

## Connected Teaching and Learning in K-16+ Contexts: An Annotated Bibliography

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Connected learning is “an emerging, synthetic model of learning whose principles are consistent with those of positive youth development, sociocultural learning theory, and findings from ethnographic studies of young people’s interest-related interactions with digital media” (Maul et al., 2017, p. 2). It seeks to harness new media technologies and human networks to support interest-driven, production-centered learning that bridges in- and out-of-school and intergenerational disconnects. As such, “it is a fundamentally different mode of learning than education centered on fixed subjects, one-to-many instruction, and standardized testing...” (Connected Learning Alliance, n.d.). The connected learning model has spread rapidly and widely; it has been taken up in the design of programs, courses, and research across interdisciplinary, international, and in- and out-of-school contexts. The goal for this annotated bibliography is to provide an overview of connected learning theory and research that is most relevant to teaching and learning in K-16+ school settings, which can serve as a resource for those interested in connected learning practice and outcomes.

Connected learning is “an emerging, synthetic model of learning whose principles are consistent with those of positive youth development, sociocultural learning theory, and findings from ethnographic studies of young people’s interest-related interactions with digital media” (Maul et al., 2017, p. 2). It seeks to harness new media technologies and human networks to support interest-driven, production-centered learning that bridges in- and out-of-school and intergenerational disconnects. As such, “It is a fundamentally different mode of learning than education centered on fixed subjects, one-to-many instruction, and standardized testing...” (Connected Learning Alliance, n.d.).

Connected learning efforts were developed and are being enacted by a diverse range of practitioners (e.g., K-16 and museums and library educators); people working in popular culture/media, technology; and university researchers (see Digital Media Learning [DML] Research Hub; <http://www.dmlhub.net>). The theory was formally articulated by Ito et al. (2013) in their report *Connected Learning: An Agenda for Research and Design*. Interest in harnessing the principles in teacher education surfaced shortly thereafter, particularly in online and out-of-school contexts; for example, also in 2013, the National Writing Project (NWP) launched a “Making Learning Connected” Massive Open Online Collaboration (#CLMOOC; <http://clmooc.com>) for educators (see Smith, West-Puckett, Cantrill, & Zamora, 2016).

The connected learning model has spread rapidly and widely; it has been taken up in the design of programs, courses, and research across interdisciplinary, international, and in- and out-of-school contexts. The Ito et al. (2013) report has been cited over 550 times in the last four years, and a Connected Learning Alliance (<https://clalliance.org/who-we-are/>) has been formed to support connected learning across diverse educational and youth-serving contexts.

Many early explorations of connected learning have been shared as white papers on the DML Research Hub. Much of this research has focused on youth learning, particularly in out-of-school and digital contexts. A sampling is included here to demonstrate a range of projects and research, but exploration of the fuller set of white papers is encouraged. For example, Korobkova (2014) documented connected learning and identified work in an interest-driven digitally mediated affinity space—a One Direction fanfiction writing community. Martin (2014) similarly showcased learning in an online World Wrestling Entertainment fan community, and other reports have showcased diverse fandoms and gaming communities.

Other research has moved toward using connected learning as design principles. For example, Larson et al. (2013) described the strategic development of a youth media center utilizing connected learning principles, and Grant (2014) described an exploration of the potential of designing digital badging systems to create more diverse and expansive credentialing within and beyond institutions.

Building on these kinds of foundational research, a current need exists to understand how connected learning can be leveraged to support equitable, digital teaching and learning, particularly with educators in formal, school learning settings (see Garcia, 2014). Mirra (2017) argued that

...understanding the *why* of connected learning is easy; understanding the *how* is much more complicated.... In order to increase the spread and impact of connected learning, it is urgent that we begin to articulate a model of *connected teaching*.

Pockets of teachers and teacher educators are beginning this generative work. One burgeoning example is the Connected Learning in Teacher Education group....

The authors of this paper are six scholars who are members of the Connected Learning in Teacher Education (<https://sites.google.com/view/cl-in-te>) network, and who share a scholarly interest in connected teaching and learning. We come from disciplinary backgrounds that include English Language Arts (ELA) and literacy and instructional technology; several members of the group are affiliated with the National Writing Project (<https://www.nwp.org/>).

This annotated bibliography is designed to provide an overview of connected learning theory and research that is most relevant to teaching and learning in K-16+ school settings, which can serve as a resource for those interested in connected learning practice and outcomes. In order to address this goal, the annotated bibliography includes a broad range of peer-reviewed and juried research. The articles highlighted here document trends in contemporary connected learning research, including the international and interdisciplinary scope of the research. They also showcase a shift in connected learning research from its inception in 2013, with more critical work attending to power, race and class; more work in teacher education; as well as a broader range of methodologies emerging over time. The annotated bibliography will be of use to those interested in connected learning in English teacher education settings, including media literacy, libraries, and makerspaces.

### **Selection Criteria and Process**

Our intent was to focus on connected learning that has significance for teachers and teacher educators in K-16+ school settings, highlighting English education and literacies, but also demonstrating the range of ways that connected learning is being taken up in theory and in practice. To identify articles for inclusion in the annotated bibliography, we conducted an initial search in October-November 2017, using Google Scholar to identify articles that referenced the Ito et al. (2013) connected learning white paper. This search resulted in 550 initial sources, including journal articles, books and book chapters, conference papers, and dissertations. Removing sources not written in English brought us to 436 sources.

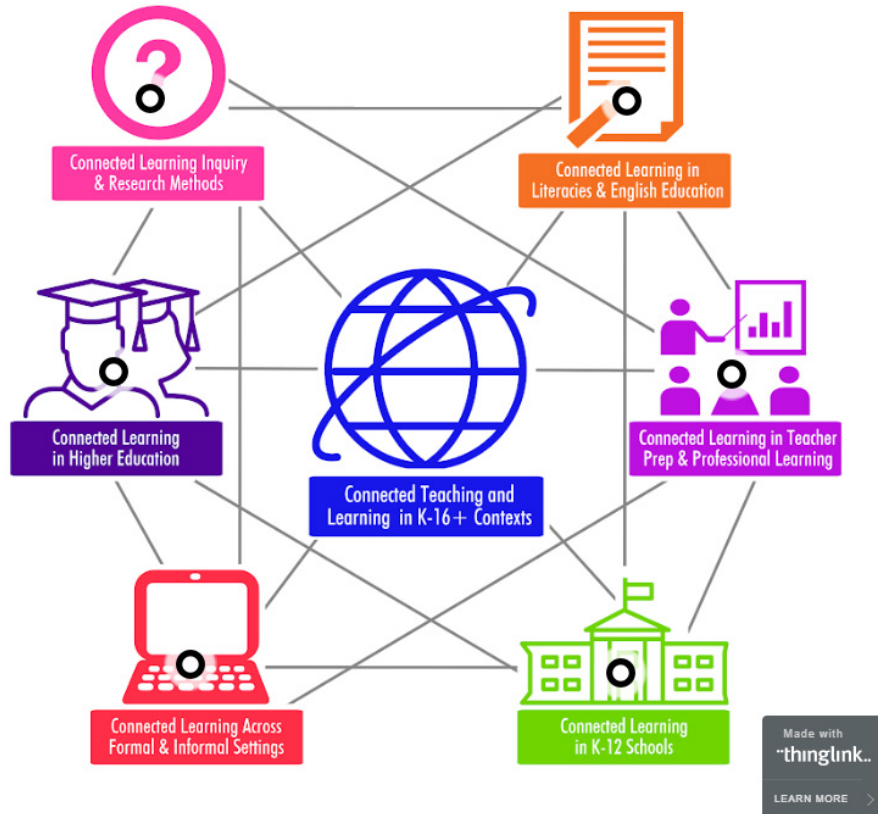
While we began the review process with the intention to include only peer-reviewed sources, after reviewing the sources identified in our initial search, we noted a large number of dissertations and conference papers that engaged in connected learning research in central, and often powerful, ways. Therefore, we expanded our inclusion criteria to include juried sources, in order to most accurately represent the spaces in which a significant portion of the work is currently taking place. This resulted in 140 sources inclusive of journal articles, dissertations, and conference papers.

