

## Education for Tomorrow's Space Travelers and Developers

By Lonnie Jones Schorer

### Abstract

As the propellants of an advancing, enlightened society, risk and exploration have been symbolic of the American way. Standardization in the U.S. education system and collective homogenization of effort are leading students to be risk averse. We are all responsible for teaching our children. To prepare our future space travelers and entrepreneurs for a fast-paced, competitive future in a global economy, we must reevaluate our no-child-left-behind, lowest-common-denominator approach and support those who are intellectually predisposed to risk. A step in this direction would be to synthesize liberal arts and technical preparation in a single *liberal arts-tech degree* – a synthesis that would allow our pioneers to understand the mechanics as well as the context of their commitment. We must imagine, discover, learn, test our limits, and explore. These are inherent rights. To continue to foster mediocrity and stifle individualism is to stall in complacency and wither as a society. This is the greatest risk of all.

**Keywords:** trends in education, risk averse, benefits of failure, commitment to individual or collective risk, academic comparisons, STEM, experiential learning, liberal arts-tech degree, contact addiction, internal guidance system.

RISK and EXPLORATION go hand in hand in a precarious balancing act, aiming for success while courting failure. Together they are the propellants of an advancing, enlightened society. Education can introduce students to both, via books, learning, and a process that fosters curiosity.

Risk and exploration are not reckless or inherently extreme. They do not have to be physical, but can be conceptual and intellectual. Humans are curious and seek to know and understand. There are different levels and kinds of risks that we live with and accept every day, such as crossing the street, driving, and flying. We seem to accept the risks with which we can identify, while rejecting those with which we have no real life experience.

Teachers say that today's students are risk averse – afraid of failure. This applies to both sexes, although parents and teachers plead: "Please inspire our girls to try. They're afraid even to try." It is not about courage. Students just choose to 'succeed' by playing it safe. In today's pressure of testing and standards, failing – as defined by school systems' evaluation structures – is not acceptable. No child should be left behind. Everyone should receive a trophy. No one's feelings should be hurt. No one loses. In the homogenization and leveling of expectations, we have lost individuality of spirit and the personal pursuit of challenges – the essence of the American way. For the greater good and advancement of society and human knowledge, this is a monumental failure of a different kind.

No one teaches the benefits of failure. By always setting children up for success without letting them work through the process and handle consequences, an opportunity to learn via experience is missed. Failure can be a great teacher, motivator, and eventual confidence builder. One remembers the “D” that showed up on a report card and the extra effort that went into trying harder. Learning to persevere and develop problem-solving and decision-making ability, learning how to overcome adversity and take responsibility for one’s choices rather than relying on the ‘blame game’, learning poise under duress.... All are crucial components in character development, development that is stunted if education shields students from the reality that real-world engagement is not necessarily equal and fair. The fact that everyone deserves to have the same opportunities in a school system does not mean that all will achieve and excel – or even pass, in spite of the safety nets.

That there are those willing to commit to individual or collective risk as pioneers is key, both for the advancement of civilization and, more immediately, for the education of our future space travelers and developers. Some people choose the byways to enjoy the scenery and to discover what is around the corner, while others stick to the highways. It is the ones who do not know what is around the corner, but see the unknown as an opportunity and go anyway that will lead us to a new kind of future. Many of those who have succeeded brilliantly were education dropouts who never took the highway. Unable to predict or calculate the outcome, with innate strength they charted their own path with purpose, tethered to a vision and a belief system supported by faith. One cannot just study and learn this. Some seek the stimulation of difficult challenges. It is in their spirit and attitude and DNA. This is not to say that one is either born with this drive or not. The incubation period is education and all that it provides to inspire and awaken young minds.

For young children, education is where we must begin. With the realization that we are falling behind other nations in technical areas, teachers are stretched to the limits by revised standards, national testing, new curricula, local budgets, and social dynamics. Often directed by policy makers without being consulted for input based on their own experience and expertise, teachers are then charged with finding the drivers to encourage and light the spark in students, many of whom give up on their dreams as early as fifth grade! Imagination is our only limit and when dreams disappear, the path blurs. STEM – science, technology, engineering, and math – is the current education buzz term. Are STEM and testing the ultimate answers or are they only part of a puzzling equation?

