



Title of Project:

Digital Identities, Educational Inequities: Investigating
Social Class and New Literacies of Migrant Filipino
Youth in the Knowledge Economy

Researcher:

Ron Darvin
University of British Columbia
ron.darvin@ubc.ca



Ron Darvin

Research Supervisor:

Dr. Bonny Norton
University of British Columbia

Final Report

Motivation for the Research

More than three decades after Heath (1983) published her ground breaking ethnographic study comparing the literacy practices of black and white working-class communities and mainstream townspeople in the U.S., the world has drastically changed. Technology has not only facilitated the rapid transnational flow of people, capital, and ideas (Appadurai, 1990; Basch, Schiller, & Blanc, 1994), but also reshaped both the meaning and practice of literacy (Cope & Kalantzis, 2012, 2013; Lankshear & Knobel, 2006, 2012). By enabling the growth of diverse semiotic modes, cross-language interaction, and new forms of social interaction (C. Luke, 2003; Warschauer, 2009), it has permeated all aspects of human life and constituted new identifications, allegiances, and relations. In a knowledge economy where production and services are largely based on information processing and knowledge creation (Powell & Snellman, 2004), technology has become the critical factor in generating and accessing power (Castells, 2010). Structuring a new work order where classes of knowledge workers emerge, it has warranted the acquisition of new literacies that have become necessary for upward social mobility (Jones & Hafner, 2012). Responding to this current landscape, education is confronted with new challenges as it prepares students to fill the labour needs of this knowledge economy. As schools have become focused on building digital infrastructure and integrating technology into curricula, the achievement gap between rich and poor children in the U.S. has been increasing to twice that of white and black children (Jones & Vagle, 2013). How this class-inscribed trend is linked to the convergence of technology and education demands further examination. In this increasingly digitally-mediated world, we need to ask who are developing the literacies that matter and who are at risk of being left out? It is precisely these issues of educational equity that this study investigates.

Research Questions

Focusing its analytic gaze on migrant Filipino youth in Vancouver, this study examines, in the context of the knowledge economy in the following ways: (1) the intersection of technology, literacy, and social class—the latter being a construct inadequately theorized in language and literacy education (Block, 2012; Block, Holborow, & Gray, 2012); and (2) the impact of this convergence on educational theory, policy, and practice (Cummins, Mirza, & Stille, 2012; Hornberger & Johnson, 2007; Norton, 2013).



Because technology seeps into classrooms and becomes an integral part of the educational system, this study ultimately seeks to understand how such innovations can develop new literacies while reproducing certain inequities, and, thereby, ineluctably altering the social trajectories of learners in the 21st century.

To understand the educational and social ramifications of the different ways digital literacies are developed and valued, this research poses the following research questions:

1. How do social class differences of Generation 1.5 Filipino migrant youth shape their investment in digital literacies?
 - Are there class-based views on the purpose of technology and the relevance of specific digital literacies?
 - How is the development of digital literacies shaped by the possession of varying levels of economic, cultural, and social capital?
 - In what ways do different digital literacies provide learners with varied contexts for second language acquisition?
2. To what extent do personal devices, home settings, and mentors shape these digital literacies?
3. To what extent are digital literacies developed at home recognized and valued in educational policy and pedagogical practices?

By addressing these questions, this study seeks to understand the digital literacy practices of migrant youth from diverse class positions, the ways in which they are socialized into these practices, and how these practices can position them in school.

Research Methodology

Data in this study were collected through the following methods:

1. *Participant observation*, which included observing how participants would use digital devices at home, in the classroom, and in virtual spaces. Low inference descriptions of these observations were recorded in field notes, where I also reflected, raised questions and theorized on what was being observed.
2. *Questionnaires*, where learners provided demographic information, including details about the devices, apps, and programs they use.
3. *Interviews* of students, teachers, administrators, and parents. These interviews were semi-structured e.g. asking students about the devices or apps they use, or narrative e.g. asking students to recount their migration experiences or their educational trajectories. Some interviews were conducted as students demonstrated and explained their digital practices. In this case, their own social media profiles, pictures, etc. served as elicitation devices during these interviews. Each interview took 45 to 60 minutes, and were recorded using Voice Memos on iPhone, and then transcribed using Express Scribe.
4. *Group discussions*, where focal participants from a particular school gathered together to discuss and exchange ideas regarding their digital practices. In this situation, the students were gathered in a circle, and I would begin by asking a specific question, and students responded as they pleased.
5. *Journals*, where learners jotted down their own experiences and reflections on their own digital practices, with guide questions provided at the beginning of the research period. In some cases



where participants were not able to keep a journal, they wrote on journal sheets where they answered questions regarding their technology use.

6. *Digital artefacts*, which include digital texts produced by the focal participants (e.g. photos or social media posts), or screen captures of websites or apps that the focal participants were using while being observed. In many cases, I took pictures of the artefacts themselves, and would ask for the permission of the student each time. Taking a picture of the digital artefact as it appeared on a particular device served both practical and methodological purposes: I would not have to rely on the participant to connect with me online and send the artefacts, and these pictures allowed a visualization of these artefacts in both their digital and physical contexts. I collected more than 150 photos of these artefacts, including those of teachers.

Summary of Findings

What the study has confirmed unequivocally, through observations of the digital practices and dispositions of the learners, is that one cannot ascribe a single, neutral digital competence to these “digital natives.” While many of them may be adept in digital practices that serve recreational and relational purposes, there is still much for them to learn to expand these practices to encompass the full range of digital affordances and to extend operational skills to a more strategic and critical competence. The popular binary opposition of digital native and digital immigrant (Prensky, 2001) has the power to erase how these diverse literacies are distributed across a spectrum, operating through cultures-of-use and ideological attributions of value. Because of the dichotomizing nature of these constructs, some teachers become convinced that they cannot achieve “native” competence, while students themselves assume adeptness has been thrust upon them by virtue of their being part of a generation that was born into technology. By accepting this essentialized notion, learners may be convinced that their existing digital literacies already encompass the full extent of technological potential or that these digital literacies are acquired effortlessly. What this study asserts, however, is that while some learners may be socialized into digital practices and cultures-of-use that are valued by schools and teachers, there are those who do not necessarily have the social and cultural resources that comprise digital repertoires necessary for more agentive technology use. As power operates in both physical and digital contexts and in the hidden layers of sociotechnical structures and algorithmic processes, how learners are able to negotiate their various resources can determine their access to and participation in diverse online spaces. Students’ unequal digital repertoires determine modes of inclusion and exclusion and their capacity to acquire new forms of economic, cultural, linguistic and social capital. At the same time, a lack of awareness of these differences and an uncritical understanding of what comprises digital literacies can contribute to technology-centered educational policies and curricula that duplicate neoliberal discourses of individualism, deregulation, consumerism, and ultimately reproduce social inequalities.

