Systematic Literature Review

The Evolving Nature of Literacy and Assessment

December, 2021

Surrey Schools
LEADERSHIP IN LEARNING

SD 36 Research & Evaluation Department

A MESSAGE FROM SURREY SCHOOLS

Surrey Schools is located on the traditional, ancestral, and unceded territory of the Katzie, Kwan-tlen, Semiahmoo and other Coast Salish Peoples. It is B.C.'s largest school district where close to 12,000 employees serve almost 75,000 children in our diverse multicultural city. We have over 130 educational sites from early learning to adult education.

The District is committed to continuous improvement and success of all students through implementation of evidence-informed practices that enhance student learning, inclusivity and equity of outcomes. We welcome and honour diversity while supporting students' holistic growth —mind, body and heart—a commitment captured in our welcome video, Éy swayel / Bienvenue / Welcome to Surrey Schools.

Click to watch our welcome video, **Éy swayel / Bienvenue / Welcome to Surrey Schools**.

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SECTION 1

FINDINGS FROM THE SYSTEMATIC LITERATURE REVIEW

To support Surrey Schools' Evolving Nature of Literacy and Assessment project, we provide the results of a systematic review of research. Using the UBC database, a series of searches were made to identify journal articles, books/eBooks, and book chapters that met our criteria for inclusion. Our inclusion criteria included the following

1. Published between 2016 and 2021
2. Peer reviewed
3. Focused on secondary education
4. Include results from outside library's collection (Expanded result)
5. Pertains to English Language Arts, Social Studies, Mathematics and Statistics, Technology and Media

We identified 18 keywords for our search and the searched articles were restricted to five years range, from 2016 to 2021.The search results are presented in Table 1, including the number of literatures that were returned, the number of hits (i.e., those literature that met our criteria for inclusion). The keywords include: 1) Critical Literacy and teach*, 2) Critical Literacy and secondary, 3) Critical Literacy and high school, 4) Critical Literacy and citizen*, 5) Critical Literacy and 21st century, 6) Critical Literacy and math*/mathematics, 7) Critical Literacy and social studies, 8) Critical Literacy and language art, 9) Critical Literacy with science* and the same nine combinations were used with Multiple Literacy (Multiple Literacy and teach*, Multiple Literacy and secondary, etc.).

A total of 64 articles and book chapters fit the review criteria. As part of our systematic review, we scanned the reference sections of literature that met our criteria. We expanded our publication timeframe to within the last 15 years (2005), and concluded the review with a total of 155 articles.

SECTION 2

EVOLVING LITERACIES IN THE 21ST CENTURY: MULTIPLE AND CRITICAL LITERACIES

Historically, **literacy** has been defined around one's ability to negotiate (e.g., read, view, listen, taste, smell, critique) and create (e.g., write, produce, sing, act, and speak) texts in appropriate ways (Enderson & Colwell, 2021; Gee, 2014). In the 21st Century, literacy goes far beyond the ability to read and understand the general text; it requires specialized knowledge and skills in various areas. The areas include, but are not limited to: (1) English Language Arts, (2) Mathematics and Statistics, (3) Science, (4) Social Studies, and (5) Technology and Media (Ryan, 2021).

Multiple literacies, **disciplinary literacies**, or **new literacies**, is a concept that recognizes that: (1) information can be taken in and relayed through an array of mediums (reading, writing, performative, digital, etc.), (2) learning takes place in non-linear ways and through everyday lived experiences, (3) students need to be able to effectively engage and make sense of information in diverse formats, sources, and media across subject areas, and (4) the acquisition of subject-specific cross-curricular literacies are essential to one's ability to thrive in the 21st century.

Developing multiple literacies in secondary students can include the use of **intra-school inquiry teams** composed of diverse school staff across school disciplines (mathematics, science, social studies, art, etc.) including teachers, students, teacher aides, counselors, administrators, and members of the community (Minor & Harden, 2020). This partnership brings multiple perspectives and insights to shift school culture, create a more welcoming place to learn, infuse a range of subjects into units and lesson plans, and to partner with community members and students to ensure that what is taught connects with the lived realities of young people beyond the school walls.