After reviewing the 140 sources, as a group we identified common themes across the sources, resulting in the broad sections represented in the annotated bibliography: (a) Connected Learning in Teacher Preparation and Professional Learning, (b) Connected Learning in Literacies and English Education, (c) Connected Learning in K-12 Schools, (d) Connected Learning Across Formal and Informal Settings, (e) Connected Learning in Higher Education, and (f) Connected Learning Inquiry and Research Methods.

While there is overlap between certain categories – namely, teacher preparation and higher education, and English education and K-12 schools – we elected to highlight teacher preparation and English education in their own categories, given the centrality of these topics to the special issue theme. The multimedia image in Figure 1 visually represents

these categories and includes links to short videos summarizing the trends in the literature in each area. Readers may share these videos on their own or in conjunction with this article.

We also are including a link to our spreadsheet containing the complete database of 550 articles and books that cited Ito et al. (2013): <http://bit.ly/CTAnnoBib>. This searchable database provides a direct link to all of the sources, full citations and abstracts, details extracted from the abstracts, and initial categorization of the manuscripts. Readers may contribute new or missing research using a link in the Submit tab of the spreadsheet. When using or sharing this database, we ask colleagues to cite this article.



**Figure 1.** *Connected learning in K-16 schools. (View interactive image at <https://www.thinglink.com/card/1025432695099883521>)*

Within each category, the lead contributor made additional decisions regarding which articles to annotate and which to include in the further reading list. The criteria guiding these decisions included the extent to which connected learning was taken up as a central framework; the quality of the work; presenting a range of contexts including but not limited to ELA; a specific connection to the school setting (allowing for articles that described school-based after-school programs, but excluding a large number of connected learning articles that were situated exclusively in out of school contexts); and representation of a range of methodological approaches to the study of connected learning. Within and across the sections, we aimed to represent the breadth and depth of the current state of research

and practice in connected learning related to K-16 contexts. This final round of analysis resulted in the 61 articles that are included in the annotated bibliography.

### **Potential Ways to Use this Annotated Bibliography**

While our primary goal for the annotated bibliography is to support scholarly work in connected learning, the annotated bibliography can be used in a variety of ways to supporting teaching and learning in English teacher education. Teacher educators might invite their students to do the following:

- View the videos for each section that are linked from [Figure 1](#), and then choose a section to explore in depth.
- Search the spreadsheet for terms that provoke their interest and read three articles on the topic to bring to class.
- Compare articles that are centrally focused on connected learning and those that are not, in order to promote discussion around the nature of connected learning.
- Add new sources to the annotated bibliography.
- Create visual maps of people and organizations that have contributed to the development of connected learning.
- Closely explore and compare the methods used across various studies.
- Pick a theme (e.g., composing with media, remixing, etc.) and read across the sections to see the variety of contexts, theoretical frameworks, and methodologies used to explore the theme.
- Develop lessons or activities inspired by the articles.

### **Connected Learning in Teacher Preparation and Professional Learning**

**Video 1.** *Connected learning in teacher preparation.*  
([www.youtube.com/embed/4OqE7xANwMI?rel=0](http://www.youtube.com/embed/4OqE7xANwMI?rel=0))

The articles included in this section encompass both research and conceptual work that foregrounds the connected learning framework in teacher professional learning and teacher preparation contexts, including online, face-to-face, and hybrid learning spaces (Video 1). It is noteworthy that two of the three articles included in this annotated bibliography examined connected teacher professional development in cMOOCs as spaces for supporting teacher interest-driven professional learning. In most of the articles, connected learning is paired with complementary theoretical and methodological frameworks – for example, transliteracies, transformative teacher leadership, digital literacies, learning by collaborative design – in order to illuminate questions around how teacher learning happens in designed spaces. (Sarah Lohnes Watulak, Lead Contributor)

Baker-Doyle, K. J. (2017, October). How can community organizations support urban transformative teacher leadership? Lessons from three successful alliances. *The Educational Forum*, 81(4), 450-466. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/00131725.2017.1350242>

The article examines the relationship between informal teacher networks and nonprofit community organizations to determine how a formal organization can support informal teacher networks. The author's goal was to develop transformative teacher leaders who "organize for educational change, particularly

around issues of social justice, equity, and civic engagement” (p. 16). With three case studies of community organizations – The EdCamp Foundation, The Connected Learning Alliance/National Writing Project, and the Philadelphia Education Fund – the author documented the ways in which the organizations addressed challenges to partner with informal teacher networks. The CLA/NWP successfully navigated the tension between honoring the NWP teacher-driven approach to professional learning, while introducing the connected learning framework by differentiating between private and public spaces; inviting teachers to participate in multimodal making in ways that connected to their own interests; and leveraging experienced teachers to model practices for newer teachers. Community organizations can further support the development of transformative teacher leaders by acting as bridges and brokering relationships to other community organizations and opportunities for professional growth.

Bali, M., Crawford, M., Jessen, R., Signorelli, P., & Zamora, M. (2015). What makes a cMOOC community endure? Multiple participant perspectives from diverse cMOOCs. *Educational Media International, 52(2)*, 100-115. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/09523987.2015.1053290>

This article uses autoethnography to explore the experience of five educators at the point of their first exposure to four cMOOCs: #etmooc, #clmooc, #XPLRPLN, and #rhizo14. The goal of the paper was to illuminate the aspects of the cMOOC that participants found engaging and that kept them engaged beyond the course ending date. Using a connected/connectivist theoretical framework and drawing on Rheingold’s five digital literacies – “focusing attention, critical filtering and evaluation of information on the web, participation culture, collaboration, and networking” (p. 102) – findings highlighted practices that welcomed cMOOC newcomers to the cMOOC space. These included welcoming and affirming culture; value of connecting with other learners in the space, digital literacy skills to deal with information overload, and the quality of connection, which was enhanced by “the importance of an open attitude, not merely skill; but rather a willingness to share, to make oneself vulnerable, and take risks” (p. 111).

Carlos, J. C. (2014). Genealogies, family resemblances, and ideations: Art education’s place of possibility in the 21<sup>st</sup> century. *Visual Arts Research, 40(2)*, 14-24. Retrieved from <https://muse.jhu.edu/article/564541/summary>

This conceptual article draws on two key texts – Ito et al.’s (2013) connected learning white paper and Barkan’s (1955) *A Foundation for Art Education*, to argue for positioning art education as a field that has a role to play in progressive educational theory and practice. After unpacking the “family resemblances” between these texts – particularly an ecological approach to understanding learning – Castro illustrated the family resemblances using two cases, suggesting that interest-driven learning is a particular point of connection between the two. He concluded with the proposal that art education can inform and extend the connected learning framework by offering a way to approach the visual, which Castro argued is neglected in the connected learning framework.