Implications

In laying the foundations for digital infrastructure and technology centered learning standards in schools, policymakers need to employ a critical lens to recognize the situatedness of technology use. How technology is perceived and used varies not just within a particular classroom, school, or pedagogy, but also within the social and cultural conditions of out-of-school contexts (North, Snyder & Bulfin, 2008; Prinsloo & Rowsell, 2012). An autonomous notion of digital literacies assumes that they have a general applicability and operate in a general manner, regardless of local configurations. Assuming this generality and universality of function and practice, however, disregards the “differentiated, situated and enculturated ways in which digital practices happen” (Snyder & Prinsloo, 2007, p. 173). Policy makers need to be aware that technology choices have social and economic implications, privileging



The International Research Foundation
for English Language Education

some and marginalizing others. Hence, the construction and implementation of policies such as bring your own device (BYOD) or flipped learning require an understanding of how learners access and use technology in unequal ways. Educational policies need to consider these inequities to ensure that technology integration in curricula and pedagogy does not exclude, but provides agentive possibilities for, learners of different social backgrounds.



References

- Abidin, C. (2014). #In\$tagLam: Instagram as a repository of taste, a burgeoning marketplace, a war of eyeballs. In M. Berry & M. Schleser (Eds.), *Mobile media making in an age of smartphones* (pp. 119–128). New York, NY: Palgrave Macmillan. <https://doi.org/10.1057/9781137469816.0017>
- Albert, J. R., Gaspar, R., & Raymundo, M. J. (2015). Who are the middle class? *Rappler*. Retrieved from <https://www.rappler.com/thought-leaders/98624-who-are-middle-class>
- Althusser, L. (1971). Ideology and ideological state apparatuses (notes towards an investigation). In *Lenin and philosophy and other essays* (pp. 127–186). New York, NY: Monthly Review Press.
- Anderson, B. (1991). *Imagined communities: Reflections on the origin and spread of nationalism* (Rev. ed). London, UK: Verso.
- Anderson, J., Anderson, A., Friedrich, N., & Kim, J. E. (2010). Taking stock of family literacy: Some contemporary perspectives. *Journal of Early Childhood Literacy*, *10*(1), 33–53. <https://doi.org/10.1177/1468798409357387>
- Appadurai, A. (1990). Disjuncture and difference in the global cultural economy. *Theory, Culture & Society*, *7*(2), 295–310. <https://doi.org/10.1177/026327690007002017>
- Appadurai, A. (2015). Mediants, materiality, normativity. *Public Culture*, *27*(2 76), 221–237. <https://doi.org/10.1215/08992363-2841832>
- Barad, K. (2003). Posthumanist performativity: Toward an understanding of how matter comes to matter. *Signs: Journal of Women in Culture and Society*, *28*(3), 801–831. <https://doi.org/10.1086/345321>
- Baron, N. (2013). Instant messaging. In S. Herring, D. Stein, & T. Virtanen (Eds.), *Pragmatics of computer-mediated communication* (pp. 135–162). Berlin, Germany: Walter de Gruyter.
- Basch, L., Schiller, N. G., & Blanc, C. S. (1994). *Nations unbound*. London, UK: Routledge. <https://doi.org/10.4324/9780203347003>
- Bennett, J. (2010). *Vibrant matter: A political ecology of things*. Durham, NC: Duke University Press.
- Bennett, S., Maton, K., & Kervin, L. (2008). The "digital natives" debate: A critical review of the evidence. *British Journal of Educational Technology*, *39*(5), 775–786.
- Black, R. (2008). *Adolescents and online fan fiction*. New York, NY: Peter Lang Publishing.
- Blau, F., Kahn, L., Liu, A., & Papps, K. (2013). The transmission of women's fertility, human capital, and work orientation across immigrant generations. *Journal of Population Economics*, *26*(2), 405–435.
- Bleakley, H., & Chin, A. (2008). The intergenerational transmission of language human capital among immigrants. *Journal of Human Resources*, *43*(2), 267–298.



- Block, D. (2012). Class and SLA: Making connections. *Language Teaching Research*, 16(2), 188–205. <https://doi.org/10.1177/1362168811428418>
- Block, D. (2014). *Social class and applied linguistics*. Oxon, UK: Routledge.
- Block, D., Holborow, M., & Gray, J. (2012). *Neoliberalism and applied linguistics*. London, UK: Routledge.
- Blommaert, J. (2005). *Discourse: A critical introduction*. Oxford, UK: Oxford University Press.
- Blommaert, J. (2010). *Sociolinguistics of globalization*. Cambridge, UK: Cambridge University Press.
- Blommaert, J., & Backus, A. (2013). Superdiverse repertoires and the individual. In I. de Saint-Georges & J.-J. Weber (Eds.), *Multilingualism and multimodality: Current challenges for educational studies* (pp. 11–32). London, UK: Sense Publishers. <https://doi.org/10.1007/978-94-6209-266-2>
- Blumer, H. (1962). Society as symbolic interaction. In A. Rose (Ed.), *Human behavior and social processes: An interactionist approach* (pp. 93–113). Boston, MA: Houghton Mifflin Company.
- Bonfadelli, H. (2002). The Internet and knowledge gaps: A theoretical and empirical investigation. *European Journal of Communication*, 17(1), 65–84.
- Bonikowska, A., & Hou, F. (2011). *Reversal of fortunes or continued success? Cohort differences in education and earnings of childhood immigrants*. Ottawa, ON.: Statistics Canada.
- Bourdieu, P. (1977). The economics of linguistic exchanges. *Information*, 16(6), 645–668.
- Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. New York, NY: Routledge & Kegan Paul. <https://doi.org/10.4324/9781315870854>
- Bourdieu, P. (1986). The forms of capital. *Education: Culture, Economy, and Society*, 46–58. <https://doi.org/10.1002/9780470755679.ch15>
- Bourdieu, P. (1987). What makes a social class ? On the theoretical and practical existence of groups. *Berkeley Journal of Sociology*, 32, 1–17. <https://doi.org/10.2307/41035356>
- Bourdieu, P. (1990). *The logic of practice*. Stanford, CA: Stanford University Press.
- Boyd, D., & Ellison, N. B. (2008). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13, 210–230. <https://doi.org/10.1111/j.1083-6101.2007.00393.x>
- Boyd, D. M. (2012). White flight in networked publics: How race and class shaped American teen engagement with MySpace and Facebook. In L. Nakamura & P. Chow-White (Eds.), *Race after the internet* (pp. 203–222). New York, NY: Routledge.
- Braidotti, R. (2013). *The posthuman*. Cambridge, UK: Polity.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*,



