

Education: The Retooling Challenge

J'Anne Affeld and Martha Affeld,

Mother-daughter team

5434 E. Lincoln Drive

Paradise Valley, Arizona 85253

(480)625-4652

Janne.Affeld@nau.edu

Children are born learning and press for chances to push abilities as long as they feel safe and have a hope of succeeding at the demands of the day. It is the whole child that comes to school and whose needs, desires and aptitudes, varied and exciting, need to be honored. Children crave attention, affection, safety, growth, companionship, knowledge, success. They thrive in social situations where they feel honored and sense they belong. They are energized with stimulation and the opportunity to press forward at the developmental tasks that call, individually, to them for completion. Curriculum that springs from this natural essence of children is motivating and supports academic gains. When the needs of the child are part of the focus, the youngster cares about learning and the self and excels at personal potentials. When it is the whole child who is nurtured, seen for strengths and gifts, it is exhilarating, challenging, potentiating and the child yearns, strives and presses with energy and hope.

Children are the heart of schools, the *raison d'être* for building curriculum, for preparing teachers. It is important to look at the needs of the country, business, to benchmark our successes compared to others, but we cannot let that derail us from the critical outcomes. We are preparing human beings. We are caring for youth, our progeny, and our human race and taking the great capital that is ours, and determining the future, based on how successful we are at recognizing the talent and ability offered us. Then we honor the responsibility. From the most self-driven position, we can see that youth are an extension of us, that they represent our genes, our presentation of just how civilized we actually are, how humane we have become. We want more for them than we could accomplish for ourselves and we band together, using our resources to provide direction, opportunity, drive. Schooling that holds to these principles, holds forth this promise, and in some ways provides these outcomes, holds our attention and pulls us to action in support of the work.

Succeeding at tying together and accomplishing these goals, needs and drives is more significant than the medal count at the Olympics or the winners of the SAT score-athon. This is our *beingness* and our future. This is the US, and this is **us**.

Retooling

Retooling education is about getting the right focus and the right blend of critical elements identified, addressed, and working. This is a primary focus in any scientific challenge. To make progress, it is critical to determine how to recognize and then quantify what we seek. We are seeking an educational system that honors what a student can give and do, that prepares each child to fully actualize personal potential in a positive manner, strengthening the child, the family, the community, and focusing that time, energy and support to build common good through individual actualization. Schools, when they succeed, truly serve youngsters and vouchsafe the future.

CRITICAL PRINCIPLE #1 *Learning is discrete and distinctive to each student.* All children have special needs and all children need special help and support to learn. The brain is complex and candidly, each

child has a singular, one of a kind way of putting facts, ideas and sensations together. Further, each does it as the mind makes its unique connections with meaning and meaningfulness. Connotatively, then, education cannot be an assembly line. Every child on the same page in the same book, even explained on a smart board is not going to accomplish long-term intellectual connection. Yes, half the class may be able to do the assignment, and in doing so, will take a personal path through the ideas, if they own it enough to put thought into it and consider it, but when was 50% efficiency our goal? And how many of the 50% will internalize the information or ideas and be able to build on them? Learning is complex and involves building schemas, internalizing content, facts, principles with depth, creativity and meaningfulness to the learner. It is a dynamic process and it requires ownership, with intensely personal timing. We currently measure the tip of what the mind is doing with our tests and worksheets. Thinking, reasoning, creating connections and the other deep cognitive processes do not reveal themselves so easily as to be calculated from multiple choice exams. Our use of long and short cycle tests to reveal learning are a good beginning, but we need better ways to measure progress, and the intention to dig for what occurs.

CRITICAL PRINCIPLE #2 *Each child is valuable and unique.* Human beings are complex and every person is an individual and invaluable. Genetics and environment come together to deliver a newborn who already has a personality, discreet skills, strengths, traits. The child is neither a blank tablet nor a belonging; rather a singular entity of inestimable value. That child will be a challenge to loving parents, to self, and to the teacher who opens the school door for the first time. It will take work, perseverance, care and support to understand the critical pieces that come together to address and elevate who that individual child is and what he or she child is about.