Smith, A., West-Puckett, S., Cantrill, C., & Zamora, M. (2016). Remix as professional learning: Educators’ iterative literacy practice in CLMOOC. *Education Sciences, 6*, 1-12. Retrieved from <http://www.mdpi.com/2227-7102/6/1/12>

This study describes the learning that took place during a 2014 Make Cycle of the Connected Learning MOOC (CLMOOC). Designed using the connected learning

framework, CLMOOC participants learned about connected learning by engaging in connected learning. Using theoretical and analytic lenses including social semiotics, remix, and transliteracies, findings illuminated the ways in which the practices of creating and remixing fostered a professional learning environment that was “emergent, iterative, collaborative, critical.” The authors identified a series of mobilities – “bursting, drifting, leveraging, and turning” – to describe the ways that teachers’ learning products circulated within and among the CLMOOC space and participants and the ways in which remixing extended to the participants’ ways of engaging with the content and each other. The researchers discussed how these remix approaches apply to contemporary classroom teaching, as well as teacher learning. Conclusions suggested that participants may need explicit support to take up the invitation for open, networked professional learning.

Vartiainen, H., Pöllänen, S., Liljeström, A., Vanninen, P., & Enkenberg, J. (2016). Designing connected learning: Emerging learning systems in a craft teacher education course. *Design and Technology Education: An International Journal*, 21(2), 32-40. Retrieved from <https://eric.ed.gov/?id=EJ119409>

The article presents the findings of a case study that explored the learning that resulted from preservice teachers’ participation in a joint design task to create a technology-supported craft education lesson. The lesson design and data analysis used the learning by collaborative design (LCD) framework, which focuses on the interconnection between tools, objects, and subjects, across learning environments. In this framework, the learners not only learn through design, but they participate in determining the goals of the design and the problems they want to solve. Findings suggested that students actively participated in shaping their learning and that each group evolved their own learning system related to selecting, using, and valuing the tools, objects, and subjects of their project. While not drawing specifically on the connected learning framework, the design task and LCD framework aligned to the connected learning principles and provide an illustration of connected learning in action.

### For Further Reading

Bali, M., Caines, A. L. A., DeWaard, H., & Hogue, R. (2016). Ethos and practice of a connected learning movement: Interpreting virtually connecting through alignment with theory and survey results. *Online Learning*, 20(4). Retrieved from <https://olj.onlinelearningconsortium.org/index.php/olj/article/view/965>

Justice, S. (2015). Learning to teach in the digital age: Enacted encounters with materiality. *Marilyn Zurmuehlen Working Papers in Art Education*, 2015(1), 3. Retrieved from <http://ir.uiowa.edu/mzwp/vol2015/iss1/3/>

Justice, S., & Markus, S. (2010). *Educators, gender equity and making: Opportunities and obstacles*. Paper presented at FabLearn, Stanford, CA. Retrieved from [https://www.academia.edu/16570000/Educators\\_Gender\\_Equity\\_and\\_Making\\_Opportunities\\_and\\_Obstacles](https://www.academia.edu/16570000/Educators_Gender_Equity_and_Making_Opportunities_and_Obstacles)

Kelly, N., Clarà, M., & Kickbusch, S. (2015, November-December) How to develop an online community for pre-service and early career teachers. In *ascilite 2015: Globally Connected, Digitally Enabled*, Curtin University, Perth, W.A. (Unpublished). Retrieved from <https://eprints.qut.edu.au/90985/>

O'Keeffe, M. B. (2016). *Exploring higher education professionals' use of Twitter for learning* (Doctoral dissertation, University College London). Retrieved from [http://discovery.ucl.ac.uk/1521971/7/O'Keeffe\\_MOK-EdD-Thesis%2016Oct\\_b.pdf.%20Personal%20identifiers%20redacted.pdf](http://discovery.ucl.ac.uk/1521971/7/O'Keeffe_MOK-EdD-Thesis%2016Oct_b.pdf.%20Personal%20identifiers%20redacted.pdf)

Stepanian, C. E. (2017). *Digital writing integration in the English language arts classroom* (Doctoral dissertation, Fordham University). Retrieved from <https://search.proquest.com/docview/1904963076?pq-origsite=gscholar>

## Connected Learning in Literacies and English Education

**Video 2.** *Connected learning in literacies and English education.*  
(<https://youtu.be/kZqhQEkd10>)

The current connected learning literature conceptualizes literacies broadly, including a strong emphasis on media studies and writing/composing and a somewhat lesser focus on reading and language (Video 2). In these studies, literacies were viewed as mobile across spaces and over time, multimodal, and critical. Digital media and digital media production, in particular, were often positioned as potential tools to connect and support learning and positive identity development across contexts and time. Often, the importance of “layering literacies” (e.g., Abrams & Russo, 2015) and border or boundary crossing was invoked. While some studies were situated specifically within English education, others focused on literate practices that stretched beyond English classrooms (e.g., fan fiction writing and video game playing and creating). Studies selected for inclusion significantly focused on literacies and connected learning; those in the additional readings section tended to take up connected learning less explicitly. However, they used related ideas and frameworks (e.g., affinity networks, CHAT theory, and third space), and offered interesting connections or extensions to the focal studies. Two journals – *Journal of Adolescent and Adult Literacy* and *Digital Culture & Education* – each had multiple recent contributions in this area. (Rebecca Woodard, Lead Contributor)

Cartun, A., Penuel, W. R., & West-Puckett, S. (2017). Blurring the boundaries between school and community: Implementing connected learning principles in English classrooms. *Journal of Adolescent & Adult Literacy*, 61(2), 183-190. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/jaal.668/full>

This article describes how a senior in high school, Donte, experienced a capstone project in an English class that utilized a connected learning pedagogy. The research project took place during the first year of a partnership between teachers and a local National Writing Project site focused on redesigning the traditional research project in the senior English class. Students were tasked with deciding what they wanted to learn and creating a “contribution” to share with the world. The content and form of these contributions were deliberately open; however, students had to design a website, a series of multimodal texts, and a research presentation to share their project in a symposium event. Interested in real-life superheroes, Donte researched “people who were considered superheroes in society and how those superheroes reflected moments in history” (p. 186) to ultimately create a “fictional instruction manual” describing how to be a superhero (p. 186). He was inspired by the interest-driven nature of the project and connections he made, but frustrated that his symposium presentation drew a smaller audience than some of his peers’ projects. Ultimately, the authors argued



for connected learning English pedagogy that blurs the boundaries of school and community and fosters participatory digital media cultures.

Davis, K., Ambrose, A., & Orand, M. (2017). Identity and agency in school and afterschool settings: Investigating digital media's supporting role. *Digital Culture and Education*, 9(1), 31-47. Retrieved from <http://www.digitalcultureandeducation.com/uncategorized/davis-html/>

In an attempt to understand how digital media usage offers opportunities for identity and agency, the authors conducted a yearlong investigation of urban high school students' experiences with technology in an afterschool program called Expanded Learning Experiences (ELEs). These courses were taught by community partners and observed and assessed by interdisciplinary teachers of record, who determined if students received high school elective credit for participating. Students created weekly blog posts, gave final presentations about their learning to teachers and community members, and were awarded digital badges upon successful completion of the ELEs. The researchers completed focus groups and interviews with 43 students and six teachers of record and engaged in participant observation of nine afterschool sessions (i.e., architecture and engineering; leadership and school community; English as a second language; bicycle building; and empowerment for women) and three school classes of the teachers of record (i.e., two math classes and one art class). They found differences in the ways digital media were used to support or limit student identity and agency in the ELE afterschool programs versus classrooms. After-school programs offered more opportunities for technology-facilitated connected learning that centered students' interests, offered challenging activities focused on creation, and created a shared purpose for learning between students and teachers.