Critical literacy is defined not by any teaching method or strategy or any one set of skills, but the approach one takes when engaging and challenging texts (McLaughlin & DeVoogd, 2018). Critical literacy welds literacy and power together – "an emancipatory force" (Weiland, 2017, p. 37.) that frees people to read and write text as they read and write the world. Critical literacy encourages students to think and question their own perspectives as well as others' (Moore & Begoray, 2021). The 21st century citizen should have the ability to navigate themselves through an overwhelming infobesity of information they come across in their daily lives. Critical literacy is no doubt an important ability for students to equip to navigate a modern and complex world (Weiland, 2017). Critical literacy often begins early in a student's schooling experience, laying the foundation so that they can approach the world with a critical lens after they leave school (Cardoso, 2017; Olin-Scheller & Tengberg, 2017).

SECTION 3

ENGLISH LANGUAGE ARTS LITERACIES

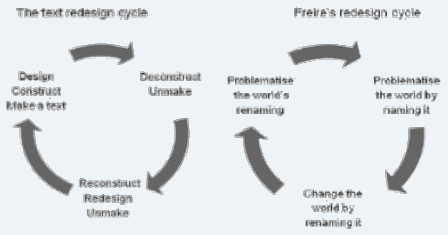
Built into the curriculum of English Language Arts are the multiple literacies required for reading comprehension and writing. Both skills begin as a process of *learning to read and write*, but the sub-skills that teachers must expound on are what will progress students towards *reading and writing to learn*. Table 1 below provides an overview of some foundational English Language Arts literacies compiled by Perin and Holschuh (2019).

Table 1. *Foundational English Language Arts Literacies*

Reading Literacies	Writing Literacies
1. Understand literal and implied textual information	1. Compose text in three major genres: (a) argumentative/persuasive, (b) informational/explanatory, and (c) narrative
2. Draw appropriate inferences and conclusions	2. Use precise language and varied sentence structure
3. Identify and summarize main ideas of text	3. Produce coherent text demonstrating awareness of the informational needs and basic assumptions of an assumed audience of readers
4. Analyze information as it unfolds over a text	4. Revise one's own text to improve clarity
5. Interpret meanings of words and phrases	5. Use digital technology to communicate and collaborate with others
6. Analyze the text structure	6. Engage in multimodal, non-print literacies in line with evolving practices in the 21st century
7. Understand the purpose or point of view expressed in text	7. Convey research findings
8. Make connections between the text and their own experiences	8. Acknowledge the source of ideas (i.e., avoid plagiarism)
9. Comprehend information presented in diverse formats and media	9. Engage in both short- and long-term writing tasks
10. Assess the arguments expressed in text	
11. Compare information across texts	
12. Analyze an author's use of literary devices	
13. Understand complex texts	

Critical English Language Arts Literacy is not a teaching method, but a pedagogical approach, and a way of being and thinking that challenges texts in various forms (Janks, 2014; McLaughlin & DeVoogd, 2018). Although there are a multitude of definitions of critical literacy, most have the following elements in common: (1) disrupting the stereotypes and the taken-for-granted; (2) multiple viewpoints; (3) a focus on socio-political issues; and (4) action steps for social justice (Lewison et al., 2002). Table 2 provides a brief sample of critical English Language Arts literacies, teaching strategies, and pedagogies.

Table 2. *Critical English Language Arts Literacies, Teaching Strategies, and Pedagogies*

Critical Literacies	Critical Teaching Strategies and Pedagogies
1. Divergent thinking 2. Application of lived experiences to text 3. *Meaning from the text* is drawn from lived experiences of the reader as opposed to finding the *meaning in the text*	Reader-Text Transaction Approach *(Beach & O'Brien, 2018)*
1. Memory Questions ➢ Signal words: who, what, where, when? ➢ Cognitive operations: naming, defining, identifying, designating 2. Convergent Thinking Questions ➢ Signal words: why, how, in what ways? ➢ Cognitive operations: explaining, stating relationships, comparing, and contrasting 3. Divergent Thinking Questions ➢ Signal words: imagine, suppose, predict, if/then ➢ Cognitive operations: predicting, hypothesizing, inferring, reconstructing 4. Evaluative Thinking Questions ➢ Signal words: defend, judge, justify/what do you think? ➢ Cognitive operations: valuing, judging, defending, justifying	Ciardiello's Levels of Questioning *(Ciardiello, 1998; McLaughlin & DeVoogd, 2018)*
1. Engage with ways in which meaning is produced and reproduced and identifying ways to "resist meanings that benefit some at the expense of others". 	Text Redesign Cycle *(Janks, 2014)*
1. Understand the genre of writing	Close Reading