CRITICAL PRINCIPLE #3 *Human Science is a basic foundation for teaching.* The repository of research and knowledge about how human beings grow and become is called Child or Human Development. It is the study of the individual and the species from conception to death. It looks at multiple areas, processes, ages and stages. It contains information and research in many dimension, including physical, emotional, social, moral and philosophical development, cognitive growth, including brain development, learning and language processes and acquisition. This is a powerful base for understanding and teaching *the whole child*.

Fortunately, the research continues and early childhood experts utilize the concepts and constructs in educational best practice. These are basic building blocks for teaching, yet coursework no longer fosters mastery in these areas. We need teachers to understand the way children, think, learn, and grow. The material exists, is one of the stronger pieces of teaching, is quantifiable and has a strong scientific basis. The child, the human being, human nature, human learning is the well spring for deep, constructive teaching and learning.

CRITICAL PRINCIPLE #4 *Match outcome goals to student potential.* High school graduation and attendance at college are not the benchmark we want or deserve. We should be educating the child, based on who he is, what she needs, what accords a sense of well-being and joy. Each student needs support to recognize and use his unique potential intelligently. The goal is knowing each child and then setting her on the path to establish the right skill strengths and hone concomitant abilities. Some students will be artists, mechanics, sailors, gardeners, parents, clerics, soldiers. We have a complex society filled with niches. We do not need the bar raised that says every person needs 16+ years of school. We need each person to fully explore and explicate the gifts and passion that belong in that unique blend of personality to a sense of fulfillment and worthiness for that person. It is not college that makes the person. Each child who is being treated in a fully human manner already has a sense of self, works to find the things he or she loves to do and seeks to do those things that are fulfilling and enriching. It is the recognition of society that must come to more sane conclusions.

The denouement of education, the measure of its success is that it will strengthen each of us. We want to help each individual to feel empowered to enlighten and maximize self, and in the life shared with others, to find ways to take part in building family, community, country. It is a sham to waste the great human capital we have, year after year, once school is not that venue. We are a complex country and should not get lost in the focus or pursuit of only rigorously preparing quantitative and verbal IQ while ignoring all of the other facets of individual potential. We have so many positions, needs, future work slots that we have not even dreamed of needing or imagine emerging, and are not and cannot be addressed through traditional educational means.

Generalist, creative, insightful, process driven minds with a passion for learning, thinking, synthesizing could be our goal. Certainly that is much more difficult to ascertain than a number of credits and a GPA. It makes us nimble, allows a wider pool of potential positions and jobs for economic success and honors the abilities and capacity as well as the passion of the person. It does not lock people into certificates and labels that prevent mobility and ingenuity. Education becomes life-long, renewing, enduring.

CRITICAL PRINCIPLE #5 *America is and can remain the bastion of hope and greatness.* When did the US stop being the beacon, lighting the future for the rest of the world and copied by the best? When did we decide we wanted to compete with the world in educational prowess when our system is actually head and shoulders above almost every other system, focused on educating all students, differentiating instruction, providing free appropriate education to every youngster from 5 to 22? We seem to have lost our understanding of the beauty of the individual and his or her contributions to the whole. What happens when we test away the creative vision that defines America? We are enterprising and worthy of copying. It is the quirky, American tinker who develops ideas, who writes the script for “Saturday Night Live” or joins the Peace Corps. We just successfully engaged in a bloodless revolution in special needs education, and made laws to protect the rights of children that have not been written or followed in recorded history. If we get the vision for how to serve all children, nothing need stop us from cobbling together a brilliant concept, then putting our collective feet to the fire and honoring it. Compete? Why are we running around collecting scores and looking to see who is catching up? We built the stadium, we financed the refreshment stand, and we coached and costumed the cheerleaders. Put on the colors and run the ball!

CRITICAL PRINCIPLE #6 *Curricula flow from and build on how we learn.* The focus of education can be to prepare each student and to hone the skills, abilities, strengths, and academic excellence to the highest point possible for that person. The triumvirate, reading, writing and arithmetic is only one key to success. Reading, writing, speaking, listening, and ciphering are tools. One does not consider assembling basic tools to be adequate preparation. The tools of the trade are the starting point, not the culmination of 8 or 12 years of apprenticeship or study.

