



Learning Across Settings

ABOUT CONNECTED COLLECTIONS

Connected Collections are meant to support professional learning conversations about a particular topic, in this case Learning Across Settings. This Collection consists of 4-6 research briefs, short synopses of recent research published in peer-reviewed journals, each addressing some key aspect of practice related to learning across settings. The Collection also provides a set of overarching discussion prompts as well as links to other relevant resources.

Overview

Learning does not occur in discrete moments limited to school environments. From infancy through adulthood, we are continuously learning in wide range of contexts; these opportunities are shaped by individual interests and abilities, as well as larger social, cultural, and political communities and forces. Rather than see everyday learning experiences as separate or unrelated to STEM learning, a “cross-setting learning” approach recognizes what students bring to any learning experience as resources for STEM education.

In recognizing, what students know and bring to STEM learning, cross-setting approaches are foundations for equity in education. This collection of research briefs describes what cross-setting learning looks like, why it is important for equity, and how to design for cross-setting learning in programs, teaching practice, and assessment.

Learning Goals

The research briefs have been organized to provide readers with a better understanding of learning across settings and how this knowledge can impact teacher practice, assessments of learning, and program design. The first two briefs offer a foundational review of research describing learning across settings that can support readers in considering alternative ways of understanding and building on their students’ interests and identities across settings, social contexts, and time. Both the second and third briefs explore the concept of assessing student learning across settings, describing how youth interest and identity as well as discourse (spoken an example of how collaborations across schools, community organizations, and families can support cross-setting learning with a direct impact on local issues.

Research about LEARNING ACROSS SETTINGS

(Visit the links below to see a two-page brief of each summarized research article.)

1 Learning as a Cultural Process

Nasir, Rosebery, Warren, and Lee describe how learning is a “cultural process” that includes meaningful experiences across school, everyday activities, family, and community. The cultural nature of learning is illustrated through examples of youth engaging in mathematical thinking through basketball, playing music with peers, selling candy, competing in dominoes tournaments, and running in track and field activities. This brief helps to define what learning across settings involves and why it is important to educational equity.

http://www.exploratorium.edu/sites/default/files/pdfs/brief_LearningCulturalProcess.pdf

2 Identifying and Understanding Learner Interest and Identity across Settings

Barron and Bell offer readers a foundational review of research illuminating the opportunities and challenges to actively supporting cross-setting learning for youth in relation to their personal interests and identities. This brief can spur conversation around how to understand when learning across settings becomes visible and how to assess for that learning.

http://www.exploratorium.edu/sites/default/files/pdfs/brief_Identifying_Understanding.pdf

3 Assessing How People Learn across Space, Time, and Contexts

Recognizing that today’s standardized testing methods are too narrow for measuring learning across formal to informal and embodied to virtual environments, Kumpulainen and Sefton-Green explore how researchers are currently documenting the ways such “connected learning” can occur across contexts. This brief can help readers reflect on how students’ uses of language (written and spoken) might reflect their learning across settings and how assessments can be designed to account for this learning.

http://www.exploratorium.edu/sites/default/files/pdfs/brief_AssessingHowPeopleLearn.pdf

4 Missed Opportunities in Science Education among Urban Youth

Calabrese Barton and Yang describe how a young man’s out-of-school interest in science went unrecognized by both his schoolteachers and family in ways that limited perceived opportunities to pursue academic or career pathways in STEM. By exploring missed opportunities to connect interest, identity, and learning across formal and informal settings, this brief can help readers outline key programmatic design strategies to support learners in making connections across settings toward following their STEM interests.

http://www.exploratorium.edu/sites/default/files/pdfs/brief_MissedOpportunities.pdf

5 Connecting Formal and Informal Science Learning through School-Community Partnerships

In order to improve science education for culturally and linguistically diverse students, Bouillion and Gomez describe how schools and communities can create “mutual benefit partnerships” that identify and address local problems. This brief shares the example of the Chicago River Project in which classroom and community science were connected in ways that valued students’, parents’, and community members’ informal science “funds of knowledge.” This brief provides guidelines for developing a mutual beneficial partnership and program that support cross-setting learning.

http://www.exploratorium.edu/sites/default/files/pdfs/brief_ConnectingFormalAndInformal.pdf

WHAT DO YOU THINK?

Based on the readings and your personal experiences, how would you define “learning across settings”?

Reflecting on examples of learning across settings you read about in the briefs, what are the key features of cross-setting learning that you would like to see incorporated into your teaching or programs?

Considering the challenges to cross-setting learning such as those described in the “missed opportunities” research brief, how might you address such challenges and missed opportunities in your work?

RELATED RESOURCES

Making science matter: Collaborations between informal science education organizations and schools.

<http://relatingresearchtopractice.org/sites/all/themes/Research/downloads/Relating-Formal-Informal-Learning.pdf>

What is the role of informal science education in supporting the vision for K-12 science education?

<http://stemteachingtools.org/brief/38>

How cross-sector collaborations are advancing STEM learning.

http://www.noycefdn.org/documents/STEM_ECOSYSTEMS_REPORT_EXECSUM_140128.pdf