2. Make personal connection with the literature 3. Puts the text at the center of reading and requires readers to analyze the literal content, the inferential, and the interpretative to make meaning	*(Lee, 2011; Park, 2013; Rainey et al., 2017; Spires et al. 2018)*
1. Combines reading and writing with orality, and, 2. Use of explicit instruction on selected reading strategies 3. Holding recurring conversations about the texts and challenging writing tasks	Dialogic Strategy Instruction *(Olin-Scheller & Tengberg, 2017; Wilkinson & Son, 2011)*
1. Identify a familiar place (e.g., school, neighbourhood) through a new lens: a "linguistic ethnographer's" 2. Document which languages are dominant in that place (appearing on official signs and, in the case of multilingual signs, being more prominent than other languages) 3. Document what languages can be heard spoken, or appear on less official (handmade) signs 4. Identify which passersby are likely to understand all the cultural references behind a text (e.g., sign, flyer, graffiti), and which are likely to get only the surface meaning 5. Discuss what these observations tell us about top-down language policies and how they are adopted or resisted by people in that place	Linguistic Landscapes *(Burwell & Lenters, 2015)*

SECTION 4

MATHEMATICAL AND STATISTICAL LITERACIES

To function and approach real world problems, students should be equipped with mathematical and statistical literacies to address sociopolitical issues they are bound to face. **Mathematical Literacy** refers to a person's ability to apply and interpret mathematics in various contexts. There have been calls for a progressive mathematics curricula that better connects math content with real life content (Steen, 2021).

Mathematical Literacy is an indispensable skill that is reflected in the educational standards of many countries. Some research shows that mathematical literacy affects academic achievement in mathematical and non-mathematical domains including Information and Communication, Science, Reading, and Listening comprehension (Holenstein et al., 2021). The results encourage teachers and parents to foster student's mathematical literacy from early on. Table 3 provides a brief sample of critical mathematics literacies, teaching strategies, and pedagogies.

Table 3. *Critical Mathematics Literacies, Teaching Strategies, and Pedagogies*

Critical Literacies	Critical Teaching Pedagogies and Strategies
1. Navigate the mathematics classroom as a context that involves proving and explanation 2. Understand the pivotal role of multiple modes of representation in mathematics 3. Understand the necessity of details, precision, and effective representation of such specifics in mathematics	Multimodal and Multi-Semiotic Literacies and Approaches *(O'Halloran, 2015; Taylor, 2018)*
1. Help student with the achievement in different content domains	Mathematical Modeling *(Holenstein et al., 2020)*
1. Students develop critical consciousness ➢ An understanding of the sociopolitical forces and institutions that shape their lives 2. Students develop critical agency ➢ A sense that they can make a positive difference in the world and fight for social justice 3. Students develop positive social and cultural identities ➢ Validating their language and culture and helping them uncover and understand their history 4. Students develop changed dispositions towards mathematics	Reformist Critical Mathematics *(Gutstein, 2003)*

➢ Seeing themselves as capable of doing sophisticated mathematics and this as relevant to their lived situations 5. Students develop mathematical power ➢ Engaging in complex mathematical tasks ➢ Drawing on knowledge from a wide variety of mathematical topics ➢ Approaching the same problem from different mathematical perspectives ➢ Representing the mathematics in different ways until they find methods that enable them to make progress ➢ Becoming flexible and resourceful problem solvers ➢ Working productively and reflectively communicate their ideas and results effectively ➢ Valuing mathematics and engage actively in learning it	
1. Problem ➢ Ask the right questions (what hypotheses can be generated) ➢ How much, how many, why does this stand out, what category or group does this belong to, what are the best options to choose 2. Plan ➢ What data is needs to be collected to answer the hypotheses ➢ What will the sources of data be and what access is there ➢ Will the data be of sufficient volume ➢ Where and how will the data be stored ➢ What are the ethical considerations of collecting and using the data 3. Data ➢ Understanding data ➢ Quality checking 4. Analyze ➢ Cleaning and preparing, manipulating, visualizing, modelling and validating 5. Conclusion [Interpret] ➢ How does the data answer the hypotheses/problem statements ➢ Are there any aspects of the hypotheses that have not been addressed ➢ What conclusions/interpretations can be drawn from the data ➢ What are the next steps and what steps could have been taken	Problem, Plan, Data, Analyze and Conclusion [Interpret] (PPDAC) Investigative Cycle (Weiland, 2017; Wild & Pfannkuch, 1999; Updated by Franklin et al., 2007)