Gerber, H. R., Abrams, S. S., Onwuegbuzie, A. J., & Bengé, C. L. (2014). From Mario to FIFA: What qualitative case study research suggests about games-based learning in a US classroom. *Educational Media International*, 51(1), 16-34. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/09523987.2014.889402>

This case study explores the impact of a games-based curriculum in an urban 10th-grade reading intervention class. Using a connected learning frame, two of the authors created and taught a games-based reader and writer workshop that incorporated commercial-off-the-shelf (COTS) videogames. The curriculum was aligned with state and Common Core standards and "enabled students to understand characterization, plot, narrative writing, expository writing, persuasive writing, and multimedia composition through their existing video game knowledge" (p. 20). The findings highlight the experiences of two students enrolled in the class – Briana and Fernandez – as they composed a hypothetical video game environment, avatar, and rules. To showcase the multimodal texts they created (e.g., fan-fiction, video game trailers, and online profiles), students pitched the game to a fictitious game developer. The authors concluded that the curriculum "enabled students to engage in a *constellation of connections* among digital media, traditional texts, peers, and guiding teachers" (p. 16). The authors also noted their own potential a priori biases about the use of video games to enhance learning.

Korobkova, K. A., & Rafaflov, M. (2016). Navigating digital publics for playful production: A cross-case analysis of two interest-driven online communities. *Digital Culture & Education*, 8(2). Retrieved from <http://www.digitalcultureandeducation.com/uncategorized/korobkova-html/>

Like the Davis et al. (2017) piece in this section, this research is not situated in an English classroom. Rather, it focuses on “the set of skills and strategies associated with digital publics online,” which the authors argued is “an emergent literacy practice of importance to literacy researchers and educators” (p. 77). By looking closely at two different online communities (a *One Direction* fan fiction community and LittleBigPlanet 2 video game online community) that were youth-led, digitally-mediated, interest-fueled, and production-centered, the authors showcased how youth navigate multiple publics online, strategically creating and sharing “their work across different tiers of publicity to achieve the kinds of feedback and recognition they needed for their own purposes and at their particular stage of work” (p. 86). They argued that such examinations of youth composing “in the wild” push expansion of notions of creator and audience to more fluid understandings “between collective creation and reception among others online” (p. 86). They also promote consideration of how to cultivate such practices in formal literacy instruction (e.g., teaching metaliteracy practices like navigation; supporting flexible configurations of roles and people in literacy tasks; and creating structural supports that enable rather than dismantle online play).

Schmier, S. (2014). Popular culture in a digital media studies classroom. *Literacy, 48*(1), 39-46. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/lit.12025/full>

This 18-month-long investigation in an urban middle school journalism/digital media studies classroom highlights potential affordances of incorporating popular culture into the curriculum. Using connected learning as a theoretical lens to analyze the ways students were intentionally invited to bring popular culture texts, topics, and practices into the classroom, the author showcased the experiences of three students – Marie, Vincent and Rosy. Findings suggested that the connected learning pedagogy increased the students’ ability to think and write critically about media and positioned them as increasingly confident and capable community activists. Implications are suggested for English educators, including providing choice on writing topics and modes of representation, incorporating the types of socially rewarding feedback many students experience online, and creating a community of learners.

Schmier, S., Johnson, E., & Lohnes Watulak, S. (2018). Going public: Exploring the possibilities for publishing student interest-driven writing beyond the classroom. *Australian Journal of Language and Literacy, 41*(1), 57-66.

Through a yearlong ethnographic inquiry, the authors examined the work of youth in an eighth-grade journalism/digital media studies classroom implementing connected learning pedagogy. They shared what happened when a student, Annie, went public in the school newspaper with a text that advocated for changes to her school’s physical education (PE) program. Using a critical im/materiality framework, they highlight both tensions (e.g., the PE teachers’ initial response to file a grievance against the journalism teacher and a lack of intentional conversation around power with the writers) and opportunities (e.g., repositioning students as powerful and agentive) when students’ interest-driven writing leaves the classroom and circulates amongst known and unknown audiences. Ultimately, the authors suggested implications for reimagining writing in the critical connected classroom, including examining multiple perspectives and power dynamics when engaging in local social issue writing; anticipating responses when writing goes public; and building peer networks (e.g., collective authorship and enabling peer comments) so that students’ collective voices can support and amplify individuals.

## For Further Reading

Abrams, S. S., & Russo, M. P. (2015). Layering literacies and contemporary learning. *Journal of Adolescent & Adult Literacy*, 59(2), 131-135. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/jaal.447/full>

Garcia, A., & O'Donnell-Allen, C. (2016). Wobbling with writing: Challenging existing paradigms of secondary writing instruction and finding new possibilities. *Literacy Research: Theory, Method, and Practice*, 65(1), 348-364. Retrieved from <http://journals.sagepub.com/doi/abs/10.1177/2381336916661537>

Livingstone, S. (2014) The mediatization of childhood and education: Reflections on the class. In L. Kramp, N. Carpentier, A. Hepp, I. Tomanic-Trivundza, H. Nieminen, R. Kunelius, ... R. Kilborn (Eds.). *Media practice and everyday agency in Europe*. Bremen, GE: Edition Lumière.

Stille, S., & Prasad, G. (2015). "Imaginations": Reflections on plurilingual students' creative multimodal works. *TESOL Quarterly*, 49(3), 608-621. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/tesq.240/full>

Turner, K. H., & Hicks, T. (2015). Connected reading is the heart of research. *English Journal*, 105(2), 41. Retrieved from <https://search.proquest.com/openview/04e1370cf16553c9ab7f967c76306cbe/1?pq-origsite=gscholar&cbl=42045>

West-Puckett, S. J. (July 2017). *Materializing makerspaces: Queerly composing space, time, and (what) matters*. (Doctoral dissertation, East Carolina University, Greenville, NC). Retrieved from <http://thescholarship.ecu.edu/handle/10342/6344>

## Connected Learning in K-12 Schools

**Video 3.** *Connected learning in K-12 schools.*  
(<https://youtu.be/iCkHuXnq6BA>)

This section features connected learning research in K-12 schools focused on disciplines other than ELA or literacy, broadly defined. Studies selected for this section drew on the connected learning framework substantively in the theoretical framing or methods. The connected learning framework was used in combination with a number of other conceptual frameworks and theories, including New Literacy Studies, Transmedia Play, Cultural Historical Activity Theory, and critical pedagogies. There were a number of conference proceedings and dissertations and relatively few empirical research studies in this category – perhaps unsurprising given that connected learning argues that learning should happen across contexts and settings. Thus, situating a study primarily in a school setting in some ways might be considered antithetical to the connected learning framework. However, the literature presented here speaks to the possibility and opportunities of using the connected learning framework in school settings, while also highlighting the importance of learning ecologies. Learning ecologies are not only about the relationships between young people's in- and out-of-school experiences with digital technologies. The literature in this section points to the importance of also examining the multiple spaces within schools (classrooms, libraries, and media production areas) that may support students' learning in powerful

ways. The literature in this section falls into four broad categories: STEM (science, technology, engineering, and mathematics), computer science, digital media, and gaming. Much of the literature in this section focuses on the potential of digital technologies to help young people develop identities related to careers in career and technical education, STEM, and computer science. (Lindy L. Johnson and Katalin Wargo, Lead Contributors)

Bjørgen, A. M., & Erstad, O. (2015). The connected child: Tracing digital literacy from school to leisure. *Pedagogies: An International Journal, 10(2)*, 113-127. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/1554480X.2014.977290>

This article examines the intersection between children's in-school and out-of-school digital practices. The authors used the concept of the connected child and New Literacy Studies as frameworks to show relationships between schooled and out-of-school digital literacy. Specifically, they explored the connect and disconnect inherent in the transition from school to leisure, investigating how students make sense of the connections they experience across these different settings and how students connect identities across contexts. The authors contended that digital practices in school have an impact on the development of digital practices outside of school.