3(2), 77–101.

- Bryman, A., Teevan, J., & Bell, E. (2009). *Social research methods* (2nd ed.). Oxford, UK: Oxford University Press.
- Buckingham, D. (2010). Defining digital literacy. In *Medienbildung in neuen Kulturräumen* (pp. 59–71). Wiesbaden, Germany: VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-92133-4_4
- Canadian Press. (2012). Bilingualism growing, but not in French and English. Retrieved from <https://www.cbc.ca/news/canada/bilingualism-growing-but-not-in-french-and-english-1.1176469>
- Castells, M. (2001). *The Internet galaxy: Reflections on the Internet, business, and society*. Oxford, UK: Oxford University Press.
- Castells, M. (2010). *End of Millennium* (2nd ed.). Chichester, UK: Wiley-Blackwell. <https://doi.org/10.1002/9781444323436>
- Castells, M. (2011). *The rise of the network society* (2nd ed.). Chichester, UK: Wiley and Sons.
- Castells, M. (1999). *Information technology, globalization and social development*. Geneva, Switzerland: UN Research Institute for Social Development. <https://doi.org/ISSN 1012-6511>
- Clark, L. S. (2012). *The parent app: Understanding families in the digital age*. Oxford, UK: Oxford University Press.
- Coiro, J., Knobel, M., Lankshear, C., & Leu, D. J. (2008). Central issues in new literacies and new literacies research. In J. Coiro, M. Knobel, C. Lankshear, & D. J. Leu (Eds.), *The Handbook of research in new literacies* (pp. 1–21). Oxon: Routledge.
- Coiro, J., Knobel, M., Lankshear, C., & Leu, D. J. (Eds.). (2014). *Handbook of research on new literacies*. Oxon, UK: Routledge.
- Coloma, R. S., McElhinny, B., Tungohan, E., Catungal, J. P. C., & Davidson, L. M. (2012). *Filipinos in Canada: Disturbing invisibility*. Toronto, ON: University of Toronto Press. <https://doi.org/10.3138/9781442662728>
- Cope, B., & Kalantzis, M. (2009). “Multiliteracies”: New literacies, new learning. *Pedagogies: An International Journal*, 4(3), 164–195. <https://doi.org/10.1080/15544800903076044>
- Cope, B., & Kalantzis, M. (2010). New media, new learning. In D. Cole & D. Pullen (Eds.), *Multiliteracies in motion: Current theory and practice* (pp. 87–104). London, UK: Routledge.
- Cope, B., & Kalantzis, M. (2012). *Literacies*. Cambridge, UK: Cambridge University Press.
- Cope, B., & Kalantzis, M. (2013). “Multiliteracies”: New literacies, new learning. In M. Hawkins (Ed.) *Framing languages and literacies: Socially situated views and perspectives* (pp. 105-135). New York,



- NY: Routledge. <https://doi.org/10.4324/9780203070895>
- Crompton, R. (2008). *Class and stratification* (3rd ed.). Cambridge, UK: Polity.
- Crossley, N. (2008). Social class. In M. Grenfell (Ed.), *Pierre Bourdieu: Key concepts* (pp. 87–99). New York, NY: Acumen.
- Cummins, J., Mirza, R., & Stille, S. (2012). English language learners in Canadian schools : Emerging directions for school-based policies, *29*(6), 25–48.
- Darvin, R. (2017). Social class and the inequality of English speakers in a globalized world. *Journal of English as a Lingua Franca*, *6*(2), 287–311. <https://doi.org/10.1515/jelf-2017-0014>
- Darvin, R. (2018). Social class and the unequal digital literacies of youth. *Language and Literacy*, *20*(3), 26–45.
- Darvin, R., & Norton, B. (2014). Social class, identity, and migrant students. *Journal of Language, Identity and Education*, *13*(2), 111–117. <https://doi.org/10.1080/15348458.2014.901823>
- Darvin, R., & Norton, B. (2015). Identity and a model of investment in applied linguistics. *Annual Review of Applied Linguistics*, *35*, 36–56. <https://doi.org/10.1017/S0267190514000191>
- DiMaggio, P., & Bonikowski, B. (2008). Make money surfing the web? The impact of Internet use on the earnings of US workers. *American Sociological Review*, *73*(2), 227–250.
- DiMaggio, P., & Hargittai, E. (2001). From the "digital divide" to "digital inequality": Studying Internet use as penetration increases. *Princeton: Center for Arts and Cultural Policy Studies*, *4*(1), 1–21.
- Duff, P. (2012). How to carry out case study research. In A. Mackey & S. Gass (Eds.), *Research methods in second language acquisition: A practical guide* (pp. 95–116). London, UK: Blackwell Publishing.
- Duff, P. A. (2007). Second language socialization as sociocultural theory: Insights and issues. *Language Teaching*, *40*, 309–319. <https://doi.org/10.1017/S0261444807004508>
- Eisen, P. (2003). Skills for a 21st century workforce: Can we meet the challenge. In *Pan-organizational summit on the U.S. science and engineering workforce: Meeting summary* (pp. 133–147). Washington, DC: National Academies Press.
- Eisenberg, M. B., Lowe, C. A., & Spitzer, K. L. (2004). *Information literacy: Essential skills for the information age* (2nd ed.) Westport, CT: Libraries Unlimited.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of facebook "friends": Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, *12*(4), 1143–1168. <https://doi.org/10.1111/j.1083-6101.2007.00367.x>
- Emigh, W., & Herring, S. (2005). Collaborative authoring on the web: A genre analysis of online encyclopedias. In *HICSS'05 Proceedings of the 38th Annual Hawaii International Conference*. IEEE.



