

Education for the Future

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I am grateful to GAINS for the opportunity to write about my evolving ideas for applying IPNB in the classroom. During the last five years of writing this column, my view of IPNB has developed into seeing it as a foundation for positive change in American education. Many people believe that education in America is at a critical juncture (Naming only three of many: No Child Left Behind act of 2001; Pink, 2009; Zhao, 2009). The belief arises from a broad view of human society's evolution.

Human society has experienced large and relatively distinct epochs, beginning with a Hunter Gatherer Age. This period of family groups and isolated tribes evolved into an Agricultural Age with small villages. The Agricultural Age lasted for many centuries until the Industrial Revolution of the late 18th early 19th century radically changed human society and brought humans from farm villages into cities to produce goods in factories. During the late 20th early 21st century, humans are in the midst of another societal change that rivals the Industrial Revolution. The title of the current revolution is still unclear, but the three possibilities are: The Information Age, The Technological Age, or The Digital Age. As the titles suggest, the focus on manufacturing goods is changing into manipulating information.

In terms of American education, each period requires the use of different skills and therefore different modes of education. The children of hunter-gatherers and farmers learned from their families or tribes as they grew. Once a skill was mastered, it could be applied for a lifetime (life spans were under 40 years). The skills needed during the industrial revolution and the century that followed had to be obtained by formal education separate from the family. A worker would learn reading, science, math, English, and history in

public school; build on this knowledge with technical skills learned on the job; and apply the skills in a factory for a career (35-45 year career with retirement at 65 and a lifespan in the 70's). [Parenthetically, for a fascinating youtube video on the topic, I recommend Hans Rosling's 200 Countries, 200 years, 4 minutes: <http://www.youtube.com/watch?v=jbkSRLYSojo>]

For most of human history, once a common base of knowledge was learned and a set of skills mastered, they could be applied for a lifetime. There was little or no need for major changes; for adding to one's knowledge base; or for mastering a new skill set. For the first time in human history, the Information/Technological/Digital Age has changed all this. It requires a skill level far beyond a hunter, farmer, or factory worker and the skills needed simply for daily life are in a continual change. For example, this column is being "written" on a MacBook, while I listen to music bought on iTunes (using the same computer), after reading books I have downloaded from a "bookstore" called Amazon onto my Kindle. It is likely that the reader will not find any of this unusual, which is exactly my point.

We are in a new age, but those of us older than about 40 have had to adapt the best we can. Many of us in that age range, including me, have friends who have refused (or could not) adapt to the changes and are suffering because of it. The "over 40's" have had no formal education to prepare them for the changes caused by the Information/Technological/Digital Age. It simply could not have been possible for anyone in the field of education to have predicted these changes, not to mention teach the prerequisite skills. Even if it had been possible to teach the skills then they would be obsolete by now. It is now clear that American education must teach a base of

knowledge and the skills students need to function in a future that cannot be predicted. In addition to the basic knowledge, American education must teach a set of skills that include: how to learn; how to flourish in times of change; how to efficiently learn a new skill; how to decide between valid and invalid information; how and why to stay connected to others; and how to be a leader with integrity. The reader no doubt can add other items to the list.

I am hopeful about the future of American education because of what IPNB and three additional overlapping areas of research—mindfulness, learning, and positive psychology—bring to this list. Each of the four areas offer its own unique contribution, yet also works synergistically when applied in a school setting. However, these four areas of research do not communicate well with each other for excellent reasons. In the interview I recently had with Advisory Board member Gene Beresin, he noted how the nature of experimentation forces researchers to narrow their focus sharply on one dependent variable in order to limit extraneous variables. This is necessary for valid research, yet it tends to create silos of information. When one applies knowledge to training physicians, as in Gene's case, or in teaching teenagers, as in my case, the silos must be bridged. We both agreed that the writers within IPNB have eloquently integrated many silos.

Let's look at the four overlapping areas that will make specific contributions to education in the future.

Learning Theory

“Content area learning” is educational jargon for the subject actually being taught. It is also the focus of the current standardized curriculum and assessment emphasis. Assessment is a necessary, but not a sufficient view of evaluating the efficacy of education and represents one current silo of information within education. Content area assessment, is, of course critically important, but the standardized testing movement, like the early days of psychological research, is assessing only those areas that are easy to measure. This gives the

false impression that the things being measured are the most important. My hope for the future is that the field of education will realize that the act of placing a group of children in a classroom creates a psychological environment where a vast amount learning occurs that is not related to the content of the class, but instead focuses on the social environment and the development of relational skills.