Statistical Literacy refers to one's ability to process and critically analyze the statistical results that we encounter daily. Statistical literacy is also interconnected more broadly with numeracy and quantitative literacy that focus on statistical concepts and practices (Weiland, 2017).

To merge Critical Literacy with mathematics and statistics, we draw upon Rico Gutstein's (2006) work within the intersection of math and critical literacy,

> [Reading the world with mathematics meaning] is to use math to understand relations of power, resource inequities, and disparate opportunities between different social groups and to understand explicit discrimination based on race, class, gender, language, and other differences. Further, it means to dissect and deconstruct media and other forms of representation. It means to use mathematics to examine these various phenomena both in one's immediate life and in the broader social world and to identify relationships and make connections between them. (p. 45)

Table 4 provides a brief sample of critical Statistical Literacies, teaching strategies, and pedagogies.

Table 4. *Critical Statistical Literacies, Teaching Strategies, and Pedagogies*

Critical Literacies	Critical Teaching Pedagogies and Strategies
1. Statistical Literacy ➢ Making sense of and critiquing statistical and quantitative data-based arguments encountered in diverse contexts ➢ Evaluating the source, collection and reporting of statistical information **2.** Critical Literacy ➢ Making sense of symbol systems ➢ Identifying and interrogating social structures in the world ➢ Understanding one's social location, subjectivity, political context and having a socio-historical and political knowledge of self and world **3.** Critical Statistical Literacy ➢ Making sense of language and statistical symbols systems and critiquing statistical information and data-based arguments encountered in diverse contexts to gain an awareness of the systemic structures at play in society ➢ Identifying and interrogating social structures which shape and are reinforced by data-based arguments	Framework for a Critical Statistical Literacy – Reading; *(Weiland, 2017)*

➢ Understanding one's social location, subjectivity, political context and having a socio-historical and political knowledge of self and understanding how it influences one's interpretation of information ➢ Evaluating the source, collection and reporting of statistical information and how they are influenced by the author's social positon, and socio-political and historical lens	
1. Statistical Literacy ➢ Formulating statistical questions ➢ Collecting or finding data relevant to answering posed statistical question(s) ➢ Analyzing data using appropriate graphical and numerical methods ➢ Interpreting analyzed data addressing the statistical question(s) being investigated ➢ Discussing or communicating the meaning of statistical information 2. Critical Literacy ➢ Creating and communicating one's own meaning through symbol systems ➢ Actively influencing and shaping structures in society ➢ Working to alleviate and resolve socio-political issues of injustice ➢ Actively negotiating and navigating dialectical tensions in society ➢ Communicating one's social location, subjectivity, and political context to others 3. Critical Statistical Literacy ➢ Making sense of language and statistical symbols systems and critiquing statistical information and data-based arguments encountered in diverse contexts to gain an awareness of the systemic structures at play in society ➢ Using statistical investigations to communicate statistical information and arguments in an effort to destabilize and reshape structures of injustice for a more just society ➢ Using statistical investigations to alleviate and resolve socio-political issues of injustice ➢ Negotiating societal dialectical tensions when formulating statistical questions, data collection and analysis methods and highlighting such tensions in the results of a statistical investigation **4.** Communicating one's social location, subjectivity, and political context to others and how it shapes one's meaning making of the world when reporting results of a statistical investigation	Framework for a Critical Statistical Literacy – Writing; *(Weiland, 2017)*

SECTION 5

SCIENCE LITERACIES

Science Literacy refers to the understanding of science and knowledge of scientific processes within their domains, including biology, physics, and chemistry to name a few (Rainey et al., 2017; Spires et al., 2018). Becoming literate in science requires: (a) knowledge of scientific terminology, (b) ability to synthesize multiple sources, and (c) ability to engage in analytical thinking (Spires et al., 2018).