- Epstein, D., Nisbet, E. C., & Gillespie, T. (2011). Who's responsible for the digital divide? Public perceptions and policy implications. *Information Society, 27*(2), 92-104.
<https://doi.org/10.1080/01972243.2011.548695>
- Farrales, M., & Pratt, G. (2012). Stalled development of immigrant Filipino youth. *Metropolis, 10*, 1–62.
- Farrell, L. (2009). Texting the future: Work, literacies, and economies. In M. Baynham & M. Prinsloo (Eds.), *The future of literacy studies* (pp. 181–198). Hampshire, UK: Palgrave Macmillan.
- First Call. (2017). *BC Child Poverty Report Card*. Vancouver, BC: First Call.
- Fleischmann, F., & Dronkers, J. (2010). Unemployment among immigrants in European labour markets: An analysis of origin and destination effects. *Work, Employment and Society, 24*(2), 337–354.
- Foucault, M. (2008). *The birth of biopolitics*. London, UK: Palgrave.
- Garnett, B., Adamuti-Trache, M., & Ungerleider, C. (2008). The academic mobility of students for whom English is not a first language: The roles of ethnicity, language, and class. *Alberta Journal of Educational Research, 54*(3), 309–326.
- Gee, J. P. (2003). *What video games have to teach us about learning and literacy*. New York, NY: Palgrave Macmillan.
- Gee, J. P. (2004). *Situated language and learning: A critique of traditional schooling*. New York, NY: Routledge.
- Gee, J. P. (2005a). Semiotic social spaces and affinity spaces: From the age of mythology to today's schools. In D. Barton & K. Tusting (Eds.), *Beyond communities of practice: Language, power and social context* (pp. 214–232). Cambridge, UK: Cambridge University Press.
- Gee, J. P. (2005b). The New Literacy Studies: From “socially situated” to the work of the social. In D. Barton, M. Hamilton, & R. Ivanic (Eds.), *Situated literacies: Reading and writing in context* (pp. 177–194). New York, NY: Routledge.
- Gibson-Graham, J. K., Resnick, S., & Wolff, R. (2000). *Class and its others*. Minneapolis, MN: University of Minnesota Press.
- Gillespie, T. (2014). The relevance of algorithms. In T. Gillespie, P. Boczkowski, & K. Foot (Eds.), *Media technologies: Essays on communication, materiality and society* (pp. 167–193). Cambridge, UK: MIT Press.
- Giroux, H. (1994). *Disturbing pleasures: Learning popular culture*. London, UK: Routledge.
- Gonzalez, C., & Katz, V. S. (2016). Transnational family communication as a driver of technology adoption. *International Journal of Communication, 10*, 2683–2703.
- Gourlay, L. (2015). Posthuman texts: Nonhuman actors, mediators and the digital university. *Social*



- Semiotics*, 25(4), 484–500. <https://doi.org/10.1080/10350330.2015.1059578>
- Granka, L. (2010). The politics of search: A decade retrospective. *The Information Society*, 26(5), 364–374.
- Gumperz, J. (1982). *Discourse strategies*. Cambridge, UK: Cambridge University Press.
- Gunderson, L. (2007). *English-only instruction and immigrant students in secondary schools*. New Jersey, NJ: Lawrence Erlbaum.
- Haight, M., Quan-Haase, A., & Corbett, B. A. (2014). Revisiting the digital divide in Canada: The impact of demographic factors on access to the internet, level of online activity, and social networking site usage. *Information Communication and Society*, 17(4), 503–519. <https://doi.org/10.1080/1369118X.2014.891633>
- Hargittai, E. (2010). Digital na(t)ives? Variation in internet skills and uses among members of the “Net Generation.” *Sociological Inquiry*, 80(1), 92–113. <https://doi.org/10.1111/j.1475-682X.2009.00317.x>
- Hargittai, E. (2012). Open doors, closed spaces? Differentiated adoption of social network sites by user background. In L. Nakamura & P. Chow-White (Eds.), *Race after the internet* (pp. 223–245). New York, NY: Routledge.
- Hargittai, E., & Hinnant, A. (2008). Digital inequality: Differences in young adults’ use of the Internet. *Communication Research*, 35(5), 602–621. <https://doi.org/10.1177/0093650208321782>
- Hargittai, E., & Hsieh, Y. P. (2013). Digital inequality. In W. Dutton (Ed.), *The Oxford handbook of internet studies* (pp. 1–28). Oxford, UK: Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199589074.013.0007>
- Harnad, S. (1991). Post-Gutenberg galaxy: The fourth revolution in the means of production of knowledge. *Public-Access Computer Systems Review*, 2(1), 39–53.
- Hartley, D. (2008). Education, markets and the pedagogy of personalization. *British Journal of Educational Studies*, 56, 365–381.
- Hayles, K. (1999). *How we become posthuman: Virtual bodies in cybernetics*. Chicago, IL: University of Chicago Press.
- Heath, S. B. (1982). What no bedtime story means: Narrative skills at home and school. *Language in Society*, 11(1), 49–76. <http://www.jstor.org/stable/10.2307/4167291>
- Heath, S. B. (1983). *Ways with words: Language, life and work in communities and classrooms*. Cambridge, UK: Cambridge University Press.
- Heath, S. B., & Street, B. (2008). *On ethnography: Approaches to literacy research*. New York, NY: Teachers College Press.