González-Patiño, J., & Esteban-Guitart, M. (2014). Some of the challenges and experiences of formal education in a Mobile-Centric Society (MCS). *Digital Education Review, 25*, 64-86. Retrieved from <http://revistes.ub.edu/index.php/der/article/view/11329>

In this article, the authors argued that formal institutions, such as schools, are social contexts that shape and are shaped by larger economic, cultural, and historical forces. As such, schools should be responsive to emerging learning ecologies and the increasingly fluid and dynamic nature of learning. Drawing on the work of social psychologists, the authors examined the ways in which digital media impacts society on both a psychological and social level. The authors used the term "mobile-centric society" to emphasize the crucial role that mobile devices have in mediating individuals' interactions with their physical and online worlds. The authors offered connected learning as a promising approach to addressing the challenges posed by a mobile-centric society.

Jocson, K. M. (2016). 'Put Us on the Map': Place-based media production and critical inquiry in CTE. *International Journal of Qualitative Studies in Education, 29(10)*, 1269-1286. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/09518398.2016.1192698>

In this study, the author conducted a year-long ethnography of a multimedia communications class within the context of a high school career and technical education (CTE) program. The article explored place-based education in the context of youth media production. The author collaborated with a CTE teacher to generate a number of conjectures about student learning, including the importance of connections between social spaces and providing students with a variety of resources to create multimedia productions. The article highlights the learning ecology created among the classroom, media center, school television studios, and community spaces. The author found that place-based media production supported students' in the arts and technology. Place-based media production provided opportunities for students to weave their lives into their learning. Further, the author found that integrating academic and technical knowledge was essential to innovating the pedagogical practices in the career and technical education program.

Rodrigues, P., & Bidarra, J. (2015). Design of a transmedia project targeted to language learning. In ARTECH 2015: 7th International Conference on Digital Arts, Artech International. Retrieved from <https://repositorioaberto.uab.pt/handle/10400.2/4452>

This case study explored the design of a project conducted with English language learners aimed at connecting storytelling with transmedia. It examined the specific learning goals and strategies used in the project in an effort to guide educators in the transition into creating more learner-centered environments reflective of the needs of 21<sup>st</sup>-century learners. It used Transmedia Play and Connected Learning as frameworks to foster collaborative processes and to engage learners through the use of media. The authors contended that the design of the transmedia environment is instrumental in cultivating collaborative practices, engagement in topics, and personalized learning spaces.

Ryoo, J. J. (2013). Pedagogy matters: Engaging diverse students as community researchers in three computer science classrooms. Retrieved from escholarship UCLA: <https://escholarship.org/uc/item/1qj8c044>

This dissertation focuses on a qualitative case study of a course called “Discovering Computer Science,” aimed at increasing access for diverse students and females to rigorous computer science education. The study examined effective teaching and student learning through Cultural Historical Activity Theory and critical pedagogies in order to shed light on how to engage diverse students with computer science practices. The author defined effective teaching as a combination of humor mixed with “Connected Computer Science Pedagogy,” which is comprised of three facets: making the learning personally relevant, indicating how computer science can address social issues, and the use of collaborative learning. Key indicators of student learning were new conceptualizations of data and feeling empowered as community researchers. The author argued that computer science education must make a shift from play with fascinating tech tools to learning that is undergirded by a foundation in curricular content, effective teaching, and community interest.

### For Further Reading

Ahn, J., Subramaniam, M., Bonsignore, E., Pellicone, A., Waugh, A., & Yip, J. (2014). I want to be a game designer or scientist”: Connected learning and developing identities with urban, African-American youth. In *Proceedings of the 11th International Conference of the Learning Sciences (ICLS 2014)* (pp. 657-664). Retrieved from <http://www.cs.umd.edu/hcil/trs/2014-04/2014-04.pdf>

### Connected Learning Across Formal and Informal Settings

**Video 4.** *Connected learning across settings.*  
<https://youtu.be/81Vll3F-CZ0>

This section includes articles that drew explicit connections between K-16 schooling and out-of-school learning contexts, including after-school programs, museum-based programs, online interactions, digital badging, and gaming (Video 4). Contexts and sites for investigation include international locations (e.g., the Netherlands and China) and extend across urban and rural areas. There are two kinds of articles in the section: First, conceptual articles point to the possibilities of interest-driven learning across contexts.

Some of these articles use examples from the authors' empirical work to flesh out their conceptual arguments, while others briefly review others' empirical work. Empirical studies investigating connected learning that moves across formal and informal learning comprise the second set of articles. These studies often employed innovative, and sometimes participatory, methods for investigating learning on the move. Related, some pieces in this section include evidence for learning in and across settings, while other pieces were more embedded in one setting but include implications for learning across contexts. The premise of all of the studies in this section is that new technologies and networking possibilities afford new kinds of learning. Connected learning is one model to explain or theorize about possibilities for this kind of learning that is interest driven and connected to academic learning, but a research base needs more development to better understand challenges and opportunities for implementing connected learning across contexts. (Nathan C. Phillips, Lead Contributor)

Campbell, J. A., Aragon, C., Davis, K., Evans, S., Evans, A., & Randall, D. P. (2016, February-March). Thousands of positive reviews: Distributed mentoring in online fan communities. In *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing, CSCW 2016* (pp. 691-704). New York, NY: The Association for Computing Machinery. Retrieved from <https://dl.acm.org/citation.cfm?id=2819934>

This article drew from a 9-month ethnographic study of online fanfiction communities. Utilizing innovative methods to interact with communities and fanfiction authors, the researchers focused on particular fandoms, interacted on popular fanfiction sites focused on these fandoms, and interviewed 28 young fanfiction authors. Participant observation included the research team publishing their own fanfiction while interacting in fanfiction communities. Based on their findings, the researchers propose a theory of distributed mentoring based on frameworks of distributed cognition and mentoring. Distributed mentoring differs from mentoring models that focus on experienced practitioners mentoring less experienced practitioners and, instead, involves “a rich and interwoven tapestry of interactive, cumulatively sophisticated advice and informal instruction that add[s] up to a networked experience” (p. 699). Distributed mentoring, which the researchers argued is mostly likely to be found in online affinity spaces, involves seven key attributes that distinguish it from more traditional mentoring models: aggregation, accretion, acceleration, abundance, availability, asynchronicity, and affect. The article argued that distributed mentoring could be applied to formal educational contexts – including in schools – and to other informal learning contexts.