Curriculum ideas come and go, but they are still tied to traditional constructs and narrow practices. The current curriculum concentration is STEM, science, technology, engineering and math and ELA, English Language Arts. A decade ago it was ecology, and before that civics, humanities, liberal arts. Facts and knowledge do not an education make. Our world is so much more complex than our educational processes. Our expansive knowledge base and explosion of information, facts, skills sets and options for retrieval show up our educational approach as somewhere between lugubrious and humorous. We are adept, inventive, and insightful. We can scale this challenge.

Recent advances in understanding the brain and the concomitant full involvement of the body in learning, thinking, processing and remembering should revolutionize our approach to students. What can our human minds do at their best, and how do we get there? Identifying and preparing education that honors these processes and potentials is worthy of a national shift, new tests, retooling teaching, rethinking what we are doing and how we can step out of the shallows and really educate for the future.

CRITICAL PRINCIPLE #7 *Outcome for students steers curriculum.* Education, to be focused and successful selects a curriculum that serves students and the future. When we choose standards and determine that texts and tests will be developed to enhance and support growth in those standards, it excludes a vast array of content, processes, ideas, and skill sets. Each discipline has experts that map out idealized arrays of information that assure understanding of their content. Curriculum experts then comb through those options and maps and determine the scope and sequence that will be mandated by State or as a National Course of school study. For bright, strong candidates or students, it is close to ideal. Youngsters with a bent for math often thrive and develop strength in the material in a sequential and clear manner that can be assessed and quantified. Those with little quantitative intelligence continue to struggle and interestingly, may get a burst of understanding about mathematical use and reasoning as adults, utilizing numbers as part of a job skill set.

Language Arts, reading foremost, is much more complex and the scope and sequence is diced, reviewed and redistributed every few years to try new ways to help youngsters succeed. Students with strong verbal IQ tend to move quickly and successfully through the process, while those with different learning strengths struggle. Reading is much more an art, less easily measured. Children who get lost early in the process often do not gain mastery, and even in graduate studies, presentation in texts is still teaching facility in comprehension and depth of understanding. Making meaning through reading and conversation is complex and imprecise.

Clearly, these are critical studies, especially in our everyday reading intensive use of computers, tablets, news media and our monetary society. So we focus time and testing consistently. “The fight is on” so to speak, with generalist additions: Computer literacy, humanities, science, physical education, social studies, language acquisition, all useful with popularity waxing and waning. This is an area that needs to fit with the student interests and gifts and support student functional expertise in core content as well as offering elevation to students who show ability and interest. The array certainly can be expanded and is often truncated from lack of teacher expertise.

Gifts and personal abilities provide the map for educational progress..... How does a student learn to want to be an artist, a musician, plumber, racer, or performer? Who has these gifts, talent arrays, or promise that needs to be supported? It is interesting that we honor Olympians, understand the passion, the need for specific coaching and dedication of time to the craft. Similar accommodations are made for actors, with on-site schools. Young people have a multitude of gifts, talents, passions and interests and in recognizing this we can be better stewards of the future and our youth. It is honorable to see the discreet strengths and help the child and family build them as a part of the educational path. Our gifted youngsters are being short-changed. Not just our brightest, who can no longer get AP courses in most schools, but those who are reaching benchmark and proficient on their exams, then shutting down and no longer trying so they can appear average. This pattern is occurring nationally, particularly in rural communities and small schools.

What is keeping us from attending to this? Why are these opportunities to mine talent, to find ways to support these strengths left to parents and coaches, and why is dedicated external interest primarily reserved for athletes? Is it because of funding, the cadre of talent scouts, the promise of fame and fortune that acts as the Pied Piper to families? Can we ascertain, with our own version of talent scouts, who will blossom with a different set of parameters, different programs?

Is it because of a haunting set of dark tales about the Plus 11 testing in Europe, and missing youth who blossom late? Is it because other countries, notably the Soviets and Chinese, rob the cradle and make hard and fast decisions about who will dance, who will sculpt, who gets musical training, athletic coaching? Is it the Draconian testing schedule we read about that rigorously and with precision, culls through academic progress and responds to failure by removing those from studies based on performance standards?