Parents who uproot and come to the United States to give their children a better education get that it takes hard work. They expect and demand the most from their children, stressing the academics and leaving sports, music, dance, and other enrichment programs for last. When meeting parents during sales of *Kids to Space* books, it was often the parents of Indian and Asian heritage who bought the books. We learned that Smithsonian’s Air and Space Museum reduced the shop’s book collection in favor of teddy bears and bling as visitors tended to buy trinkets instead of books for their children.

In some societies, students are not allowed to raise their hands or ask questions. In others, no one is allowed to be better than anyone else. No grades are given. One apologizes for winning, discounting preparation and practice and chalking it up to luck or chance. In the United States we want our students to be well rounded. They are encouraged to work hard in school, play a sport, practice a musical instrument, be a scout, walk the dog, do community service, and generally try their best. Colleges consider the entire range of activities. School systems vary in their facilities, their budgets, and the quality of education offered. It then seems a consequence that with standards and evaluation systems that now apply to all, individual effort – at the heart of the American society – is being squelched rather than fostered. Of course we are falling behind when measured against other countries! The comparison is not equal as our children do more than focus on academic pursuits. Where is the study that evaluates them as total human beings, the whole package? We do need to reevaluate and find more ways to acknowledge and accelerate our best and brightest, those who show the most potential and are being held back by the system. Conscious of becoming global citizens, we are moving our educational system to become more like Europe's, at the risk of losing what makes us unique among nations.

In the education scheme, what is a parent's responsibility? Parents are often confused and fail to voice their opinions. They let school districts proceed with changes, hesitant to speak up in fear their children will be targeted. More dialogue and interaction are needed between decision makers and parents so that expectations match. A bored student who has lost interest is often the result of applying the same standards to all. The lowest common denominator is an unrealistic measure of students' abilities and potential. Expect less = get less.

It seems all kids love science. Their eyes light up because it is all around us and is taught via hands-on activities and experiential learning. Science is an open door to knowledge. So why, with no flexibility to choose, are kids being pigeonholed? In some school districts, students take half a year of science and half a year of social studies. What if students want to take a full year of science? Science could be incorporated in subjects such as writing, math, art, geology, and economics.

Creative problem solving and engaging students via integrated project learning captures their attention much faster than paragraphs and problems in a textbook. Some corporations partner with schools, giving students opportunities to divide time between company operations and the classroom. This integrated approach is beneficial for a multitude of reasons.

A liberal arts education exposes students to the humanities via literature, history, art, philosophy, languages, culture, and sciences. It opens doors, introduces possibilities, and develops questioning minds, laying a solid foundation that enriches further pursuits. One graduates with a major, but without a rigid specialty. With a broad background, one has the flexibility to choose a path. Engineering and architecture schools give students training in specific areas, allowing them to enter the job market with confidence based on skills they have learned. Does either type of education train one to be a risk taker?

U.S. Navy SEALs and other military personnel get that kind of training, but that is not how we want to raise our kids. How then? And in the process, how much risk is tolerable?

There is another kind of education – things we learned when running through the forests and fields, riding our bikes at breakneck speed, wading to catch tadpoles, and inventing games. It was earth knowledge, coupled with physical agility and a problem solving sense of self-preservation. The only direction: “Be home by 6:00 for dinner.” No one knew where we were. It was up to us to take care of ourselves and use our own judgment in evaluating risks. And then for our children, the world became a bit more cautious. “Where are you going? Who is going with you? Okay. Be home by 6:00 for dinner.” Now, the world has become more threatening and kids have less personal freedom to explore and discover. One looked to buy a small house with a big yard so the dog and the kids would have a place to play. Now one buys a big house with a small yard. Kids cannot play outside unsupervised and adults do not have time for yard work. The days of physical fitness, in being one with nature, and coming home by 6:00 are over. In many schools, art and gym have been eliminated so that students will have more time for ‘real’ subjects. How shortsighted we are in danger of becoming. We cannot return to the simple society of the 50s, but we can develop some new education strategies to give students a more realistic preparation for the future. One teacher offers yoga lessons to help her students handle stress.