Casilli, C., & Hickey, D. (2016). Transcending conventional credentialing and assessment paradigms with information-rich digital badges. *The Information Society*, 32(2), 117-129. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/01972243.2016.1130500>

Written by authors who participated in the development, design, and evaluation of open digital badges, this article describes the history of badging and predicts the potential future impact of open digital badges on formal and informal learning. Open digital badges, as articulated here, are “Web-enabled tokens of learning and accomplishment” (p. 117). The authors argued that open digital badges are a unique credentialing system, differentiated from traditional school-based credentials (e.g., grades and transcripts), because they allow badge issuers (e.g., teachers, instructors, and mentors) to attach detailed evidence to claims about a badge earner’s experience, skills, or competencies. For each badge, such evidence is stored within an information-rich set of metadata that can be accessed by those

reviewing the badges (e.g., employers and educators). Because the badges are stored digitally (e.g., in an Open Badge Backpack available at no cost from Mozilla), they can be shared widely across social networks and other digital distribution channels. Additionally, “because open digital badges contain earner-controlled information and because they circulate in social networks, they have significant consequences for formal (i.e., accredited) schooling and informal interest-driven learning – and everything in between” (p. 118). The authors included connected learning as one of five developments driving demand for new forms of credentialing and noted that all of the badge systems highlighted in the article “appear entirely consistent with the goals of connected learning” (p. 122). The article concludes with predictions about the ways that open badges may influence assessment and other aspects of formal and informal learning.

Davis, K., & Fullerton, S. (2016). Connected learning in and after school: Exploring technology’s role in the learning experiences of diverse high school students. *The Information Society, 32*(2), 98-116. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/01972243.2016.1130498>

Positing that new media technologies have the possibility to transform learning processes and that models of learning are needed that can articulate how technologies support learning, this article explored one such model – connected learning (Ito et al., 2013). In a study of one network of high school after-school programs in the northeastern United States, the authors investigated students’ experiences with connected learning in school and in after-school settings through interviews, focus groups, and observations. Their focus was on a particular student population – “non-dominant youth, who are defined as members of diverse cultural groups that have traditionally been excluded from institutionalized sources of privilege” (p. 98). They found that students had significantly more connected learning opportunities in the after-school settings than they did in school. Their analysis drew on two theories from the field of information behavior to explore and explain opportunities and challenges of connected learning in school and out of school: Fisher’s theory of information grounds (e.g., Fisher, Durrance, & Hinton, 2004) and Chatman’s (1999) theory of life in the round. The authors argued that Fisher’s theory explains the success of connected learning in after-school settings and the challenge of connected learning in school. Information grounds are social settings where “individuals may gather for one purpose [(e.g., a salon, a playground)], but in the process of their informal social interactions they encounter new ideas, form new relationships, and move in unanticipated directions” (p. 100). The authors argued that an essential element of connected learning is youth “engag[ing] in unrestricted, spontaneous interactions with people who share a common purpose” (p. 100), which is a hallmark of after-school learning and very difficult in school teaching and learning. Chatman’s theory of life in the round, according to the article, pointed to a challenge of connected learning. The theory of life in the round describes “small worlds” with specific social norms and shared worldviews and argues that it is rare for individuals to cross out of a particular life in the round. In their study, the authors found that young people had a difficult time sharing what they were learning and doing in the after-school program with peers and others who were not in that particular small world.

De Haan, M., Leander, K., Ünlüsoy, A., & Prinsen, F. (2014). Challenging ideals of connected learning: The networked configurations for learning of migrant youth in the Netherlands. *Learning, Media and Technology, 39*(4), 507-535. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/17439884.2014.964256>

This article challenges what the authors identified as “ideals of connectivity” – networked practices that have been described in conceptual and theoretical pieces about contemporary learning, including young people having access to multiple resources from which they can individually tailor rich learning experiences. The authors cautioned that “for researchers a present challenge [is] to remain open to a great variation in networked practices for learning, and to not mistake concept pieces about learning networks (e.g., Ito et al. 2013), written at the early edge of empirical works, as empirical descriptions of variation that may possibly be great” (p. 530). The researchers argued that the ideals of connectivity advanced in learning models such as connected learning “must be tested in the crucible of empirical data through the analysis of the actual socio-technical practices of different social and cultural groups” (p. 507). They presented such a test by reporting on data from a study of youth from Native Dutch, Moroccan-Dutch, and Turkish-Dutch backgrounds in the Netherlands. The researchers conducted Social (Ego) Network Interviews with 79 youth (roughly a third of the interviews were from each of the groups of youth). These interviews involved building social networks for each of the youth interviewed and complementing network analysis with in-depth interviews about the nature of the people and relationships identified in the networks, including the kinds of learning taking place in young people’s online and offline networks. The authors found significant differences among these three groups of youth in the Netherlands with respect to their learning across online/offline networks. They described the Dutch youth as “unrooted learners” who utilized the internet to create alternate spaces with old and new friends, some of whom were close by and others at quite a distance. The Moroccan-Dutch youth were identified as “routed learners” who used the internet to build an alternate socialization space where they could interact with people and participate in conversations that would be taboo in their offline worlds. The Turkish-Dutch youth were described as “rooted learners” who interacted online primarily with people within their offline network who were part of their ethnic community.

Deng, L., Connelly, J., & Lau, M. (2016). Interest-driven digital practices of secondary students: Cases of connected learning. *Learning, Culture and Social Interaction*, 9, 45-54. Retrieved from <http://www.sciencedirect.com/science/article/pii/S221065611530026X>

Drawing data from a large-scale project investigating the connected learning and digital engagement of youth in and out of school in Hong Kong and China, this article reported three case studies of Chinese 15-year-olds attending boarding school in a semi-urban region in Southern China. The authors sought to understand these three young people’s interest-driven digital practices and their connections between formal in-school learning. The researchers conducted semistructured interviews with the students and, with their consent, tracked their online activity, including their writing in online forums and their posts on social networking sites. All three students were initially identified through questionnaires and focus group interviews as highly active digital learners. The article briefly described each of the students’ interest-driven digital profiles – for example, Mei’s photography, Ling’s love of English pop music and TV drama series, and Peng’s recommending and trading electronic products. Across the three case studies, the researchers found that although the school severely restricted access to the internet and their personal mobile devices during the day, these students’ interest-driven learning out of school was connected to their in-school learning, their extra-curricular activities in school, and encouragement from their school teachers. A key finding related to learning across contexts was that “school-based extra-curricular learning spaces provided a bridge for capitalizing on



informal learning mechanisms for the utilization in formal in-school learning” (p. 52).

Niemeyer, D. J., & Gerber, H. R. (2015). Maker culture and Minecraft: Implications for the future of learning. *Educational Media International*, 52(3), 216-226. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/09523987.2015.1075103>

Focusing on five people, adults and youth, who host YouTube channels featuring walkthroughs, commentaries, and helpful how-tos for the videogame Minecraft, this paper posited the concept of “digital maker culture” as a way to understand digital creations that act as paratexts to videogames and to consider implications for learning in school. The authors watched an average of 10 of the most recent videos created on each of the five channels, categorized the characteristics of what they called “maker culture in *Minecraft* virtual communities,” and considered implications for learning in school. The authors argued that “while traditionally maker culture has referred to tangible outcomes and designs, we posit that digital creations are equally compelling to study and provide an arena for studying digital maker culture” (p. 8), which they saw as related to the frameworks of constructionism and connected learning. The article identified three implications for classroom learning based on the study: (a) “students show knowledge through creation of tangible artefacts and/or digital media,” (b) “students participate in collaborative environments, both in the classroom and online,” (c) “students share knowledge with other students, in their classroom and online” (p. 9). They argued that these implications from studying digital maker culture communities suggest “dynamic ways to restructure classroom environments that foster learning in new ways in the twenty-first century” (p. 10).