- Heller, M. (2008). Bourdieu and “literacy education.” In J. Albright & A. Luke (Eds.), *Pierre Bourdieu and literacy education* (pp. 50–67). New York, NY: Routledge.
- Helsper, E. J., & Eynon, R. (2010). Digital natives: Where is the evidence? *British Educational Research Journal*, 36(3), 503–520.
- Hornberger, N. H., & Johnson, D. C. (2007). Slicing the onion ethnographically: Layers and spaces in multilingual language education policy and practice. *TESOL Quarterly*, 41(3), 509–532. <https://doi.org/10.1002/j.1545-7249.2007.tb00083.x>
- Hou, F., & Bonikowska, A. (2016). *Educational and labour market outcomes of childhood immigrants by admission class*. Ottawa, ON: Statistics Canada.
- Hsi, S. (2007). Conceptualizing learning from the everyday activities of digital kids conceptualizing learning from the everyday activities of digital kids. *International Journal of Science Education*, 29(12), 1509–1529. <https://doi.org/10.1080/09500690701494076>
- Hull, G. A., & Katz, M.-L. (2006). Crafting an agentive self: Case studies of digital storytelling. *Research in the Teaching of English*, 41(1), 43–81. <https://doi.org/10.2307/40171717>
- Hull, G. A., & Nelson, M. E. (2005). Locating the semiotic power of multimodality. *Written Communication*, 22(2), 224–261. <https://doi.org/10.1177/0741088304274170>
- Ichou, M. (2014). Who they were there: Immigrants’ educational selectivity and their children’s educational attainment. *European Sociological Review*, 30(6), 750–765.
- Indaco, A., & Manovich, L. (2016). Urban social media inequality: Definition, measurements, and application. *Urban Studies and Practices*, (arXiv:1607.01845), 1–54.
- Internet World Stats. (2018) *Internet world users by language*. Retrieved from <https://www.internetworldstats.com/stats7.htm>.
- ISTE. (2016). *ISTE standards for students*. International Society for Technology in Education. Retrieved from <https://www.iste.org/standards/for-students>
- Ito, M., Antin, J., Finn, M., Law, A., Manion, A., Mitnick, S., ... Horst, H. A. (2010). *Hanging out, messing around, and geeking out: Kids living and learning with new media*. Cambridge, MA: MIT Press. <https://doi.org/10.1080/1369118X.2010.516760>
- Janks, H. (2000). Domination, access, diversity and design: A synthesis for critical literacy education. *Educational Review*, 52(2), 175–186.
- Johnson, M., Riel, R., & Froese-Germain, B. (2016). *Connected to learn: Teachers’ experiences with networked technologies in the classroom*. Ottawa, ON: MediaSmarts.
- Jones, R. H., & Hafner, C. A. (2012). *Understanding digital literacies: A practical introduction*. Oxon, UK: Routledge. <https://doi.org/10.4324/9780203095317>



- Jones, S., & Vagle, M. D. (2013). Living contradictions and working for a change: Toward a theory of social class – sensitive pedagogy. *Educational Researcher*, 42(3), 129–141. <https://doi.org/10.3102/0013189X13481381>
- Kanno, Y., & Norton, B. (2003). Imagined communities and educational possibilities: Introduction. *Journal of Language, Identity and Education*, 2(4), 241–249.
- Katz, V. S. (2017). What it means to be “ under-connected ” in lower- income families families. *Journal of Children and Media*, 2798, 1–4. <https://doi.org/10.1080/17482798.2017.1305602>
- Kelly, P. (2012). Migration, transnationalism, and the spaces of class identity. *Philippine Studies: Historical and Ethnographic Viewpoints*, 60(2), 153–186.
- Kelly, P. (2014). Understanding intergenerational social mobility: Filipino youth in Canada. *IRPP Study*, 45, 1–37.
- Kendrick, M., Chemjor, W., & Early, M. (2012). ICTs as placed resources in a rural Kenyan secondary school journalism club. *Language and Education*, 26(4), 297–313. <https://doi.org/10.1080/09500782.2012.691513>
- Kirkpatrick, G. (2008). *Technology and social power*. Hampshire, UK: Palgrave Macmillan.
- Knobel, M., & Lankshear, C. (2006). Discussing new literacies. *Language Arts*, 84(1), 78–86.
- Kress, G. (2003). *Literacy in the new media age*. London: Routledge. <https://doi.org/10.4324/9780203164754>
- Kvasny, L. (2006). Cultural (re)production of digital inequality in a US community technology initiative. *Information Communication and Society*, 9(2), 160–181. <https://doi.org/10.1080/13691180600630740>
- Kwasnik, B. H., & Crowston, K. (2005). Genres of digital documents: Introduction to the special issue . *Information, Technology and People*, 18(2), 76–88.
- Labov, W. (1972). *Sociolinguistic patterns*. Philadelphia, PA: University of Pennsylvania Press.
- Labucay, I. (2014). Patterns of Internet usage in the Philippines. In J. D. James (Ed.), *The Internet and the Google age: Prospects and perils* (pp. 27–49). Dublin, Ireland: Research-publishing.net.
- Lam, W. S. E. (2000). L2 Literacy and the design of the self: A case study of a teenager writing on the Internet. *TESOL Quarterly*, 34(3), 457. <https://doi.org/10.2307/3587739>
- Lam, W. S. E. (2006). Re-envisioning language, literacy, and the immigrant subject in new mediascapes. *Pedagogies*, 1(3), 171–195. https://doi.org/10.1207/s15544818ped0103_2
- Lam, W. S. E. (2009). Multiliteracies on instant messaging in negotiating local, translocal, and transnational affiliations: A case of an adolescent immigrant. *Reading Research Quarterly*, 44(4),



377–397.