Our physical earth-oneness is being replaced by the expansion of social media. There is a new psychological condition called *contact addiction*. Kids feel pressure to be in touch at all times. It is a once-removed touch, via keyboards rather than face to face, that can foster depression, peer pressure, suicidal thoughts, and a world outside a parent’s purview. Online games are a solitary, introverted type of play, replacing time spent exploring outdoors. While these games can aid hand-eye coordination and while students have answers at their fingertips, they are missing the physical activity and creativity that foster healthy bodies and minds. While they are sitting in their chairs, we come up with explanations for obesity and aggressive behaviors.

Perhaps with the export of manufacturing, we have lost the workforce that depends on technical knowledge. To rethink our place in the global economy, bring manufacturing back home, and prepare our youth for a fast-paced future, U.S. education needs to reassess its course and construct a new balance – **a liberal arts-tech degree** – where one graduates with all the benefits of a liberal arts background and is also trained in a technical field. Those who graduate with one kind of degree often go back to graduate school, finding they need the balance. Technology will continue to play a greater part in the development of a more intelligent and informed world than ever before. The explorers who go off to other planets, the engineers who develop the equipment and the methods to do so, and the backers who finance the vision need to have both kinds of education in order to understand not only the mechanics, but also the context of their commitment.

At the core of understanding the meaning of life's journey is the spiritual part of our being. Faith, trust, appreciation, curiosity, oneness with the universe, and the strength to find beauty and inspiration in the rigors and toughness of a challenge are things we grapple with and learn. Parochial schools include religious studies in their curriculum. Other students learn ethics, beliefs, and values from their parents, at a place of worship, or on their own. Paying attention to and developing one's internal guidance system is as important a part of one's existence as all the education and facts learned in school. Political correctness bans the Lord's Prayer in schools and prohibits one from wearing a cross. Whatever the tangible symbols of our spiritual convictions may be, no one can strip us of our inner spirit, ability, and choice to risk and explore.

We are all responsible for teaching our children to be self-reliant, resourceful, and less risk averse. Risk is at the core of survival. Not to risk and explore, not to discover and learn, not to meet the unexpected, not to test our limits and learn from new frontiers in the name of science or another purpose is to stall in complacency and wither as a society. That is the greatest risk of all.

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**About the Author:** Lonnie Jones Schorer, author of the *Kids to Space* series, has a BA in Russian and a Master's Degree in Architecture, which helped launch her on a career of travel, adventure, and accomplishment. She has lived in Thailand, Turkey, Italy, Norway, and the former USSR, supporting husband David's State Department career. In her own parallel career, she has worked with UNESCO world heritage programs. Lonnie is a private pilot, a board member of the Explorers Club Washington Group, an alumni board member of Connecticut College, and a member of the International Group for Historic Aircraft Recovery's (TIGHAR) Amelia Earhart team. She is the Director of Global Space Travelers, a subsidiary of ShareSpace, with Dr. Buzz Aldrin and works with NOAA to locate sunken USN ships. Lonnie headed the design for the 43,000-ton *World of ResidenSea*, which has been touring the world with residents in luxury homes since 2002. Lonnie views the cruise ship industry as a model for future Space travel.



**Editors' Notes:** Lonnie Jones Schorer has been a revered colleague of the Kepler Space Institute Team going back to its founding in Dr. Kenneth Cox's Aerospace Technology Working Group (ATWG) in 1989. She is the modern Amelia Earhart and always modest about her amazing talents and achievements. In this article of the *Journal of Space Philosophy*, Lonnie shares her own convictions about the curiosity, adventuring spirit, and risk characteristics of humans that account for humanity's progress. **Bob Krone and Gordon Arthur.**