Penuel, W. R., Van Horne, K., DiGiacomo, D. K., & Kirshner, B. (2016). A social practice theory of learning and becoming across contexts and time. *Frontline Learning Research*, 4(4), 30-38. Retrieved from <https://journals.sfu.ca/flr/flr/index.php/journal/article/view/205>

In this conceptual paper, the authors argued for social practice theory as a guide for studying learning across settings and time. Drawing data from a larger study of youth experiences with connected learning, the authors ground their conceptual argument for social practice theory in one case study of a young person named Jerome’s interest-driven learning. A social practice theory of learning foregrounds people in practice as the unit of analysis and attends to movement across space and time, to agency in practice, and to individual learning in interaction with structures and histories of practice. Jerome was a participant in a Pathways to Science program at a science museum in the Western United States, and the case study highlighted Jerome’s initial challenges in participating in a community at the museum very different from his home community, as well as his expanded access to opportunities to engage in scientific practices and discourse and to consider his imagined future as a scientist. The article offers social practice theory as a more expansive framework for understanding youth learning in and across formal and informal settings and, therefore, potentially more powerful in suggesting policy levers to support broader participation in STEM.

Won, S. G. L., Evans, M. A., Carey, C., & Schnittka, C. G. (2015). Youth appropriation of social media for collaborative and facilitated design-based learning. *Computers in Human Behavior*, 50, 385-391. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0747563215003040>

This article explores the ways that middle school age youth utilized Edmodo, a social networking forum (SNF) that looks similar to Facebook and was designed for K-8 use in schools, while participating in Studio STEM, an after-school program with a goal of connecting school concepts of STEM learning and design-based projects. The authors stated that SNFs are increasingly used in educational settings but that there is little empirical evidence regarding the affordances and limitations of integrating SNFs into teaching and learning settings. The researchers identified connected learning as the theoretical framework for their study and as central to the purpose of Studio STEM to blend formal and informal learning. In three Studio STEM sites in rural southwest Virginia, the researchers surveyed participating youth to understand their internet and SNF use at home and in school. Researchers also analyzed Edmodo posts of youth participating in Studio STEM, who were encouraged to use Edmodo during program time as well as outside of program time. The researchers found, "The material process of construction, testing, and retesting during Studio STEM sessions may have been enhanced through youth having the ability to document and share their design ideas through the informal learning environment" (p. 390).

### For Further Reading

Bilandzic, M. V. (2013). The embodied hybrid space: Designing social and digital interventions to facilitate connected learning in coworking spaces (Doctoral dissertation, Queensland University of Technology, Queensland, Australia). Retrieved from <https://eprints.qut.edu.au/62872/>

Harlan, M. A. (2016). Connection information: Connected learning and information practices. *School Libraries Worldwide*, 22(1), 110-125. Retrieved from <https://search.proquest.com/openview/6352fb5d0062989f8ad42abd99c5c772/1?pq-origsite=scholar&cbl=45830>

Lewis Ellison, T. (2017). Digital participation, agency, and choice: An African American youth's digital storytelling about Minecraft. *Journal of Adolescent & Adult Literacy*, 61(1), 25-35. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/jaal.645/full>

Paez, P. T. (2015). *Literacy and learning across physical and digital spaces: A case study in a blended primary classroom*. (Doctoral dissertation, University of Sydney, Sydney, Australia). Retrieved from <https://ses.library.usyd.edu.au/handle/2123/13951>

Rodrigues, P., & Bidarra, J. (2014). Transmedia storytelling and the creation of a converging space of educational practices. *iJET*, 9(6), 42-48. Retrieved from <https://repositorioaberto.uab.pt/handle/10400.2/3654>

### Connected Learning in Higher Education

**Video 5.** *Connected learning in higher education.*  
<https://youtu.be/5TdlXplO49c>

The articles in this section represent research studies that were situated in postsecondary contexts, with the exception of teacher preparation, which is highlighted in its own section (Video 5). Notably, each of the articles represents a different discipline – engineering,

social work, language learning, doctoral student learning, architecture – which speaks both to the diversity of the contexts in which connected learning is being used and applied and the flexibility of the connected learning framework to illuminate teaching and learning across disciplines. Connected learning was central to all of the annotated studies, used as a design framework or theoretical/analytic framework. (Sarah Lohnes Watulak, Lead Contributor)

Baker, L., & Iverson Hitchcock, L. (2017). Using Pinterest in undergraduate social work education: Assignment development and pilot study results. *Journal of Social Work Education, 53*(3), 535-545. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/10437797.2016.1272515>

This article describes the development and implementation of a Pinterest as a social media-based Personal Learning Network tool in an undergraduate social work class and shares findings of a mixed-methods survey regarding student experiences of and attitudes toward the Pinterest assignment. For the assignment, students created board related to the broad topics of the course, and were required to pin a minimum of five resources to each board. In addition, students were required to write and post a reflection on how the pinned resource related to the course topic. Connected learning was used to frame the pedagogical approach guiding the design of the Pinterest activity and also surfaced as a theme in the analysis of the survey results. 21 students across two courses responded to the survey. Results indicated that the students appreciated the connected nature of the learning activity, particularly the ways in which it allowed their interest to drive pin board content, and the opportunity to connect with resources and networks outside of the classroom. In addition, while students had not considered Pinterest as a professional or academic activity before the assignment, afterward they were able to articulate the value of creating and maintaining a Personal Learning Network in their professional lives. The authors suggested that further research explore the development of best practices for using social media in social work education.

Brown, C., Czerniewicz, L., & Noakes, T. (2016). Online content creation: Looking at students' social media practices through a connected learning lens. *Learning, Media and Technology, 41*(1), 140-159. doi: 10.1080/17439884.2015.1107097

The authors used the connected learning framework to investigate the content creation practices, trajectories, and contexts of three South African university students. Using a digital ethnography approach, the study traced their content creation from formal to informal and online to offline contexts, as well as over time (from first to third year of study). The connected learning framework was broken down into indicators and used to guide data analysis. Findings revealed the ways in which the creative production of the three students resulted in a shift toward agency and expertise that opened up opportunities for personal growth; “digital literacy ... shifted to becoming a part of their identities.” Their content creation practices also tied personal interests with academic interests, suggesting that connected learning experiences situated within disciplinary coursework might provide further opportunity for connecting students to resources and “exposure to a wider audience.”

Fordyce, R., Heemsbergen, L., Mignone, P., & Nansen, B. (2015). 3D printing and university makerspaces: Surveying countercultural communities in institutional settings. *Digital Culture & Education, 7*(2), 192-205. Retrieved from <http://www.digitalcultureandeducation.com/uncategorized/fordyce.html/>

Situated in an Australian university's school of engineering, the article describes efforts to introduce 3D printing skills and practices to the university and broader community via an informal workshop setting. The workshop design drew on connected learning principles to create an openly networked, problem-based learning space. The findings illustrate the tensions that can arise when historically counterculture practices and progressive pedagogies and formats are located inside institutional cultures and constraints. The authors suggested that identifying a shared cultural or instrumental vision for 3D printing, as well as a "clear and purposive" approach to engagement with 3D printing, would assist in the development of a maker culture and community within the workshop space.

