

Annotated Bibliography

Lesson Cycle 2

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Broderick, J., Aslinger, R., & Hong, S. B. (2018). Baking Cookies. *Science and Children*, 56(3), 34–44. Retrieved from

<http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1192836&site=ehost-live>

Broderick, Aslinger, and Hong follow a Reggio Emilia teacher that incorporates play and experimentation into her every day lessons (2018). Ms. Aslinger (the Reggio teacher), uses the Cycle of Inquiry (COI) system to guide and plan her lessons. The COI requires the teacher to observe with intention, incorporate children's knowledge and thinking, develop action questions, plan for intervention, and set up and facilitate play (Broderick et al., 2018). Through play (baking) children explored numeracy, literacy, physical science and measurement concepts. Her lesson of play in science followed student interests and followed a curriculum that supported students' development with critical thinking (Aslinger & Kong, 2018). The Cycle of Inquiry helped structure a lesson that allowed to an interconnected learning experience for all students.

Smith, M. M., & Chao, T. (2018). Critical Science and Mathematics Early Childhood Education: Theorizing Reggio, Play, and Critical Pedagogy into an Actionable Cycle.

Education Sciences, 8. Retrieved from

<http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1201011&site=ehost-live>

This article explained the connection between play and theoretical approaches in elementary school (with a focus in math and science). The article defined play as “child-centered” where the teacher's role is to provide meaningful interactions that are familiar to children (Smith & Chao, 2018). Children are exploring these spaces while building their autonomy and social emotional skills. The authors highlight the return to play-based education and how it is more developmentally appropriate and connects critical learning with children's exploration of their identity. The authors believe that a shift towards empowerment, access, and agency will create an increase in participation, membership, and identity for children in these specific fields (Smith & Chao, 2018). The authors suggest that approaching school with both critical and identity lenses will redefine who students view as participants in math and science. The study suggests a cycle of three steps that allow for discussions about student identity. Phase 1 - Community Knowledge, Phase 2 - Exploring and connecting to prior's science and mathematical knowledge, and Phase 3 - Action within community (Smith & Chao, 2018). Using play as a tool in elementary school classrooms allows students and teachers to learn with each other by identifying student interests, curiosities, and questions important to them. It also allows for the

connection of science and mathematics and to be used as tools for empowerment, agency and access for learners, their families, the school community, and the surrounding neighborhood (Smith & Chao, 2018).

Cavanaugh, D., Clemence, K. clemence.kim@iowacityschools.or., Teale, M., Rule, A. audrey.rule@uni.ed., & Montgomery, S. (2017). Kindergarten Scores, Storytelling, Executive Function, and Motivation Improved through Literacy-Rich Guided Play. *Early Childhood Education Journal*, 45(6), 831–843. <https://doi.org/10.1007/s10643-016-0832-8>

This journal article investigated how student literacy skills can be used and explored through play. Students use their imaginations, negotiation skills, and social interactions to practice their linguistic ability (Cavanaugh et al., 2017). When children are playing they intuitively learn how language is used (Cavanaugh et al., 2017). This specific study observed how guided play, when combined with literacy affected outcomes for students. The study investigated how children who invented new skill-focused games to practice literacy skills, compared to students engaging in teacher-driven activities (then focused on the same literacy skills), affected scores on standardized assessment (Cavanaugh et al., 2017). There was a set of 20 objects/toys all starting with the same initial sound. The teacher-driven group looked more like a Foundations board (it is hard to explain without a visual, but is a magnetic book of letters with 1-3 pictures). Data from this study shows that students were more successful on standardized tests when they were able to experiment with their letters and objects. Students that were consistently part of the experimental design group showed academic benefits such as storytelling skills, application of new vocabulary, and recurring phonemic and phonics learning (Cavanaugh et al., 2017).

Riek, J. (2015). Reinstating P.L.A.Y. Pedagogy in Early Elementary Classrooms. *International Journal of Early Childhood Learning*, 22(1), 1–10. <https://doi.org/10.18848/2327-7939/cgp/v22i01/48434>

This article highlighted the play-based learning theories that support early childhood best practices. The article talks about Maria Montessori and her theories that focus on learning as a natural process that the child experiences (Riek, 2015). It also discusses John Dewey and his belief that students need to be intrinsically engaged for learning and meaning to occur (Riek, 2015). It is the teacher's job to recognize students' unique interests and create rich learning experiences for them. Our school system is data-driven from standardized testing and developmental needs of children are put to the side. The article defines ten play-based practices that can inform teaching.