and shape are used to study the mathematics of volume and surface area for rectangular prisms as well as for the science of nutrition.

- They use the game of Predator and Prey to teach students how to collect and interpret data by studying the effects that varying numbers of owls have on the number of mice. They create graphs to display their findings and they discuss the balance of nature and the meaning of density.
- Velocity and acceleration are studied by timing marble rolls on inclined planes and softball rolls on flat surfaces, and by racing CO_2-fueled model cars.

#8 Strategies

Over time they have developed strategies for teaching math and science that entail using technology as well as reinforcing cooperative learning skills.

- When performing experiments, students learn to use computers to organize, analyze and interpret data.
- In their effort to connect learning with their lives, students investigate issues such as energy crises, pollution and genetic engineering.
- Students study in groups, whether in the lab or when working to master fact-based material to prepare for experimentation.
- They learn different ways to represent information, from making tables and graphs to concept mapping to using a variety of graphic organizers (e.g., to highlight time sequences when studying cause and effect, or to list similarities and differences when comparing and contrasting relationships).
- Students also conduct research using multiple texts, CD-ROMs and the Internet. The multi-text method has a variety of benefits:
    a. It teaches students that there is no single right source of information and no single right way to solve problems.
    b. It prepares them to take risks in abandoning misconceptions and accepting new ideas.
    c. It allows students to use materials at an appropriate reading level, which is especially important for a student population with widely ranging reading skills.

Follow-up   Every summer the reforms are reviewed by the Strategic Planning Committee (formerly the Corrective Action Plan Committee) and all supervisors. They look at the curriculum to make sure it is relevant and effective, and they have authority to change and experiment with different materials and methods. This yearly review has been very valuable in the constant process of improving learning.

- The reviewers examine testing data for patterns of strengths and weaknesses and they use this information to guide decision-making about curriculum, instruction and professional development needs. With their long-range view they do not worry about small (2-3 %) one-year drops in scores.
- After five years the elementary schools were graffiti-free. They now look like places where rich and meaningful learning is taking place. The walls, in both classrooms and hallways, are covered with student work; the projects are rich and varied and they convey the fact that across grade levels, students are engaged in producing quality products.
- Scores on standardized tests have improved far beyond expectation (indeed, all the research literature suggested scores might decline during such a period of radical change).
- Writing skills have improved.
- Absenteeism has declined significantly and the number of students transferring into the system has increased while the number transferring out has decreased.

Technology Infusion

Background   The reform plan had proved successful throughout its application to the elementary schools. By 1991 restructuring was moving into the middle school level, where traditionally change is more difficult because middle and high schools are departmentalized.

- Teachers tend to work exclusively within departments, making cross-departmental collaborations difficult and curriculum integration challenging.
- Students are more rigidly sorted into groups (those in need of remediation vs. the academically advanced).
- Teachers often feel torn between covering content and teaching skills that can help all students learn how to learn.

The Transformation of Union City, Continued

The need for technology

Besides overcoming the structural hurdles of the upper grades, the reformers wanted to begin making Union City teenagers competitive with their suburban counterparts to help them gain admission to and succeed in college.

- There was a need for an advantage to set them apart from their peers.
- Technology seemed like a promising way to give them that advantage
- It could provide access to information that was generally denied to the inner-city poor because of the paucity of resources, and would also give them skills that would help them study and later find jobs.
- In addition, in 1997 the district initiated Road to College, a program that provides SAT counseling and arranges for educators to take students to visit various colleges and universities in the Northeast.

Funding

Union City decided to invest substantially in technology resources and it had the financial wherewithal due to the redistribution of state funds. Local administrators had some limited experience with computers and knew enough to recognize the power of technology and to ask for help. They benefited from a wide variety of partners:

- New Jersey s Quality in Education Act made possible significant investment in new technology.
- Bell Atlantic and the National Science Foundation provided funding and expertise.
- EDC s Center for Children and Technology helped the reformers think through what they wanted and design technology to achieve their goals.

