

How Educational Environments Impact Learning

JOHN DALE, FAIA, CLAIRE GALLAGHER, PH.D., MARGARET TARAMPI, PH.D., DAVID ZANDVLIET, PH.D.
John Dale, FAIA, Harvey Ellis Devereaux, Los Angeles, California, USA
Claire Gallagher, Ph.D., Georgian Court University, School of Education, Lakewood, New Jersey, USA
Margaret Tarampi, Ph.D., University of California Santa Barbara, Santa Barbara, California, USA
David Zandvliet, Ph.D., Simon Fraser University, Burnaby, British Columbia, Canada

Have you tried to convince a client that daylight is beneficial to a classroom experience or that students acquire skills more effectively in a space with more flexible furniture? With huge expenditures at stake and constantly fluctuating spending policies, how do we make the right decisions about designing environments that positively impact learning and student performance? In this session, expert panelists define the challenges, opportunities, and potential beneficial impacts of research in neuroscience and educational design.

I. ABSTRACT

Traditionally, educators have focused primarily on pedagogy and technique while designers have focused on the shaping of space and the two spheres of influence remain relatively disconnected. Recent academic and industrial research and the growing field of neuroscience, focusing on brain response and development through environmental stimulus, are breaking through this traditional barrier. As the influence and impact of learning environments on student well-being and performance is increasingly understood, more meaningful interaction between designers and educators is becoming a necessity. It is increasingly evident that without a synergy between the design of the space and the pedagogy employed within it, the user groups – both teachers and students, teach and learn in spite of, rather than supported by the space they are in.

This panel discussion addresses the challenge of environmental research in sorting through the many contributing factors to student performance –including economic, social and cultural, in order to isolate the specific impacts of the physical environment.

Panelists include leading researchers in education, neuroscience and the design industry who will discuss their current, cutting edge research projects and point to future impacts on educational design as neuroscience uncovers the direct impact of environmental stimulus on the brain.

2. REFERENCES

Dale, J and Gallagher, C (2015) ""Research and the Shaping of Learning Spaces," Learning by Design Magazine, October 2015

Dale, J. (2014) "Light-Filled Learning." Learning by Design Magazine, February 2014

Dale, J; Sly, C. & Stone, M. (2012) "When the Building is the Teacher," Center for Ecoliteracy (online) <http://www.ecoliteracy.org/article/when-building-teacher>

Mäkelä, T., Kankaanranta, M., & Gallagher, C. (2014). "Involving students in the redesign of learning environments conducive to learning and wellbeing". In Proceedings of the 6th Annual Architectural Research Symposium in Finland 2014: Designing and Planning the Built Environment for Human Well-Being (pp. 268–282). Oulun yliopiston Arkkitehtuurin osasto. Retrieved from <http://ojs.tsv.fi/index.php/atut/article/view/46489/13935>

Gallagher, C. (2014). "I Was So Glad to Be in School Here": Religious Organizations and the School on Ellis Island in the Early 1900s", in Marten, J. (ed.) Children and Youth during the Gilded Age and Progressive Era. New York, NY: NYU Press.

Hegarty, M; Burte, H.; Boone, A.P.; Heydari, N.; Tarampi, M. (2015)"Individual Differences in Spatial Abilities Across Different Scales of Space," Cognitive Processing 16, S 18–S18

Tarampi, M. (2013) "Advancing the Spatially Enabled Smart Campus"

Tarampi, M. "Spatial Transformations as a Function of Spatial Ability and Expertise"

Tarampi, M. & Shipley, T. "Spatial Skills in Expert Structural Geologists"

Zandvliet, D. (current, ongoing) "Environmental Learning and Experience" SSHRC and Vancouver Foundation.

Zandvliet, D.B. (Jan. 2015). Highlighting Diversity in Research. Editorial paper. Ecothinking I (I).

Zandvliet, D.B. and den Brok, P., Mainhardt, T. and van Tartwick, J. (Eds.) (2014). Interpersonal relationships in education: From theory to practice. Rotterdam: Sense Publishers.

Zandvliet, D.B. (Ed.) (2013). The Ecology of School: Perspectives on place-based learning environments. Advances in Learning Environments Research series. Rotterdam: Sense Publishers.

3. AUTHOR BIOS

John Dale, FAIA, is a Principal, and Studio Leader of the Pre K-12 + Community Education Design Studio at Harvey Ellis Devereaux, Los Angeles, CA. He is currently the Chair of the American Institute of Architects Committee on Architecture for Education.

Dr. Claire B. Gallagher, Associate AIA, holds professional degrees in architecture and education, has taught both design studio and pre-service teacher education, and is currently a Professor of Education at Georgian Court University. She is the Vice Chair of the American Institute of Architects Committee on Architecture for Education.

Dr. Margaret Tarampi is a neuroscientist and architect who has been in professional practice in both fields. She is currently a Research Associate at the Center for Spatial Studies at the University of California Santa Barbara.

Dr. David Zandvliet is the Director of the Institute for Environmental Learning, a Faculty Teaching Fellow for the Faculty of Environment, and an Associate Professor in the Faculty of Education at Simon Fraser University in Burnaby, British Columbia. He is also the Chair of the Learning Environments Special Interest Group of the American Educational Research Association.