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Putting Play Back in Schools Will Attract More Students to Careers in Science, Mathematics, and Engineering According to Article in *American Journal of Play*

To ensure that our nation nurtures a sufficient crop of future scientists, mathematicians, and engineers, we need to put play back into the classroom according to an article in the latest issue of the *American Journal of Play* (a scholarly journal from Strong National Museum of Play in Rochester, New York).

Most experts agree that children learn best while having fun through imaginative, self-directed play, according to Doris Bergen, Professor of Educational Psychology at Miami University. Play keeps the mind sharp (even for older adults) and helps humans to cope with change and deal with the unknown. Play offers humans an adaptability “that has helped us through the centuries to invent new ideas, products, and behaviors.” And play is an essential tool in developing young minds in scientific fields.

Bergen presents myriad examples of innovative or creative people in scientific fields whose accomplishments were attained as a result of playful opportunities in their early lives and careers. For example, recipients of the MacArthur Foundation “genius” awards, studied by Michelle and Robert Root-Bernstein, reported “engaging in extensive imaginary worldplay in their childhood.” As one of the scientists in that study said, “It is necessary to imagine what needs to be discovered before discovery can be made.”

“Adults who have gone into scientific, mathematical, and engineering fields were often

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great construction players as children,” observes Bergen, citing architect Frank Lloyd Wright’s early block-building experiences as a prime example. “The ‘worlds’ children construct, either with concrete materials such as blocks or interlocking pieces or with virtual-reality simulation games, give them the imaginative experiences and the interest in ‘seeing what might happen’ to prepare them to create new worlds of design in later work experience.”

Other researchers have found that “teachers who enabled young people to follow their interests and who transmitted a joyful attitude toward learning were important influences on the students’ long-term motivation to identify and pursue difficult problem solving—and later careers in mathematics.”

Standardized curriculum and high stakes testing in our nation’s grade schools run counter to playful learning, observes Bergen. Presently, “in most U.S. schools, the curriculum does not intentionally focus on playful learning, and sometimes play does not even occur on the school playground!” Even in the younger grades, current trends “are moving against playful learning.”

It is imperative that educators be reminded about the importance of playful learning in our schools, concludes Bergen. Children skilled at playful learning “will be more likely to demonstrate creativity and innovation in their adult computer-technology, scientific, mathematical, and engineering professions.”

Doris Bergen is Professor of Educational Psychology at Miami University in Oxford, Ohio. She is codirector of the university’s Center for Human Development, Learning, and Technology and has authored, coauthored or edited seven books, including *Assess Methods for Infants and Toddlers*, and *Brain Research and Childhood Education: Implications for Educators*.

About the *American Journal of Play* (a publication of Strong National Museum of Play in Rochester, New York): Peer-reviewed and written in a clear, straightforward style, the *American Journal of Play* is the first interdisciplinary journal dedicated solely to the study of play. Providing thought-provoking content from some of the most prominent national researchers and writers in the field, each issue is filled with articles, essays interviews, and book reviews that explore the critical role of play in learning and human development. To view the most current issue’s table of contents, visit: www.americanjournalofplay.org

About Strong National Museum of Play: Home to the Brian Sutton-Smith Library and Archives of Play, Strong National Museum of Play houses the world’s most comprehensive collection of dolls, toys, games, and play-related artifacts and is the only collections-based museum anywhere devoted solely to the critical role of play in learning and human development and the ways in which play illuminates American cultural history. The museum is also home to the National Toy Hall of Fame®, the National Center for the History of Electronic Games, and dynamic, innovative exhibitions combining artifacts and interactivity. For more information, visit www.museumofplay.org.