Guided inquiry instruction is particularly effective in allowing students to collaborate in teams to hypothesize, co-plan, and conduct investigations of phenomena for the purpose of identifying and collecting data evidence and to disprove their claims as part of the scientific method (Palincsar et al., 2017). Teachers facilitate discussions and support students through a joint collaborative and deliberative process wherein learning and co-construction of knowledge take place (Rogoff, 2003). In a broad sense, literacies that are developed through guided inquiry include the ability to socially function in peer collaborations and to co-plan and act towards achieving a set of goals (White, 2011).

In the science classroom, it is essential for students to develop multiple literacies so they are able to *read the world* they experience and apply scientific concepts and tools in their transformation into social agents for positive change. Unfortunately, critical literacies that connect scientific concepts and learnings with social injustices can largely be absent in science classrooms (Wilson et al., 2012). This is concerning given current realities of global climate change, rapid de-forestation, pervasive resource extraction and scarcity that exacerbate already existing injustices faced by marginalized communities (Wilson et al., 2017). Monroe and colleagues' (2019) systematic review of effective practices for teaching climate change found that students think more critically and deeper about this topic when: (1) teachers are able to engage in deliberative discussions to help learners better understand their own and others' viewpoints and knowledge; (2) students can connect with scientists and experts, (3) students are provided time to explore misconceptions and correct misunderstandings, and (4) school and community projects are implemented and allow for students to become active agents for change.

Table 5 provides a brief sample of critical Science Literacies competencies, teaching strategies, and pedagogies.

Table 5. *Critical Science Literacies, Teaching Strategies, and Pedagogies*

Critical Literacies	Critical Teaching Pedagogies and Strategies
1. Students understand scientific concepts and can explain scientific phenomena to others 2. Students can construct scientific arguments that are supported by evidence and theory 3. Students can question the validity of scientific findings 4. Students can engage in respectful and informed collaborative argumentation about scientific findings 5. Students understand scientific culture and practice 6. Students use scientific evidence to inform decision-making 7. Students understand the interaction between science and society	Argument-based Interventions and Collaborative Discourse *(Cavagnetto, 2010; Osborne, 2010)*
1. Understand the pivotal role of multiple modes of representation in science 2. Produce different explanations depending on representation 3. Understand the necessity of details, precision, and effective representation in science	Multimodal and Multi-Semiotic Literacies and Approaches *(Tang et al., 2014)*
1. Engaging ➢ Work as a team to draft testable questions ➢ Collect, record, and analyze data ➢ Represent findings in various formats, including graphs, equations, and written prose ➢ Synthesize findings from previous steps and connect these findings to theory 2. Eliciting and Engineering ➢ Identify conventions of a discipline (e.g., typical parts of an argument in physics) ➢ Take deliberate and detailed notes that one can later consult to support one's argument ➢ Learn technical way of communicating science to others ➢ Discuss phenomena with others until there is a common understanding 3. Examining Words and Language ➢ Challenge students' conceptual understanding of words and their specific meanings (e.g., the scientific difference between *observation* and *explanation*) 4. Evaluating Ways with Words ➢ Understand that words have different meanings depending on the domain; ➢ Determine how, when, and why to use particular words across domains	4-Es (Engaging, Eliciting and Engineering, Examining Words and Language, Evaluating Ways with Words) *(Rainey et al., 2017)*

SECTION 6

SOCIAL STUDIES LITERACIES

Social Studies Literacy refers to one's ability to critically evaluate how people interact with one another and with their world through the study of various disciplines including history, geography, political science, economics, and sociology. It involves the abilities to examine diverse perspectives, use multiple sources to corroborate evidence and support one's claims, assess the reliability and validity of sources, question authors' biases, and consider the historical, sociocultural, and political context in which text was written (Grant et al., 2017; Hujigen & Holthuis, 2015; Savitz, 2021; Wineburg et al., 2013).

Critical literacy in social studies is essential because it shapes students' understanding of their own lives and present-day issues (Soares & Wood, 2010). In fact, some argue that the social studies classroom is the best place to teach students how to critically evaluate evidence to determine the truth (Wineburg & Martin, 2004). It is in social studies courses that students acquire the knowledge and critical-thinking skills to become engaged, informed, and responsible citizens. Students should not only learn to evaluate the context in which traditional and non-traditional sources from the past were developed, but they should also learn to connect historical events to current issues (Ogle, Klemp, & McBride, 2007). As Soares and Wood (2010) note "[w]hen teachers bring a critical literacy perspective to the social studies classroom, they can teach students about the past to work for common good in the future." Table 6 provides a brief sample of critical Social Studies Literacies competencies, teaching strategies, and pedagogies.

