**Chapter 3**

**What comprises a quality education for American children in today’s global community?**

America in the twenty-first century faces many challenges and opportunities as it measures its former role as “world leader” and “superpower.” As a nation that is little over two hundred years old, it has much to learn from the history of education in other “advanced” nations. But in an era where chief executive officers, entertainers and athletes are revered as giants of industry or heroes and compensated up to a thousand times more than educators, it is clear that the professional advancement of teaching has little currency in out still young nation. In fact historically, earlier great civilizations that flourished, did so with the knowledge that the advancement of the society was directly related to the quality of education that it provided to its children. Forward-looking educators and philosophers throughout the ages who were highly valued by such societies as the Athenian Greeks and Romans, regularly reminded city-state leaders of their responsibility to assure the future of society by properly educating its children (albeit in many societies, this was limited to male children born to “free-men.”

In the 18th century during our nation’s infancy our forefathers sought to create a new order of government that bestowed the *entitlement of* *a free and public education for all children*. Now in the 21st century the U.S. is challenged once again to update and improve or abandon the nature of this entitlement. While in recent decades the national, common interest did not mandate a *high quality* education for ALL children it has become clear in an age of global competition for the best jobs that much is at stake. In order to preserve and advance the positon of the U.S. aa a world leader in gross national product (GNP) while also preserving the democratic ideals on which we were founded, we must develop a well educated (high knowledge-high-skill) citizenry. This recognition albeit driven by economics, rather than wisdom, is an important turning point in our political history. If the vision of democracy seen by our forefathers is to continue as a beacon of freedom, equity and justice for all mankind, our schools, and the educators who work within them, must be afforded the regard and resources to rise to the important challenges of the 21st century.

If public education was to become nationally recognized and valued as the critical element required in achieving a vibrant, productive, truly democratic society, the essentials nature of teacher *efficacy* would need to become uniformly understood throughout the nation. While this term elicits many different ideas or definitions, teacher efficacy invokes a vision of an educator who has strong competence in creating and advancing the conditions under which children successfully acquire the cognition, knowledge, skills and character to lead productive lives as parents, employees and citizens. Ideally, the nation’s investment in its educators and schools results in a new kind of school and classroom in which teachers facilitate the development of knowledge, talent, critical thinking and citizenship within all children. The goals of truly educating all children, in the classical definition of the word educate: “To develop the *mind*, *skill*, *character* and *knowledge* “of every child will be seen as being achievable by our national core of educators. So the question arises, is the effective teacher in today’s diverse classroom the same as the effective teacher in the classrooms of the 50s, 60s and 70’s?

For decades, America’s public schools have been serving their role as the gatekeeper to the workforce in an acceptable manner. The metaphor of the *bell-shaped curve* with respect to human intelligence (IQ) provided 20th century America with a handy-- if not inequitable--process for sorting children’s perceived strengths and weakness into gradients of superior, above average, average, and below average. The development of *mind* was not truly seen as something that was practicable because the popular belief that intelligence was *fixed* resulted in the sorting of students into tracks. Once this was accomplished, teaching was adjusted for children at the top, middle and bottom of the achievement scale.

Since closely-knit neighborhoods and communities supported American families, teachers were not required to place additional focus on the development of *character*. This was learned and practiced through children’s daily interactions with adults in the extended family and neighborhood who knew them and their families. The “*skills*” of reading, writing and arithmetic were taught at school and practiced at home, with many parents keeping vigil over children’s completion of homework. *Knowledge* in the subject areas of social studies and science was principally achieved through student engagement in reading textbooks, memorizing facts and completing examinations. All in all, this proved to be a successful way to provide many American children with the tools to become literate and productive citizens of an industrialized nation.

**Teacher Efficacy—Developing Mind, Skill Character and Knowledge in All Students**

Effective teachers today understand that the education of American children in the global community must address *all four* of these dimensions. With the loss of the mid twentieth century extended family and neighborhood, fewer children arrive at school with the prerequisite skills they need to succeed. This and the increasingly complex curriculum of the elementary and secondary school compound the responsibilities educators. Teachers who know children--their growth and development, intellectual capabilities and personal interests--strive to provide daily classroom experiences that increase the powers of their minds. They create engaged learning climates carefully aligned to each of their students’ learning skills, which provides them with the motivation and tools to become lifelong learners. This is no small task. While incorporating their content area knowledge in literature, mathematics, science and social studies teachers are designers of curriculum and instruction that enables all children to become caring and responsible adults as well.