Instead, is it more honest to drag youngsters through 6 to 8 more years of lackluster performance, constantly pressing them to work at things they do not care about, may not be able to learn, or do not find satisfying? A young life of proven failure is no legacy for our children when we could provide them with

honorable pursuits they can accomplish, and make a future for themselves. By spending time on things that are not rewarding to them, we waste opportunities when they could be learning things that are meaningful and that give them pleasure, a sense of success and completion.

We can be creative in our approach to skills and trades education and training. It will need to be supported with much better testing than we have been using, and the three pronged approach, matching future expected needs with skill sets that are generic enough to optimize the range of options. It needs to optimize the individual student's abilities using a strength based assessment process, second, be matched with student "bent" interest and passion. Third, it needs to follow similar guidelines and utilization of professional expertise that transition plans and IEPs require, with planning including the student, the family, a professional assessment and committed school professionals connected with community resources. Unwieldy? Perhaps now, but we are clever and can streamline.

CRITICAL PRINCIPLE #8 *Supporting learning for the whole child, including life skills and functional skills.* Disposition, functional and life skills, learning and thinking processes also need to be taught. Schools move in and out of this area, dipping in to provide breakfast and tooth brushing, then some cultural conventions like getting along and being polite to others. It is not consistent, set up in a curriculum (those do exist and often include measurement strategies) and sporadically given time in the day. The use of process and enculturation tends to be a reflection of the teacher who takes time to teach them and are spotty in presentation. These pieces can be folded into existing curriculum. In teaching we have content, and concomitant with that content is an array of processes and skills that promote the learning expected. Examples are study skills, communications, pre-reading, problem solving, reflection. Jerome Bruner called them the active pieces of the learning process. This is also the inculcation of skills for the world of work, for partnering and parenting. They explicate civility, social assurance, collaboration, citizenship. They also help students recognize strengths, build esteem and honor personal strengths and gifts, promoting an important missing part of current curriculum.

This explication of social norms and clear teaching of social connection will diminish behavioral issues like bullying and increase the safety of the school. Focused attention to respect, responsibility and safety and taking time to expand on this way of behaving is instructive for youngsters. It also acts as a preventive and supportive approach to student actions rather than a punitive and reactionary climate. It is one example of a myriad of options for developing powers of reason and judgment.

CRITICAL PRINCIPLE #9 Testing and evaluating are vital formative and summative processes and we need better tools. To use data correctly and get real use from the billions of dollars spent, we must reform testing practices based on the target guiding principles we establish and hope to measure. The cluster of information based on statistics and data could provide clarity and widening of the prospects of what the real needs are for students, teachers, and what is actually being achieved, including what needs we are not addressing and what might support the missing elements in teaching and learning.

It is not the use of quantitative data that is the error, it is that we are measuring the wrong things and then using inappropriate data to prove points and launch a statement of accomplishment. Assessing content, reading and math attainment, graduation rates and attendance at school, are quantifiable, certainly, but how much do they reveal about children, teachers, and the success of educational efforts? We have data on what is easy to quantify rather than developing tools that identify, enumerate, and explicate what matters.

Scientific inquiry bemoans the difficulty in finding ways to measure what researchers seek to find. Many forms of inquiry are stalled in the hard sciences, awaiting tools sophisticated enough to pursue an area of inquiry. Education, a soft science at best, is in that quandary. Yes we are measuring and reporting, hiring and firing, financing and perpetuating. Our current grading and testing system is based on the bell curve, a defining and nominative process much too clumsy to provide discreet information. Only a few may be at the top and

almost everyone is perpetually in the middle providing a set of scores, not disaggregated in meaningful ways. It does give indications, of course, so we continue to use the measures and massage the data. Further, the achievement tests we use are so closely aligned to IQ that they are basically twin measures, which does little to increase accuracy or provide more detail about the success or failure of educational processes. It supports grouping decisions and it feels safe, so we continue to perpetuate the myth that grouping is grading is proof that learning is occurring because of our efforts.

The unsavory side of this set of practices is two-fold. The youngster with an IQ of 125 will learn no matter how apt the teacher or dismaying the teaching. The child with an IQ of 85 will learn much more with a very fine teacher, as will the student with an IQ of 65. The scores will only alter slightly, but real learning and thinking and consolidating will be more likely to take place. Of course, the student with the 125 IQ with a great teacher will also learn much more, but the scores are not going to tip the teacher's end-of-year results dramatically because of all the average youngsters being measured. Thus, part two is that we are measuring teacher success, not based on teaching ability, but on how luck arrays the class.