We now have a wonderful opportunity to broaden the curriculum and to teach the skills needed for our students' future in a rapidly changing society. Other silos of information that could guide these efforts are not ordinarily part of the educational field, e.g., group dynamics research, and industrial and organizational psychology. It is my hope that American education will grasp the opportunity to incorporate the wisdom of these fields while continuing to teach content. In addition, the tools available from IPNB, mindfulness, and positive psychology can go a long way toward fostering the resilience our young people will need to accommodate the degree of ongoing change they will be encountering.

A hopeful sign is that during the past five years, education has begun to use knowledge of the brain to assist teaching and learning. As a way to track the research done in the area of the brain and learning, the author used the Ngram viewer from Google Labs (<http://ngrams.googlelabs.com/>). This graphically shows the incidence of usage of a term or phrase in books and articles scanned by Google Books from 1600 to July 2009 (millions volumes). The phrase “brain and learning” began being used consistently in the late 1960's and shows a significant rise beginning in the late 1990's. This is a hopeful sign for the future of brain-informed research being applied in education.

Interpersonal Neurobiology

Brain research is an important part of IPNB, but IPNB has much more to offer educators because it integrates many fields. The triangle of well-being is a concept that is applicable because it maps out the kinds of learning taking place in a classroom. As you may remember, the triangle is brain/mind/relationships. Quoting from this column in the

Summer 2008 edition: “Dan Siegel, in his forward to Bonnie Badenoch’s (2008) book, *Being a Brain-Wise Therapist*, states: ‘Interpersonal neurobiology embraces the perspective of a triangle of well-being. The three points of this figure are made up of relationships, the mind, and the brain’ (p. xxi). He goes on to describe how these three irreducible elements causally and bi-directionally impact each other. Brain activity creating mind activity; mind activity creating physical changes in the brain; mind and brain activity affecting our relationships; and in turn, our relationships affecting the mind and the physical structure of the brain.”

In all teaching situations, these three are interwoven. Let’s look at an example. If students come to class with brain activity (including their nervous system) in a chaotic, activated state, it will be difficult to focus the mind for learning. If, in turn, the teacher is frustrated for any number of reasons, his or her brain activity will impact the relationship, continuing the cycle of chaos. At that point, IPNB tells us that content is less important than finding a way to enter the triangle to create a positive flow in which attuned relationship and mindful attention are able to influence the neural firing patterns so that learning becomes possible. When we look at education from the viewpoint of IPNB, we gain a lens that can guide us in taking steps to help students develop mindsight (Siegel, 2010)—the ability to see our own and one another’s minds, an act that modifies them in the direction of integration. The result of increasing mindsight is greater capacity for kindness and empathy, resilience, emotional balance, being able to respond flexibly instead of with reactivity—all skills that are vital for this dynamic new age that requires adaptability coupled with stability, and maintains the value of relationships in the face of so much information.

Positive Psychology

The third area that offers promise comes from prolific research concerning what is called positive psychology. Aspects of it are already being applied in schools: specifically, resilience training (Reivich & Shatte, 2002); strengths focus (Eades, 2004); and the healing effect of positive emotions

(Fredrickson, 2009). This author has seen excellent results from consistently applying one area of positive psychology, strengths-based education. It is a simple approach with a profound impact. Students are asked or helped to discover their areas of strength, whether or not they are related to traditional content area classes. The students are then offered as much time and instruction as possible in these areas, while still meeting state curriculum requirements. Student weaknesses are also addressed, but within the context of their strengths. The approach elegantly knits together research by the Gallup organization, positive psychology researchers (Seligman & Peterson, 2004), and research on intrinsic motivation (Deci, 1995). My personal experience suggests that students given instruction in an area of strength will reach mastery while experiencing the positive effect of education. They then view learning as a positive and life-long endeavor, a point of view that is required for flourishing in the future.