- Lankshear, C., & Knobel, M. (2006). Digital literacy and digital literacies: Policy, pedagogy and research considerations for education. *Nordic Journal of Digital Literacy*, 1(1), 12–24.
- Lankshear, C., & Knobel, M. (2012). New literacies: Technologies and values. *Teknokultura*, 9(1), 45–69.
- Lareau, A., & Horvat, E. M. (1999). Moments of social inclusion and exclusion: Race, class, and cultural capital in family-school relationships. *Sociology of Education*, 72(1), 37–53.
- Larner, W. (2000). Neo-liberalism: Policy, ideology, governmentality. *Studies in Political Economy*, 63(1), 5–25. <https://doi.org/10.1080/19187033.2000.11675231>
- Leander, K. (2008). Toward a connective ethnography of online/offline literacy networks. In J. Coiro, M. Knobel, C. Lankshear, & D. J. Leu (Eds.), *Handbook of research on new literacies* (pp. 33–65). Oxon, UK: Routledge.
- Lemke, J. L. (2005). Multimedia genres and yerversals. *Folia Linguistica*, 39(1–2), 45–56.
- Lemphane, P., & Prinsloo, M. (2014). Children’s digital literacy practices in unequal South African settings. *Journal of Multilingual and Multicultural Development*, 35(7), 738–753. <https://doi.org/10.1080/01434632.2014.908894>
- Leu, D., Kinzer, C., Coiro, J., & Cammack, D. (2004). Toward a theory of new literacies emerging from the internet and other information and communication technologies. In *Theoretical models and processes of reading*, 5(1), 1570–1613.
- Livingstone, S. (2009). *Children and the internet*. London, UK: Polity Press.
- Luke, A. (2012). Critical literacy: Foundational notes. *Theory into Practice*, 51(1), 4–11. <https://doi.org/10.1080/00405841.2012.636324>
- Luke, A. (2014). Defining critical literacy. In J. Z. Pandya & J. Avila (Eds.), *Moving critical literacies forward: A new look at praxis across contexts* (pp. 19–31). New York, NY: Routledge.
- Luke, C. (2003). Pedagogy , connectivity , multimodality, and interdisciplinarity. *Reading Research Quarterly*, 38(3), 397–403.
- Maggi, S., Hertzman, C., Kohen, D., Amedeo, D., Maggi, S., Hertzman, C., ... Amedeo, D. (2004). Effects of neighborhood socioeconomic characteristics and class composition on highly competent children. *The Journal of Educational Research*, 98(2), 109–114. <https://doi.org/10.3200/JOER.98.2.109-114>
- Margaryan, A., Littlejohn, A., & Vojt, G. (2011). Are digital natives a myth or reality? *Computers & Education*, 56(2), 429–440.
- Maryns, K., & Blommaert, J. (2002). Pretextuality and pretextual gaps: On de/refining linguistic inequality. *Pragmatics*, 12(1), 11–30. <https://doi.org/10.1075/prag.12.1.02mar>



- McGaw, B. (2006). *Achieving quality and equity education*. Melbourne: Melbourne Education Research Institute.
- McMillan Cottom, T. (2017). Black cyberfeminism: Ways forward for intersectionality and digital sociology. In J. Daniels, K. Gregory, & T. McMillan Cottom (Eds.), *Digital sociologies* (pp. 211–232). Bristol, UK: Policy Press.
- Menchen-Trevino, E., & Hargittai, E. (2011). Young adults' credibility assessment of Wikipedia. *Information, Communication & Society*, 14(1), 24–51.
<https://doi.org/10.1080/13691181003695173>
- Merchant, G. (2007). Writing the future in the digital age. *Literacy*, 41(3), 118–128.
- Miller, C., & Bartlett, J. (2012). Digital fluency: Towards young people's critical use of the internet. *Journal of Information Literacy*, 6(2), 35–55.
- Morency, J.-D., Malenfant, É. C., & MacIsaac, S. (2017). *Immigration and diversity: Population projections for Canada and its regions, 2011 to 2036*. Ottawa, ON: Statistics Canada. <https://doi.org/91-551-X>
- NCTE. (2007). *21st century literacies*. Washington, DC: National Council of Teachers of English.
- Nielsen, J. (2006). *F-shaped pattern for reading web content*. Nielsen Norman Group. Retrieved from <https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content-discovered/>
- North, S., Snyder, I., & Bulfin, S. (2008). Digital tastes: Social class and young people's technology use. *Information, Communication & Society*, 11(7), 895–911.
<https://doi.org/10.1080/13691180802109006>
- Norton, B. (1995). Social identity, investment and language learning. *TESOL Quarterly*, 29(1), 9–31.
- Norton, B. (2001). Non-participation, imagined communities and the language classroom. In M. Breen (Ed.), *Learning contributions to language learning: New direction in research* (pp. 159–171). London, UK: Pearson Education. <https://doi.org/10.1017/S0960777300000813>
- Norton, B. (2013). *Identity and language learning: Extending the conversation*. Bristol, UK: Multilingual Matters.
- OECD. (2015). *Students, computers and learning: Making the connection*. Organisation for Economic Co-operation and Development. Retrieved from <http://www.oecd.org/publications/students-computers-and-learning-9789264239555-en.htm>
- Olssen, M., & Peters, M. A. (2005). Neoliberalism, higher education and the knowledge economy: from the free market to knowledge capitalism. *Journal of Education Policy*, 20(3), 313–345.
<https://doi.org/10.1080/02680930500108718>
- P21. (2015). *P21 framework definitions*. Partnership for 21st Century Learning. Retrieved from <https://files.eric.ed.gov/fulltext/ED519462.pdf>



- Park, J. S. (2010). Naturalization of competence and the neoliberal subject : Success stories of English language learning in the Korean conservative press. *Journal of Linguistic Anthropology*, 20(1), 22–38. <https://doi.org/10.1111/j.1548-1395.2010.01046.x>.E
- Park, J. S. Y., & Wee, L. (2013). *Markets of English: Linguistic capital and language policy in a globalizing world*. New York, NY: Routledge.
- Parreñas, R. (2001). *Servants of globalization: Women, migration, and domestic work*. Stanford, CA: Stanford University Press.
- Pennycook, A. (2016). Posthumanist applied linguistics. *Applied Linguistics*, (ahead-of-print), 1–18. <https://doi.org/10.4324/9781315457574>
- Pernice, K. (2017). *F-shaped pattern of reading on the web: Misunderstood, but still relevant (even on mobile)*. Nielsen Norman Group. Retrieved from <https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content/>
- Peters, M. (2007). Foucault, biopolitics and the birth of neoliberalism. *Critical Studies in Education*, 48(2), 165–178.
- Pew Research Center. (2018). *Social media use in 2018*. Retrieved from <http://www.pewinternet.org/2018/03/01/social-media-use-in-2018/>
- Picot, G., & Hou, F. (2011). *Preparing for success in Canada and the United States: The determinants of educational attainment among the children of immigrants*. Ottawa, ON: Statistics Canada.
- Picot, G., Hou, F., & Coulombe, S. (2008). *Poverty dynamics among recent immigrants to Canada*. Ottawa, ON: Statistics Canada.
- Picot, G., & Lu, Y. (2017). *Chronic low income among immigrants in Canada and its communities*. Ottawa, ON: Statistics Canada.
- Portes, A., Fernandez-Kelly, P., & Haller, W. (2005). Segmented assimilation on the ground: The new second generation in early adulthood. *Ethnic and Racial Studies*, 28(6), 1000–1040.
- Powell, W. W., & Snellman, K. (2004). The knowledge economy. *Annual Review of Sociology*, 30(1), 199–220. <https://doi.org/10.1146/annurev.soc.29.010202.100037>
- Pratt, G. (2012). *Families apart: Migrant mothers and the conflicts of labor and love*. Minneapolis, MT: University of Minnesota Press.
- Prensky, M. (2001). Digital natives, digital immigrants. Part 1. *On the Horizon*, 9(5), 1-6. <https://doi.org/10.1108/10748120110424816>
- Prinsloo, M., & Rowsell, J. (2012). Digital literacies as placed resources in the globalised periphery. *Language and Education*, 26(4), 271–277.