Harrison, M., Uusipaikka, M., Karinen, A., Räsänen, T., Raitala, D., Ellonen, R., ... & Tuomela, O. (2013). Bridging passion and profession: Supporting agency and investment in multilingual university writers. *Language Learning in Higher Education, 3*(1), 1-25. Retrieved from <https://www.degruyter.com/view/j/cercles.2013.3.issue-1/cercles-2013-0001/cercles-2013-0001.xml>

This paper explores the role of agency in a project-based learning assignment that attempted to bridge student personal and professional interests in a required second language communication and composition course that focused on academic English skills. The authors highlighted the evolving conceptualizations of student agency, from motivation, to investment in one's learning and some degree of control over the process, to the notion that agency leads to motivation. This latter idea, which the authors called "passion learning" and suggested is a component of connected learning, framed the study. Students were asked to conceptualize their research paper project by using a mind map to explicitly connect a personal interest with a professional interest and weave that into the topic of a research paper. Findings illuminate the ways in which the students' experience of investment and agency was linked to this explicit connection and the opportunity to capitalize on passion-driven projects as well as aspects of identity development, power, and support. The authors pointed to the "humanizing pedagogy" at the heart of this type of connected learning and suggested that longitudinal research can further shed light on the ways in which passion-driven learning projects support student learning.

### **For Further Reading**

Bourelle, A., Bourelle, T., Knutson, A. V., & Spong, S. (2016). Sites of multimodal literacy: Comparing student learning in online and face-to-face environments. *Computers and Composition, 39*, 55-70. Retrieved from <http://www.sciencedirect.com/science/article/pii/S8755461515000912>

Caldwell, G. A., Osborne, L., Mewburn, I., & Nottingham, A. (2016). Connecting the space between design and research: Explorations in participatory research supervision. *Educational Philosophy and Theory, 48*(13), 1352-1367. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/00131857.2015.1111129>

DiZio, J. K. (2017). *Digital writing in the academy: Gains, losses, and rigorous playfulness* (Doctoral dissertation, University of California, Berkeley, CA). Retrieved from <https://search.proquest.com/docview/1925001462?pq-origsite=gscholar>

Jocson, K. M. (2015). New media literacies as social action: The centrality of pedagogy in the politics of knowledge production. *Curriculum Inquiry*, 45(1), 30-51. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/03626784.2014.982490>

Kennedy, J. V. (2016). *Being, belonging, and becoming in immersive complexity: A post-intentional phenomenological analysis of connectedness in doctoral students' personal learning networks* (Doctoral dissertation, University of Minnesota, Minneapolis, MN). Retrieved from <https://search.proquest.com/docview/1841288693?pq-origsite=gscholar>

Meira, A. T. (2014). Rethinking the dissertation: A case study on the state of acceptance of new media projects as Ed. D. capstone experiences (Doctoral dissertation, Baylor University, Waco, TX). Retrieved from <https://search.proquest.com/docview/1651525015?pq-origsite=gscholar>

Won, S. G. L. (2015). *Social media as connected learning technology: A mixed methods investigation of Facebook for undergraduate education*. (Doctoral dissertation, Virginia Tech, Blacksburg, VA). Retrieved from <https://vtechworks.lib.vt.edu/handle/10919/51995>

Yeager, C., Hurley-Dasgupta, B., & Bliss, C. A. (2013). CMOOCs and global learning: An authentic alternative. *Journal of Asynchronous Learning Networks*, 17(2), 133-147. Retrieved from <https://eric.ed.gov/?id=EJ1018269>

## Connected Learning Inquiry and Research Methods

**Video 6.** *Connected learning inquiry methods.*  
<https://youtu.be/SUnWYEHVhHM>

The research included in this section focused on research methodologies and methods that were first imagined, designed, and field tested in inquiry into connected learning in and across educational settings (Video 6). Priority was given to studies that focused on aspects related to English education, such as media, composition, and literacies, as well as its teaching and teacher education. Another priority in this section was to represent the range of approaches currently being taken up in research efforts. The approaches predominantly included survey instrument construction, participatory inquiry with youth and communities, multisited, and transliteracies approaches, and interpretation of network data analytics. Many new methods are still in development and are represented primarily in conference proceedings. (Anna Smith, Lead Contributor)

Kumpulainen, K., & Sefton-Green, J. (2014). What is connected learning and how to research it? *International Journal of Learning and Media*, 4(2), 7-18. doi:10.1162/IJLM\_a\_00091

After providing extended definitions of connected learning, the authors argued that connected learning can be researched as a sociocultural phenomenon as well as used as an analytical frame. In either case, to gain access to holistic appreciation of youths' learning, researchers must attune themselves to the processes of connection (rather than the results) and boundary crossing at various timescales. The authors further argued that research into connected learning as a phenomenon is granted more authority or legitimacy when the data are coconstructed with participants. They suggested that theoretical concepts such as chronotopes and intertextuality are particularly well suited to studying youths'

“learning lives.” Taking a learning lives approach is in itself the final suggestion for researchers. This entails close study of individuals, cohorts, or intergenerational groups to chart holistic learning across time and space.

Maul, A., Penuel, W., Dadey, N., Gallagher, L., Podkul, T., & Price, E. (2016). Measuring experiences of interest-related pursuits in connected learning. *Educational Technology Research & Development*, 65(1). doi 10.1007/s11423-016-9453-6

This article details the development and field-testing of a survey instrument for measuring youths’ technology-supported interest-related pursuits. The authors were interested in operationalizing three constructs: engagement in an interest-related pursuit, peer support and encouragement, and technology usage as it relates to media production. Researchers also asked about connections to academic goals, adult involvement, and technology access. Development of the survey instrument involved theoretical construct mapping and comparison to inductively coded interviews. The survey indicators conceptually mapped to the connected learning principles, shared purpose, interest powered, and peer supported, were found to have validity and reliability after field-testing and revision.

Mirra, N., Filipiak, D., & Garcia, A. (2015). Revolutionizing inquiry in urban English classrooms: Pursuing voice and justice through youth participatory action research. *English Journal*, 105(2), 49. Retrieved from <http://www.ncte.org/library/NCTEFiles/Resources/Journals/EJ/1052-nov2015/EJ1052Revolutionizing.pdf>

Addressed to practicing English educators, this article outlines three Youth Participatory Action Research projects the authors engaged in with youth in schools. Each case articulated the central tenants, both in terms of theory and practice, of the research approach: Research, Action, and Participation. Critical literacy, agency, and real world academic engagement are highlighted. Connected learning is discussed as a framework within the Participation section in order to provide an example of the ways educators can respond to the contemporary participatory culture and youths’ interests.

Vossoughi, S., & Gutiérrez, K. (2014). Studying movement, hybridity, and change: Toward a multi-sited sensibility for research on learning across contexts and borders. *National Society for the Study of Education*, 113(2), 603-632. Retrieved from <http://www.sesp.northwestern.edu/docs/publications/4140504435463b22673f60.pdf>

Multisited studies use approaches such as tracing or mapping to study connections across sites. The authors suggested that multisited inquiry should engage at least two activity systems and conceive of learning as “movement” within and across activity systems. Researchers are encouraged to follow the lead of participants and their artifacts, objects, metaphors, and so forth, by moving across settings and engaging with youth participants and adults (parents, mentors, and educators) in other settings to gauge the nature of relationships between sites and to reframe their understandings of youth participation. Researchers are encouraged to attune themselves to the social and political realities that produce boundaries – both material and social – and around which youth must navigate. In this way, a multisited study is well suited to connected learning interests in equity-oriented research with youth from nondominant communities.

## For Further Reading

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### Author Note

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