An important aspect of effective teaching at both the elementary and secondary levels is the new emphasis placed on knowing how to acquire and use information. With the explosion of knowledge and the instant broadcasting and “narrowcasting” of media, students today must become adept at processing information. Each student needs to become adept at consuming information. i.e. gathering and processing. As was discussed in Ch 2, our students will need to be able to apply information in new and novel ways, as they become successful *producers* of information in the global economy. This capability begins to develop in the early elementary years and increases though the secondary years of schooling, with guided practice and encouragement.

## Knowledge and Information in the 21st Century

**Information Seeking Behavior Information Producing Behavior**

**Consume** **Produce**

## Information Processing Skills

**Gathering Processing Applying**

**Selecting---Describing---Matching---Comparing---**

**---Contrasting---Solving---Analyzing---Inferring---**

**---Predicting---Forecasting---Evaluating---Imagining---**

Teachers of young children are very aware of their charges’ natural abilities and interest to process the information that their senses incorporate every moment of the day. Effective learning environments are those in which children have “multi-sensory experiences through environmental encounters.” A better word for this is *play*. Effective elementary and high school teachers recognize the power of “play “ as the quintessential expression of the human need to know. They utilize its power as a way to harness students’ interests to assure that they become skillful information processors. They consider the rigorous scientific method employed in the physical and social sciences and integrate the very same thinking skills of observing, describing, comparing, hypothesizing, etc., used by the scientist to their students’ exploration, discovery and construction across the curriculum. There is no doubt that effective teaching from preschool through secondary school assures the maintenance of the student’s natural motivation to explore and to know. Effective teachers promote each student’s intrinsic motivation to pursue interests while engaging in experiences that develop information-seeking and information-processing skills.

**Learning Behaviors**

**Basic Recall—Knowledge Understanding Application-Transfer**

**Duplicating Replicating Integrating Transferring Innovating/Creating**

Research on effective teaching in the twentieth century valued the ability of the teacher to keep all children “on task” with primarily written materials that focused upon decoding, comprehension and basic recall. A large percentage of adults comprising the baby boom generation today are skillful in reading, writing, spelling and recalling facts, historical dates and timelines. Fewer however have the ability to take different perspectives or regularly apply and transfer knowledge to new uses and contexts. In a skilled and semi-skilled labor workplace there was little need for the vast majority of employed Americans to create new procedures, products and ideas, or even to improve the quality of the work experience itself. The work of the producer, innovator and designer/ creator was assigned to those whose early school performance gained them access to the “high learning groups” and that provided a “right of entry” to college-bound high school tracks and college entrance.

The accomplished educator in the twenty-first century is now responsible for providing continuous opportunities to all children to become effective learners, through a variety of instructional methods. While in many contexts, it remains important for children to simply “duplicate” or “replicate” knowledge and information, more frequently our students will need to become accomplished at integrating and then transferring knowledge into their lives or other subject areas. Equally important (and do-able) is the engagement of all children in learning activities that promote their capability to create and innovate with the tools of knowledge they acquire.

Bellanca and Fogarty (2003) have adapted Bloom’s taxonomy of educational objectives and the observations of Oliver Wendall Holmes’ into a graphic organizer that promotes teacher understanding of the importance of student critical thinking and learning behaviors across the curriculum. Their “three story intellect” illustration addresses the three levels of gathering, processing and applying knowledge, which the effective teacher today transfers regularly into classroom experiences.

[Three story intellect illustration]

In addition to the design and implementation of learning activities that utilize this taxonomy, accomplished teachers are able to regularly reflect on, evaluate and redesign lessons to assure that each student has access to optimal learning opportunities. This reflective practitioner is supported and encouraged by new research on teaching that asserts

### Communication Skills

***(Speaking, writing, reading, listening, digital-computing****)*

**Receptive Expressive  
  
Listening Interacting Participating Teaming Transforming Information**

The communication skills of speaking, reading, writing and listening have been expanded at the outset of the twenty-first century. The newest communication skill that our nation’s children must acquire in schools is digital communicating or *telecomputing*. This essential skill is already highly developed in many students upon their arrival in the elementary school as they are now regarded as “digital natives” (Prensky, 200\_).