- Province of British Columbia. (2015a). *BC's Education Plan*. Retrieved from https://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/support/bcedplan/bcs_education_plan.pdf
- Province of British Columbia. (2015b). *BC Digital Literacy Framework. British Columbia: Education and Training*. Retrieved from <https://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/teach/teaching-tools/digital-literacy-framework.pdf>
- Province of British Columbia. (2018). *Teaching tools. British Columbia: Education and Training*. Retrieved from <https://www2.gov.bc.ca/gov/content/education-training/k-12/teach/teaching-tools>
- Puschmann, C. (2013). Blogging. In S. Herring, D. Stein, & T. Virtanen (Eds.), *Pragmatics of computer-mediated communication* (pp. 83–108). Berlin: Walter de Gruyter.
- Rideout, V., & Katz, V. S. (2016). Opportunity for all? Technology and learning in lower income families. New York: The Joan Ganz Cooney Center at Sesame Workshop.
- Roberts-Mahoney, H., Means, A. J., & Garrison, M. J. (2016). Netflying human capital development : personalized learning technology and the corporatization of K-12 education technology. *Journal of Education Policy*, 31(4), 405–420. <https://doi.org/10.1080/02680939.2015.1132774>
- Robinson, L. (2009). A taste for the necessary: A Bourdieusian approach to digital inequality. *Information Communication and Society*, 12(4), 488–507. <https://doi.org/10.1080/13691180902857678>
- Rojo, L. M. (2013). (De)capitalising students through linguistic practices: A comparative analysis of new educational programmes in a global era. In A. Duchêne, M. Moyer, & C. Roberts (Eds.), *Language, migration and social inequalities: A critical sociolinguistic perspective on institutions and work* (pp. 118–146). Bristol, UK: Multilingual Matters.
- Rose, N., O'Malley, P., & Valverde, M. (2009). Governmentality. *Annual Review of Law and Social Science*, 2, 83–104.
- Rowell, J. (2012). Artifactual English. In M. Grenfell, M. Bloome, C. Hardy, K. Pahl, J. Rowell, & B. Street (Eds.), *Language, ethnography and education: Bridging New Literacy Studies and Bourdieu* (pp. 110–131). London, UK: Routledge.
- Rymes, B. (2014). *Communicating beyond language: Everyday encounters with diversity*. New York, NY: Routledge.
- Santo, R. (2013). Hacker literacies: User-generated resistance and reconfiguration of networked publics. In J. Avila & J. Z. Pandya (Eds.), *Critical digital literacies as social praxis: Intersections and challenges* (pp. 197–218). New York, NY: Peter Lang.
- Satzewich, V., & Liodakis, N. (2013). *"Race" and ethnicity in Canada: A critical introduction*. Oxford, UK: Oxford University Press.
- Savage, M., Devine, F., Cunningham, N., Taylor, M., Li, Y., Hjellbrekke, J., ... Miles, a. (2013). A New



- Model of Social Class? Findings from the BBC's Great British Class Survey Experiment. *Sociology*, 47(2), 219–250. <https://doi.org/10.1177/0038038513481128>
- Selwyn, N. (2004). Reconsidering political and popular understandings of the digital divide. *New Media & Society*, 6(3), 341–362. <https://doi.org/10.1177/1461444804042519>
- Sen, V. (2016). Towards customized privatization in public education in British Columbia: The provincial education plan and personalized learning. *Canadian Journal of Educational Administration and Policy*, (180), 135–168.
- Smith, K. (2002). What is the 'knowledge economy'? Knowledge intensity and distributed knowledge bases. *Intech Discussion Paper Series 2002-6*. Maastricht, The Netherlands: United Nations University. [https://doi.org/10.1016/S1043-2760\(97\)84344-5](https://doi.org/10.1016/S1043-2760(97)84344-5)
- Smythe, S., & Breshears, S. (2017). Complicating access: Digital inequality and adult learning in a public access computing space. *Canadian Journal for the Study of Adult Education*, 29(1), 67–81.
- Smythe, S., Hill, C., Macdonald, M., Dagenais, D., Sinclair, N., & Toohey, K. (2017). *Disrupting boundaries in education and research*. Cambridge, UK: Cambridge University Press. <https://doi.org/10.1017/9781108234931>
- Snyder Angus, L., & Sutherland-Smith, W., I. (2002). Building equitable literate futures: Home and school computer-mediated literacy practices and disadvantage. *Cambridge Journal of Education*, 32(3), 367–383. <https://doi.org/10.1080/0305764022000024212>
- Snyder, I., & Prinsloo, M. (2007). Young people's engagement with digital literacies in marginal contexts in a globalised world. *Language Education*, 21(3), 171–179. <https://doi.org/10.2167/le745.0>
- Statistics Canada. (2012). *Linguistic characteristics of Canadians*. Retrieved from <http://www12.statcan.gc.ca/census-recensement/2011/as-sa/98-314-x/98-314-x2011001-eng.cfm>
- Statistics Canada. (2017). *Household income in Canada : Key results from the 2016 Census*. Retrieved from <https://www150.statcan.gc.ca/n1/daily-quotidien/170913/dq170913a-eng.htm>
- Steeves, V. (2014). *Young Canadians in a wired world, Phase III: Trends and recommendations*. Ottawa: MediaSmarts.
- Steffenhagen, J. (2013, June 3). BC Christian school is unexpected leader in online education. *Vancouver Sun*. Retrieved from <http://www.vancouver.sun.com/business/christian+school+unexpected+leader+online+education/8468050/story.html>
- Stevenson, S. (2009). Digital divide: A discursive move away from the real inequities. *Information Society*, 25(1), 1–22. <https://doi.org/10.1080/01972240802587539>
- Street, B. (1993). Introduction: the new literacy studies. In B. Street (Ed.), *Cross-cultural approaches to literacy* (pp. 1–22). Cambridge, UK: Cambridge University Press.