Objective

There was a multi-purpose objective for technology in the schools.

- The most important decision was to network (interconnect) the multiple groups that constitute the school system the students, teachers, school and district administrators, and parents.
- The underlying objective had three components:
  1. To develop literacy to help document, synthesize and evaluate information
  2. To communicate ideas to others
  3. To facilitate cooperative learning.

The Transformation of Union City, Continued

Installation

Installation started in 1991-92

- The district bought two computers and one printer to be installed in every seventh grade by September 1992 (total of 92 computers for its 46 seventh-grade classrooms).
  a. They wanted computers to service the new curriculum, in particular, thematic units that supported process writing.
  b. An additional reason for placing computers in each classroom rather than in a lab was convenient access for all students, an extension of the reformers principle of inclusion.

Note: Technology vandalism has been virtually nonexistent, which is attributed to the practice of inclusion. Student access to technology is a right, not a privilege.

- They wanted to develop a high-speed, district-wide technology infrastructure of voice, video and data to network all classrooms by the year 2000.
  a. In February of 1996 the Board of Education began the first phase of the National Science Foundation-funded Union City Online project, which included installation of a T-1 wiring infrastructure in each of its 11 schools as well as its two public libraries, City Hall and the local daycare center.

Note: The technology expenditure in 1996-97 was $1.2 million. Today the district allocates approximately 3% of its $110 million operating budget to technology expenses.

  b. All classrooms are connected to the T-1 lines via fiber-optic backbones in each school.
  c. Today, in 2000, the district has 3,600 instructional computers in classrooms, media centers and computer labs (a ratio of 3:1 students to computers).
  d. About 85% of the 3,600 computers are part of a district-wide network that connects the students, staff and community to a district-wide intranet and the World Wide Web.

- Union City is now one of the most, if not *the* most, wired urban school districts in the United States.

The Transformation of Union City, Continued

Usage

Students, teachers and administrators use technology in many powerful ways:

- Email is both personal and non-intrusive and provides many benefits of relationship (sharing of information and ideas, problem-solving etc.). It is exceptionally useful for communication and project work between colleagues, while not replacing all face-to-face meetings.
- Students were already accustomed to the process of researching, reading and experimenting. They were also accustomed to finding information from multiple sources such as texts and authentic literature. Using the Internet and CD-ROMs was a natural extension of previous learning.
- The change in physical configurations in the classroom suggested different ways to deploy technology throughout the schools. Union City students use computers every day to conduct research, to write and revise reports and essays, and to create multimedia portfolios.
- One initiative, a summer course on Web-authoring, Business, Community and Educational Applications of Technology, is uniquely dependent on technology and embraces multiple goals. These include:
    a. cooperative project learning and communication
    b. partnership with community agencies and
    c. student expertise transferred to fellow classmates and the community.
- This project on Web-authoring programs produced many graduates who are skilled Web designers.
    a. They have produced Web pages for local businesses as after-school jobs.
    b. The board adopted this model for community authoring initiatives as part of the regular curriculum.
    c. Graduates help teach their peers multimedia authoring skills and are hired regularly by the district to run technology workshops for teachers.

Project Explore introduction

In 1992, the Union City School District became the site of an innovative home-school networking initiative — Project Explore. Bell Atlantic wanted to test the impact of ubiquitous technology, or the benefits to students and teachers of access to technology from both home and school. They saw Union City as a promising test bed for the experiment.

- Bell began its interactive multimedia education trial by selecting one middle school, Christopher Columbus Middle School, and distributing computers with telecommunications capabilities (email, voice mail and a server loaded with educational CD-ROMs) to all of its 135 seventh-graders and their families.
- Bell networked the homes and schools, maintained ISDN lines, serviced the students computers whether at home or school and offered teachers workshops on basic computer literacy (word processing, spreadsheets, email and Lotus Notes).
  a. The participants immediately embraced these technology tools, which became a hub of family and school activity.
  b. The communications functions were the most prominently used.
  c. Student writing skills improved with continual use of word-processing programs and email exchanges with friends and teachers. These email exchanges gave teachers a deeper understanding of the lives and cultures of their students as well as familiarity with their academic progress.
  d. The teachers became more committed to building on students prior knowledge and to engaging students with creative, inquiry-based curriculum.

