

**Title**

Raising the Bar: At-Risk Prevention for Urban Students in Middle School Math and Science Classrooms

**Relevance****Strand 1 - "HEAD": Academic Achievement & Leadership**

The proposed session employs theory of third space framework to ensure the continuity of the school curriculum and home/school experiences making use of home-to-school connections to motivate students' interest in learning while helping them make connections to content.

**Strand 2 - "HEART": Social & Emotional Skills**

The proposed session exposes culturally relevant pedagogy shown to effectively build rapport and trust with urban students, enhance their comfort level in the classroom, and motivate learning.

**Brief Description:**

This presentation will illustrate best practices for enhancing student success in Middle School science and math classrooms. The outcome will provide participants with a clear understanding of what good teaching looks like when an empowering, experienced teacher implements pragmatic elements of third space theory and culturally responsive pedagogy to reduce the probability for at-risk behaviors in students from urban environments.

**Summary:**

Recent reports and research posits that students of color and those residing in urban settings have extremely negative attitude towards and a fear of science and math content (Zacharia & Barton, 2004). As a sociocultural construct, third space theory is actively applied in many elementary and secondary educational milieus. Moje et al. (2001) noted third space to be a hypothetical space created when individuals take the knowledge from their dominant first space (home or community) and unites it with the knowledge from an important institutionalized space (school or work) resulting in a new collaborative knowledge space or experience. This new in-between space is a shared domain. By engaging students in scientific and mathematical experimentations, projects, open discussions, intensive readings, and intentional writing that focus on students and teachers' personal experiences. The teacher can actively create a third space that helps student's bridge prior knowledge with standardized curriculum for more effective learning outcomes.

In this session participants will interactively explore varied strategies purposed to engage students in active learning practices of science and math content. Strategies will enable

the teacher to demonstrate strong content knowledge that will deepen student's understanding to contextual concepts in science and math, to position students for optimal success and meaningful experiences. Participants will take away a folder of sample activities include the integration of technology with web-based applications, examples of culturally responsive readings and story-telling ideas, quick hands-on inquiry science explorations and demonstrations.

**Evidence:**

The pedagogy described in this presentation stems from the framework of third space theory and culturally responsive pedagogy and is supported by the empirical research of the following:

Bhabha, H.K. (1994). *The location of culture*. London: Routledge.

Cook, M. (2005). 'A place of their own': Creating a classroom 'third space' to support a continuum of text construction between home and school. *Literacy*, 36(2), 85-90.

Irvine, J. J. (1992). Making teacher education culturally responsive. In M.E. Dilworth (Ed.), *Diversity in teacher education: New expectations* (pp.79-82). San Francisco, CA: Jossey-Bass.

Ladson-Billings, G. (1995b). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*, 32(3), 465-491.

Moje, E.B., Ciechanowski, K.M., Kramer, K., Ellis, L., Carrillo, R., and Collazo, T. (2004). Working toward third space in content area literacy: An examination of everyday funds of knowledge and discourse. *Reading Research Quarterly*, 39 (1), 38-70.

Zacharia, Z., & Barton, A. C. (2004). Urban middle-school students' attitudes toward a defined science. *Wiley Periodicals, Inc.*, pp. 197-222.

**Format:** Group presentation of 50-70 participants.

**Biographical Sketch:**

Dr. Marilyn Lanier, PhD - Assistant Professor Department of Elementary Education, School of Education, Fayetteville State University. Dr. Lanier has more than 18 years of classroom experience teaching science in public school systems across the United States and the Department of Defense Dependent Schools, Europe (DoDEA-E), 6-12 grades. As well as teaching in the public school setting, Dr. Lanier's has 10 years' experience in post-secondary higher education. Her research focus is urban science education and culture as it relates to pedagogical knowledge in practice. Dr. Lanier has published many works, conducted many workshops, researched both nationally and internationally, and has presented at many conferences.

Dr. Tanya Hudson, Ed.D. - Assistant Chair and Assistant Professor, Department of Elementary Education, School of Education, Fayetteville State University. As a former High School Mathematics teacher, Assistant Principal and Principal for 13 years I have had many levels and involvement of inclusion-based practice. As a teacher being able to authentically practice the acts of inclusion and involvement within a group or structure has been an ongoing practice. Dr. Hudson is a published author, conducted many workshops and presented at many conferences.

Dr. Cynthia Brooks Wooten, PhD - Assistant Professor Elementary Education, Department of Elementary Education, Fayetteville State University. Dr. Wooten served as a classroom and Academically Gifted teacher for 17 years in the public school of North Carolina. Dr. Wooten taught methods courses in Science and served as University Supervisor for Middle Grades student teachers in Science. Presently at Fayetteville State University she prepares pre-service teachers for careers in education through course work and supervision. Dr. Wooten's teaching passion and commitment to her teacher candidates requires her to be innovative and with a mindset that keeps her grounded as a lifelong learner.

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