- Street, B. (2003). What's "new" in New Literacy Studies?: Critical approaches to literacy in theory and practice. *Current Issues in Comparative Education*, 5(2), 77–91.
<https://doi.org/10.1016/j.socscimed.2011.02.026>
- Street, B. (2014). *Social literacies: Critical approaches to literacy in development, ethnography and education*. London, UK: Routledge.
- Sullivan, B., Karthikeyan, G., Liu, Z., Massa, W., & Gupta, M. (2018). *Socioeconomic group classification based on user features*. US 2018/0032883 A1. United States Patent Application Retrieved from <http://patents.com/us-20180032883.html>
- Swales, J. (1990). *Genre analysis*. Cambridge, UK: Cambridge University Press.
- Swartz, D. (1997). *Culture and power: The sociology of Pierre Bourdieu*. Chicago: University of Chicago Press.
- The New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review*, 66(1), 60–93. <https://doi.org/10.17763/haer.66.1.17370n67v22j160u>
- Thorne, S. (2003). Artifacts and cultures-of-use in intercultural communication. *Language Learning & Technology*, 7(2), 38–67. <https://doi.org/10.1103/PhysRevLett.91.155701>
- Thorne, S. L. (2013). Digital literacies. In M. Hawkins (Ed.), *Framing languages and literacies: Socially situated views and perspectives* (pp. 192–218). New York, NY: Routledge.
<https://doi.org/10.1598/JAAL54.1.7>
- Toohy, K. (2018). *Learning English at school: Identity, socio-material relations and classroom practice* (2nd ed.). Bristol, UK: Multilingual Matters.
- Toohy, K., & Derwing, T. M. (2008). Hidden losses: How demographics can encourage incorrect assumptions about ESL high school students' success. *Alberta Journal of Educational Research*, 54(2), 178–193.
- Tupas, R., & Salonga, A. (2016). Unequal Englishes in the Philippines. *Journal of Sociolinguistics*, 20(3), 367–381. <https://doi.org/10.1111/josl.12185>
- Valdes, G. (1998). Schools : Language Immigrant Children. *Educational Researcher*, 27(6), 4–18.
- van Deursen, A., & van Diepen, S. (2013). Information and strategic Internet skills of secondary students: A performance test. *Computers & Education*, 63, 218–226.
<https://doi.org/10.1016/j.compedu.2012.12.007>
- van Dijk, J. (2006). *The network society* (2nd ed.). London, UK: Sage.
- van Dijk, J. (2005). *The deepening divide: Inequality in the information*. London: Sage Publications.
- Vehovar, V., Sicherl, P., Husing, T., & Dolnicar, V. (2006). Methodological challenges of digital divide



- measurements. *The Information Society*, 22(5), 279–290.
- Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, UK: Harvard University Press.
- W3Techs. (2018). Usage of content languages for websites. *Web Technology Surveys*. Retrieved from https://w3techs.com/technologies/overview/content_language/all
- Warschauer, M. (1998). *Electronic literacies: Language, culture, and power in online education*. New York, NY: Routledge.
- Warschauer, M. (2007). The paradoxical future of digital learning. *Learning Inquiry*, 1(1), 41–49. Retrieved from <http://www.springerlink.com/index/10.1007/s11519-007-0001-5>
- Warschauer, M. (2009). Digital literacy studies: Progress and prospects. In M. Baynham & M. Prinsloo (Eds.), *The future of literacy studies* (pp. 123–140). London, UK: Palgrave Macmillan.
- Warschauer, M., & Matuchniak, T. (2010). New technology and digital worlds: Analyzing evidence of equity in access, use, and outcomes. *Review of Research in Education*, 34(1), 179–225. <https://doi.org/10.3102/0091732X09349791>
- We Are Social. (2018). *Digital in 2018*. We Are Social. Retrieved from <https://wearesocial.com/blog/2018/01/global-digital-report-2018>
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge, UK: Cambridge University Press.
- Whitworth, B., & Ahmad, A. (2014). *The social design of technical systems: Building technologies for communities*. Interaction Design Foundation. Retrieved from <https://www.interaction-design.org/literature/book/the-social-design-of-technical-systems-building-technologies-for-communities/the-evolution-of-computing?refresh=true>
- Willis, P. (1978). *Learning to labour: How working class kids get working jobs*. London, UK: Routledge.
- Wright, E. O. (1997). *Class counts: Comparative studies in class analysis*. Cambridge, UK: Cambridge University Press.
- Yssaad, L. (2012). *The Canadian immigrant labour market in 2006*. Ottawa, ON: Statistics Canada.
- Zhou, M. (1997). Segmented assimilation: Issues, controversies, and recent research on the new second generation. *International Migration Review*, 31(4), 975–1008.
- Zhou, M., & Kim, S. (2006). Community forces, social capital, and educational achievement: The case of supplementary education in the Chinese and Korean immigrant communities. *Harvard Educational Review*, 76(1), 1–29. <https://doi.org/10.17763/haer.76.1.u08t548554882477>
- Zhou, M., & Portes, A. (2012). *The new second generation: Segmented assimilation and its variants*



(p.85-104). In C. Suarez-Orozco, M. Suarez-Orozco, & D. Qin-Hilliard (Eds.), *The new immigration*. New York, NY: Routledge.

Zillien, N., & Hargittai, E. (2009). Digital distinction: Status specific types of internet usage. *Social Science Quarterly*, 90(2), 275–291.