Table 6. *Critical Social Studies Literacies, Teaching Strategies, and Pedagogies*

Critical Literacies	Critical Teaching Pedagogies and Strategies
1. Evaluate the credibility of statements 2. Formulate convincing arguments 3. Research complex topics 4. Respectfully argue for or against certain issues 5. Coherently speak about issues 6. Question the historical, political, and sociocultural contexts in which text was written 7. Consider diverse perspectives 8. Collaborate with others 9. Develop attitudes that promote civic participation	Debate-centred Curriculum *(Davis et al., 2016; Nyatanga & Howard, 2015; Savitz et al., 2021;)*
1. Engaging ➢ Identify nuanced perspectives within texts	4-Es (Engaging, Eliciting and Engineering, Examining

➢ Identify patterns and anomalies across diverse sources 2. Eliciting and Engineering ➢ Engage in historical empathy and reasoning (i.e., describe the context in which text was written) ➢ Identify author bias ➢ Collaborate with others 3. Examining Words and Language ➢ Examine language of sources to consider diverse perspectives ➢ Consider implicit meaning of words 4. Evaluating Ways with Words ➢ Understand when, why, and how to use historical literacy practices such as sourcing ➢ Understand when, why, and how shared practices of history are or are not useful	Words and Language, Evaluating Ways with Words) *(Rainey et al., 2017)*
1. Traditional Content Acquisition ➢ Extract and recall information through reading and listening to lectures 2. Content-Area Literacies ➢ Develop general literacy skills to maximize comprehension of material ➢ Make meaning and inferences of diverse texts 3. Historical Literacies ➢ Source, contextualize, and corroborate primary, secondary, and tertiary sources ➢ Support conclusions with evidence 2. Civic Literacies ➢ Critically evaluate information from a variety of sources ➢ Enhance knowledge, skills, and attitudes for actively engaging in democratic process ➢ Make evidence-based democratic decisions ➢ Contemplate multiple and conflicting perspectives	Productive Textual Engagement *(Popp et al., 2021)*
1. Primary source analysis skills 2. Make unfamiliar texts more relatable and memorable 3. Increase the opportunities of expression and participation 4. Synthesis of information (i.e., students relate historical content to themselves or something they already know from previous studies) 5. Connect primary sources to current issues 6. Retell primary sources from other perspectives 7. Identify underlying issues in primary sources	Found poetry *(Johnson, 2019)*

SECTION 7

TECHNOLOGY AND MEDIA LITERACIES

In today's digital world, it is almost guaranteed that individuals will use technology on a daily basis. **Digital Literacy** refers broadly to one's ability to effectively use technology, especially in terms of identifying, evaluating, and communicating information. This includes technical competencies such as operating a computer or browsing the web, but also includes competencies such as monitoring one's online safety, integrating information from a wide range of sources, and evaluating the reliability and validity of content presented online and through the media (Ferrari, 2012; Greene et al., 2014; Iordache, Mariën, & Baelden, 2017).

In this era of misinformation and disinformation, it has become especially important that students become critical consumers of news media, and especially, social media. Media cannot be regarded as a neutral source of information; rather, students must understand the different political, economic, and sociocultural factors that influence the media we consume. Buckingham (2008, 2010) outlines a conceptual framework for the essential components of **Critical Media Literacy**:

> (1) **Representation.** Individuals must be able to evaluate the content they encounter in the media by critically assessing factors such as the motivations and biases of the creator(s) of the material, the creator's authority and reliability, and whose perspectives are, or are not, being represented.
>
> (2) **Language.** Individuals must understand the unique rhetoric and conventions of sources and interactive communication.
>
> (3) **Production.** Individuals must understand who is being targeted in communications and why. That is, what role does promotion and sponsorship have in the information they are consuming and what are the interests of the commercial or non-commercial sources sharing the information?
>
> (4) **Audience.** Individuals must be aware of their own, and others', positions as consumers. They should consider the ways in which a medium is utilized (e.g., by social groups), how users access the medium, how media is targeted towards specific groups, etc.