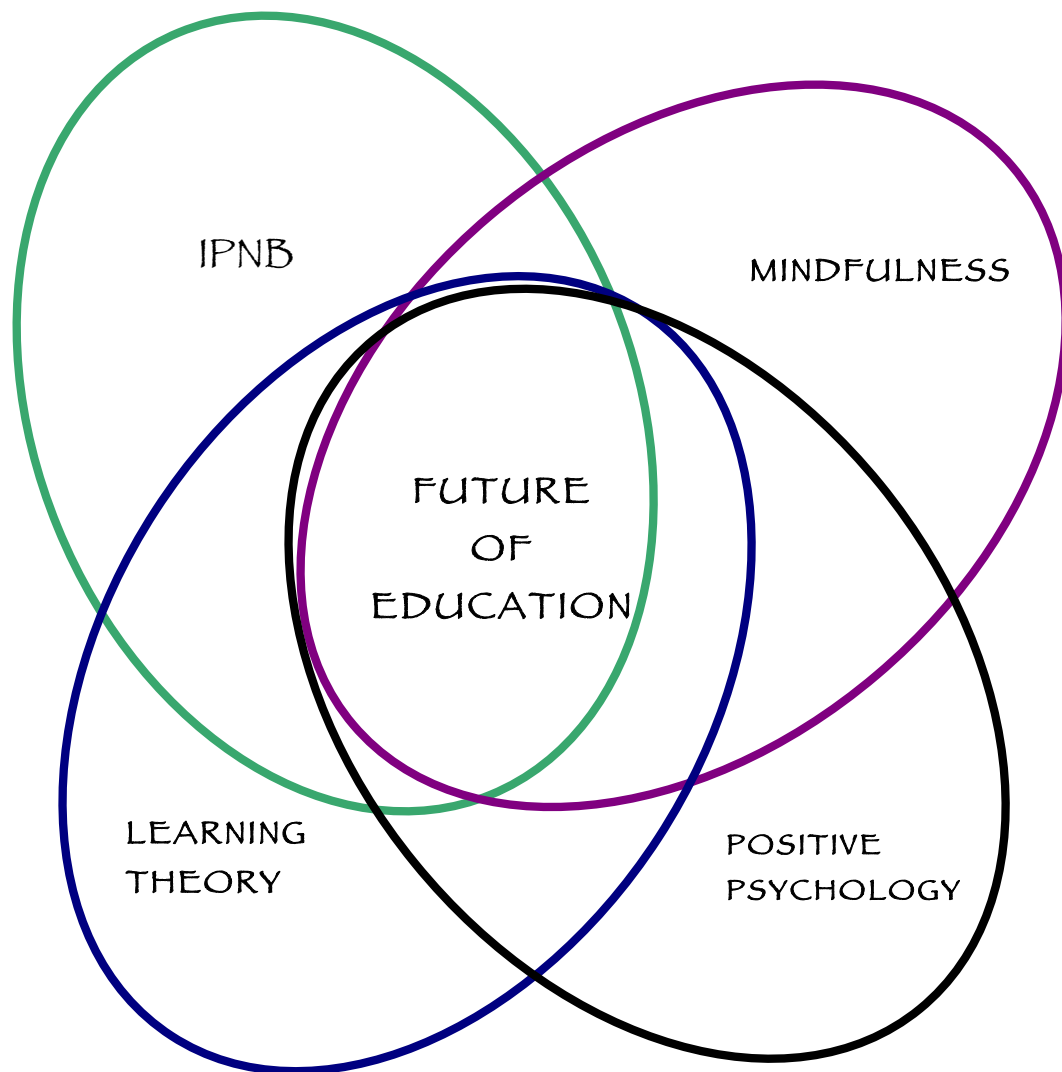
Mindfulness

The mind that can stay focused is also the mind that can learn. Where attention goes, so goes neural firing. Research is showing us that this capacity can be developed. Mindfulness is defined as “intentionally paying attention to the present moment without being swept away by judgments” (Siegel, 2010). It is an area of research and practice that is simultaneously ancient and modern. While it has a 2500-year history as a Buddhist practice, it is also the subject of numerous recent research studies. The current research and application separates mindfulness techniques from their Buddhist roots. Research shows that mindfulness techniques lower anxiety, improve learning, improve attention, and increase connection to others. The journal *Emotion* (2010) devotes a full issue to mindfulness research. (See also: <http://www.mindfulexperience.org/> for a long list of references.) I have seen the power of daily mindfulness practice at my school and been impressed with the results for the students (Olson, 2007). I know that other educational settings are experiencing similar results. My hope is for expanded research and application of mindfulness

techniques in schools to support classroom learning.

In closing, our rapidly changing world means the educational needs of children are broader and more critical than in the past. For most of human history, a singular focus on subject content was enough (from throwing a spear, to planting a seed, to reading a book), the structure of society changed less, and relationships were often more stable from day to day. The Information/Technological/Digital Age has created a need for educating students

beyond content, partly because content becomes obsolete so quickly. This much ongoing change is stressful, so minds, brains, and relationships that are capable of flexibility, ongoing learning, and maintaining the supportive relationships that inoculate us against stress are essential. Perspectives and tools offered by learning theory with the brain in mind, IPNB, positive psychology, and mindfulness all have crucial place in the mix. Our ability to survive, and hopefully thrive, as a society may depend on the degree of neural integration we bring to these challenges.



Kirke Olson is a New Hampshire licensed clinical and school psychologist, who sees himself as an "IPNB applicator." He applies neuroscience (IPNB) and positive psychology in his individual and family sessions with clients and in his school consultations with students, staff, parents, and administrators alike. With his wife, Sher Kamman, (also a NH licensed psychologist), he offers workshops that apply neuroscience, positive psychology, and mindfulness to help people create a life they would love to live. For more information about Kirke, check out his website www.ThePositivityCompany.com or email him at kolson@wsfca.net.

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