We are not accurately increasing information about individual students and how their work is going. We want research based best practice, but our efforts to establish what does or does not work is weak and carries little validity. We need a sweeping look at what we are measuring and how well it is defining our process and our outcomes. Once we determine what education can and will accomplish, we need testing processes that incisively measure that progress.

Recent work to move students with learning issues from intensive to strategic and into benchmark learning categories did not make a sweeping difference. This is not due to lack of effort. The various models are creative, thoughtful and have been implemented in diverse ways. They point out three critical issues with current assessment and data collection. The first is that the tests we are using do not provide rapid enough turn-around to support the individual learner who is flailing, and the second is that they provide a score, but no connection to the actual set of specific details and issues that are preventing success for the discrete learner. Finally, when a student has a learning block it only makes sense to have one-on-one time with that youngster to determine what is missing. If the child is ready or able to learn the concept at that time, then applying expertise as a specialist in that subject, may move the learning to the next level. Our present models do not support that kind of teaching and learning. Individual assessment, in-depth, at the right moment is priceless if we want a thwarted student to gain forward momentum. Einstein made a cogent point when he noted that *just because we can measure something does not mean we should, and just because we cannot measure something does not mean it does not matter.*

CRITICAL PRINCIPLE #10 School staffing needs to work differently. Teaching based on recent scientific information about how children learn and honoring developmental ages and stages is a critical component in the science of teaching. The way we teach will alter dramatically as students grow and the learning strengths diversify. The cadre of professionals needs a very different presentation and milieu, grade to grade. Many teachers have about average intelligence, making them fine generalists, and if they are nurturing and love being with children they have a natural place in teaching. It is an onerous number of youngsters who need competent care and attention as well as instruction.

We tried several placement approaches in the past, with mixed success. We know young children need support, relationship and strong adults who maintain consistency and structure. We have not yet sorted students in meaningful and valid ways to work out the flow despite many different attempts to match ages and stages with curriculum. We also do not routinely test teaching strengths and gifts to determine best fit for teachers. We tend to let self-selection and open positions determine who teaches various age groups. So, in schools with staffing issues, we may select a teacher for sixth grade who does not have consolidated skills in math that will allow real teaching of concepts or creative problem solving to occur. Instead, the teacher will go page-by-page,

through texts, able to maintain content for 2/3 of the students, but not clear enough in the content to stretch more capable students' understanding or answer viable questions. This is a clear disruption in the education of 1/3 of the class.

This happens repeatedly, grade-to-grade and in all subjects. It fails to stretch capacity and means our best and brightest are learning poor work and study habits because they are not challenged and do not pressure themselves for excellence. In urban communities there is redress in charter programs and home schooling. Each of these program options drains about 4% of the school population and about 1/3 of all schools are private. With a graduation rate at just about 77%, there are indicators that system is not meeting individual student scholastic aptitude. A recent study showing that students who were home schooled fared better on entrance exams also points to justification for concern.

In addressing this we do not want to focus on homogeneity to the exclusion of Least Restrictive Environment and student connections to one another. Concurrently, we cannot afford to waste academic talent and time. We tend to see the classroom as the discrete property of a teacher rather than a mutual learning community with professionals responding as facilitators instead of controllers. Rethinking the roles of teachers and students will support a critical review. A pool of generalists and specialists that mutually share facilitation in a more flexible and meaningful array for pursuit of goals and content delivery could also promote student ownership, supporting learners working more effectively through content, learning blocks, individual insights and synthesis, and pressing the upper limits of inquiry rather than sitting lock step in a grade and wading through narrow content constructs.

The teacher is the accelerator, the focuser, the support and adds fuel or energy to enhance the teaching and learning process. In ideal situations, the teacher and student can play both roles interchangeably, helping both stay connected to the dynamics and the relationship. This is another format for establishing student interest and expertise, helping students recognize their gifts, strengths and interests, and moving toward focused personal direction for study. This may be technical, arts, sports, service industry, armed forces, husbandry, or collegiate work. Generalist studies will be continued so a path does not become exclusionary, but wasting time and ineffective review, particularly after third grade must not be allowed to be the consistent path of the majority of students.