Project Explore results

Project Explore quickly produced signs of radical academic improvement.

- Students made large gains on tests for reading, math and writing.
- Project Explore students emerged as classroom leaders as they moved on to high school.
- Honor classes were added to accommodate the growing number of high-achieving students.
- The National Science Foundation s decision to fund the Union City Online Project was a direct consequence of the success of Project Explore.
- A number of Project Explore students went on to attend first-tier colleges such as Brown, MIT, Yale, and Berkeley.

Next steps

The success of Project Explore has led the district to develop its home-school computer initiatives at the two high schools. The results of the project and the subsequent initiatives indicate that deep, sustained access to technology both at home and school can improve student learning particularly in the area of writing.

- The Board of Education has committed three years of funding to provide network-enabled computers to a percentage of incoming freshmen, to teachers and to Union Hill and Emerson high schools.
- Over the course of three years additional students and teachers will be added to the project.

Important conclusion

Perhaps more important in general, for districts that do not serve as a test bed for an industry giant, is the research indicating that technology per se does not produce positive change without a foundation that technology can buttress.

- If curriculum is based on rote learning, then the use of technology will be mundane.
- If curriculum is based on student inquiry, synthesis and evaluation, then the uses of technology are more likely to be imaginative and will support a progressive approach to learning.
- The context for technology use is essential for using technology effectively. The context consists of particular local circumstances (e.g., inquiry-based curriculum, professional development and leadership at the building level, and high expectations of all students).
- Technology is a tool that, when used wisely, can enhance what is already effective in the school district, but it cannot, by itself, solve problems.

The Transformation of Union City, Continued

Summary

The reform efforts in Union City have dramatically improved students academic performance across all grade levels.

- At the elementary and middle school level students performance on state-mandated standardized tests is either equal to or exceeds the state average.
- At the high school level, 80% of the students are passing New Jersey s High School Proficiency Test.
- The high schools have had a substantial increase in the number of students enrolled in advanced placement (AP) courses.
- In 1994, 25 students were enrolled in AP classes and 20% passed. In 2000, the number enrolled increased to 146 with 38% passing.
- The district has seen a fivefold increase in the past four years in the number of students gaining acceptance to first- and second-tier colleges and universities.

Key strategies review

EDC s Center for Children and Technology has collaborated with Fred Carrigg to identify key reform strategies integral to the success of the Union City school district (Honey, Culp, Carrigg, 2000). These include:

- A strong and communicable core philosophy with implications for all school populations (students, teachers, administrators) but flexible enough to adapt to changing circumstances: In Union City, every activity and assumption is to be geared to helping these particular students learn in their specific stage of life.
- Leadership at the building and district level.
- Extensive professional development in whole-language approaches and cooperative learning.
- A strong emphasis on students expressing ideas in multiple, creative formats.
- An emphasis on providing different points of entry into a task for children working at different ability levels (e.g., the use of different texts for the same theme).
- A de-emphasis on remediation and an emphasis on learning for all.
- Establishment of classroom libraries and media-rich classroom environments.
- Multi-text approach to learning that stresses documenting, synthesizing and evaluating.

**Final
Conclusion**

Perhaps the reformers most significant and far-reaching decision was to give themselves time to think about what they wanted to do.

- The eight strategies listed above emerged out of
    a. an understanding of the particular population served by the district
    b. a long-term process approach to reform
    c. an awareness that learning involves many interrelated components that need alignment to achieve change and
    d. a commitment to communicate ideas and objectives to teachers and students not only with words, but through actions, rewards and incentives.
- The cumulative effect of these interlocking elements was to change the teachers assumption that different is deficient to everyone can learn. This was probably the most radical, most seminal change in the district. Without this embracing and optimistic attitude on the part of the teachers, learning cannot take place.

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