The challenge to elementary and secondary teachers is to promote technology skill with, development while also encouraging the thinking skills and habits of mind. This assures that the uses emergent media are aimed at the higher purposes of human endeavors. While literacy in reading and writing will continue to occupy a large portion of the elementary teacher’s day, it has become critically important that students acquire highly-developed social skills and intelligent behaviors that support their acquisition of content knowledge in the science, technology, engineering and math (STEM) learning disciplines. Teachers now must become responsible for assuring that each student becomes highly proficient in the four Cs of 21st century learning (Partnership for 21st Century, 2014): Communication, collaboration, creativity and critical thinking. Such basic human skills as attentive and empathic listening, cooperative teamwork and the ability to work in *pro-social* innovative, problem-solving teams is central to today’s K-12 student becoming a productive contributor to our nation’s economy, as well as to securing a happy, secure future.

The daunting task of achieving teacher efficacy then is to seamlessly integrate the basic skills of the twentieth century with the “new basic skills” of the twenty-first century—abstraction, systems thinking, experimentation and collaboration. Teacher efficacy in this context becomes the combination of abilities to design and implement a STEM–supported curriculum that promotes student achievement of content area knowledge along with the receptive and expressive social communication skills that support knowledge production. S/he provides multi-faceted opportunities for each student to become a problem solver, critical thinker and contributor to the full spectrum of information gathering and production that responds to complex problems facing the world and novel, effective solutions. The classroom of the effective teacher is in essence, a *safe*, *engaged, supported and ever-challenging learning community* where students’ systems thinking (interdependence and responsibility) is deeply learned through regular opportunities to work individually and collaboratively within groups in scientific method and engineering design and problem solving activities.

Seven key “indicators of engaged learning environments” identified by Barbara Means (Means et al., 1993) are shown below.

Engaging Learning Environments

|  |  |
| --- | --- |
| 1. | Students are engaged in authentic and multidisciplinary tasks. |
| 2. | Student participation is interactive. |
| 3. | Student work is collaborative. |
| 4. | Students are grouped heterogeneously. |
| 5. | Students learn through exploration. |
| 6. | The teacher is a facilitator. |
| 7. | Assessment is based on students' performances of real tasks. |

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NCREL asserts three aspects of the engaged learning setting: 1) **the *vision* of learning**, which includes responsibility for learning; application and transfer of knowledge to solve problems creatively (*strategic*); intrinsic motivation (energized by learning), and skills to work with others (*collaborative*). 2) ***Tasks*,** which should be authentic, challenging and multidisplinary and 3) ***Assessment*** which is performance-based, generative, seamless and ongoing.

#### Three other areas that promote teacher efficacy in the engaged learning classroom relate to the *instructional model*--which must be interactive and generative, the *learning context* that supports the collaborative nature of knowledge construction and, *empathetic* to diverse and multiple perspectives. Within these areas, teachers are able to address student needs within heterogeneous classrooms as they *equitably, flexibly* and *strategically* group students in ways that promote optimal learning.

Equally important components of engaged learning are *the indicators of high-performance technology* stressed in the NCREL profile. At a time where schools are at risk of falling into the “digital divide, the principal component here is access. Effective teachers are often at the forefront—gently or energetically advocating that their schools acquire and utilize the hardware as well as the connections to multifaceted resources of telecommunication. Tapscott (1999) and others have addressed the “*ubiquity*” issue included in NCREL’s profile in his book *Growing Up Digital*. “There is widespread apprehension surrounding the digital revolution. Many people predict that society will be splintered into a race of information haves and have-nots, knowers and know-nots, doers and do-nots - a digital divide “ (p.). As both advocates for students and designers of the curriculum and classroom, teachers need to lead the challenge to acquire enough technology to equitably distribute technology tools to all students. If every student is to become a “knower and a doer,” teachers will provide meaningful opportunities to work use communicate with technology in active and diverse ways. Accomplished teachers develop new knowledge and perspective that helps them to redesign their methods while implementing innovative tasks for students to applying technology across the curriculum.

###### **DIMENSIONS OF TEACHING, LEARNING, AND PROFESSIONAL AUTHORITY**

|  |  |  |
| --- | --- | --- |
| **MODES OF LEARNING** | **INSTRUCTIONAL STRATEGEIES** | **PROFESSIONAL AUTHORITY** |
| **STUDENT**  *Passive*  **IMITATION**  **EXPLORATION**  **PREDICTION TESTING**  **CONSTRUCTION**    *Active* | **TEACHER**  *Active*  **DIRECTING (DIDACTIC)**  **INQUIRING**  **BRIDGING**  **FACILITATING**  *Interactive* | **LEADER**  *Dominant*  **AUTOCRACTIC**  **CONSULTATIVE**  **PARTICIPATIVE**  **DEMOCRATIC**  *Facilitative* |
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