CRITICAL PRINCIPLE #11 *Teacher preparation will also retool.* We need bright, talented teachers. It is important for them to have a gift for teaching, and a love and tolerance for youngsters and the developmental processes they go through in learning. There are discrete dispositional traits for successful teachers that we recognized as early as the 1940's and then that research submerged. It is vital to realize that our problem is not only 50% of the teachers who quit teaching in the first years, but that children and classrooms are not at peak during that time. We would not keep a nanny for a child for a couple of years, hoping she would figure it out eventually. It is too costly to the children and the family. We quantify the cost at universities, in school loans, in districts where the turn-over is so high, but our focus must also be on the children in the classrooms who are not being adequately served.

Further, it is time to strengthen our recognition of who is a good teacher and who does not belong in teaching. It is dastardly for parents to go to a school and request that a bad teacher not have their child, only to be told that she is a widower and needs the position, or that his uncle is Mayor, and it is just not politically smart to dismiss him. It is also not wise to run teachers out of schools because of personality conflicts with administrators and theoretical conflicts in the head shed. If we do not have fine tooled processes and instruments to help us ascertain who belongs in teaching and who belongs in the classrooms at various levels, then it is another place that must be addressed. We cannot rely on a few observations, political needs or the connection between leader and teacher.

Fixing the areas of weakness that arise as administrative concerns while teachers are in the classroom is not effective. Unfortunately, few teachers actually change in a meaningful manner from in-service or instruction, once they have completed their coursework. Our preparation programs have to continue the best practices we already know on a cyclical basis. Teachers need to be taught, coached, and turned into professionals and then reinserted into educational processes periodically to enhance best practice and infuse new skill sets and practices. Training is not considered learning. We can utilize the coaching model if coaches with enough skills and objectivity observe potential changes and only signify success when it is evident. This is not different for the programs that prepare teachers by having them teach.

Job-site teacher training is a powerful way of learning if there is enough oversight. With little oversight and infrequent contact, which is certainly occurring at times, the teachers in training grab what support they can get to stay afloat and learn a great number of coping mechanisms that are old school and only partially effective. Yes, teaching is an art and craft as much as a science, and it can be ‘learned by doing’ but not with support for an hour every six weeks, or through phone calls. Coaching is needed weekly, and through more than one iteration. The coaching model can be effective in conjunction with classwork. Research on praxis models shows the highest success rate in continuing teachers and in effective practices once candidates are teaching.

CRITICAL PRINCIPLE #12 *Laws are in place to promote best practice.* It is time to take a dispassionate look at how we can serve youngsters individually, based on four decades of laws and court decisions and realize that we are reserving this individualized attention to personal needs and strengths only for those with the most difficulty in school. In one way it is exemplary and honorable as it asserts that all children are to be served, based on individual educational plans but this cannot just apply to youngsters identified in special education. These principles need to be applied rigorously for every student. We address progress and add direction, based on individual student progression. As the individual student strengths and direction becomes apparent, the progress through school is personally tailored, based on ability, student understanding and consensus and clarity with parents about the directions the student is suited to pursue. Support can follow the team decisions about best use of strengths and honoring of the capacity and interests. This will be most successful if paths chosen include rigor, individual attention from able instructors, and commitment from the student.

Full testing protocols, repeatedly practiced with strengths based focus will support the intention to address and apply individual programs of study based on strengths and needs. Summative annual testing and short cycle tests, with results scrutinized by the team will help assure that a change of plans and path is easily available and that the future is not locked in. This is an honorable approach as student strengths, needs and maturity provide insights into the best educational process and goals.

In summary, we love and honor education and have great hope for what it can afford our children and our future. It has changed little in the past two hundred years. It cycles, but the rudiments seem hard-wired and fixed. Society, on the other hand has changed dramatically. Little is left of those motives that focused the classrooms in Roosevelt’s United States. Much of life has changed dramatically in the past two generations. It is time for schools to reflect, honor and support the needs of students who will not walk into their father’s future. It is not a bandage that is needed. It is not a cast. Education is not ailing or broken. It is time for it to retool, leaving a legacy of greatness, and clarity that it is ready to grow into new charges, new visions, and new directions.