Title: The Challenge Cycle: Puget Sound Teachers Connect Neuroscience with Teaching and Learning through an Iterative Learning Model

Theme: Technologies of Teaching and Learning

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Description: Connecting Neuroscience with Teaching and Learning is a NIH Funded 5-year project currently underway via an interdisciplinary collaboration that consists of university of Washington Neuroscientists, College of Education LIFE Center Learning Scientists, and middle school teachers from the Puget Sound Educational Service District. Aligning what we know about How People Learn (Bransford, 2000) with what is happening in the adolescent brain is the goal of this project. In this poster session, we demonstrate how an iterative Challenge Cycle helps teachers deliver content that is aligned with learning sciences’ principles, and engages learners in positive and meaningful ways to enable learning with deep understanding and enhance a preparation for future learning. The challenge cycle uses technology to sustain a year long Professional Learning Community (PLC), which emerges from a yearly Summer Institute held on campus. Teachers who are immersed in tools and applications derived from the learning model at the summer institute co-create learning units and themes by enacting the model with their students throughout the school year. The model consists of pedagogically sound principles that foster a strong neural commitment; make visible learners’ preconceptions, engages in metacognitive reflective practices, and supports collaborative peer learning through articulation and team activities. Each phase of the cycle will be explained and evidence for learning success presented from a Design Based Implementation (DBIR) literature that is strengthening around this model.