Table 7 provides a brief sample of critical technology and media literacies, teaching strategies, and pedagogies.

Table 7. *Critical Technology and Media Literacies, Teaching Strategies, and Pedagogies*

Critical Literacies	Critical Teaching Pedagogies and Strategies
1. Reflecting and Connecting ➢ Relate text to personal experiences ➢ Identify personal perspectives and biases, and how these biases developed ➢ Question assumptions of popular media 2. Teaching Tools and Text Teams ➢ Draw connections between different forms of media or portrayals of similar issues and synthesize information with evidence ➢ Identify counterarguments and evaluate multiple perspectives 3. Structured Writing, Personalized Responses ➢ Integrate domain-specific language into writing ➢ Identify commonalities and contradictions between different forms of media, and why these contradictions exist ➢ Understand how media representations influence perceptions of social constructs such as race and class 4. Making Meaning Through Recursive Dialogue ➢ Understand that reading, writing, synthesizing, and [thinking] are recursive processes ➢ Build on previous ideas based on conversations and feedback to strengthen arguments	Scaffolding Critical Media Literacy through Texts about Schooling *(Kelly & Brower, 2016)*
1. Critical analysis of text 2. Challenge others' thinking or commonplace assumptions 3. Offer new or revised insights in public forums 4. Facilitate discussions about current issues 5. Consider multiple or alternative perspectives 6. Identify own biases 7. Integrate information from multiple sources	Structured Blogging *(Allen & Flint, 2014)*
1. Identify the creators of content on the web and their credentials 2. Consider why the content was written 3. Identify when the information was written and updated 4. Determine whether the content meets their needs 5. Navigate websites and find useful information 6. Verify the accuracy of information by corroborating 7. Evaluate the trustworthiness of websites	WWWDOT Framework *(Zhang et al., 2011)*
1. Challenge primary messages of advertisements with alternative perspectives or subtext	Talk Back to the Text *(Gainer et al., 2009)*

SECTION 8

CIVIC LITERACY: A CYCLE OF PRAXIS FOR DEVELOPING CRITICALLY LITERATE CITIZENS

Through electoral participation and involvement among youth, an effort to address and solve many issues locally and globally can be made. Unfortunately, trends find that civic engagement has been on the decline among youth eligible to vote. Regarding first-time voting, the 1960s saw roughly 70% of new voters voting in the election they were first eligible to participate in compared to just 30% of first-time eligible Canadians in 2004. Blais and Loewen's (2011) comprehensive review of the civic engagement among Canadian youth found socio-economic and education level, level of interest in politics, and a high amount of political information or knowledge on the part of the individual are several determinants influencing youths' decision to vote.

How youth access political information can also influence their decision to vote. For example, youth who access information about federal elections via the internet are 16 to 26 percentage points higher in terms of voting than those youth who do not. Similarly 18 to 30 year-olds who engaged in other forms of political activities including signing petitions, joining rallies, boycotts or protests were 11 to 16 percentage points higher to vote than those who did not (Blais & Loewen, 2011). According the National Youth Survey Report (2011), 88% of youth cited political interest as a key motivational factor in their decision to vote compared to 28% who were not all interested (Blais & Loewen, 2011). In addition, 90% of youth voters were able to correctly answer three political-related questions versus 24% of non-voters who were unable to answer any of the three questions.

Much of these factors help paint a profile of the typical youth voter, which Blais and Loewen (2011) describe as "…both interested in and informed about politics. The average non-voter is not. Demographically, the average voter likely lives in a wealthier household and is more likely to be born in Canada. All other factors do not help us distinguish voters from non-voters." (p. 11). However, there are other environmental factors that play a role in voter turnout. Barriers to voting included personal circumstances such as finding a way to get to the polling station (46% of non-voters), when and where to vote (25%-26% of non-voters compared to 3% and 2% of voters) and providing identification (15% of non-voters compared to 2% of voters).

To address the civic illiteracy and apathy among 21st century youth, a **cycle of praxis** can serve as a means to actualize students' potential to become critically literate individuals in the 21st century. The cycle includes both student and teachers working towards: (1) an awareness of inequities and a need to change, (2) identifying and creating tools needed to create change, (3) planning for change, (4) being agents of action – *for change* – and, (5) iteratively reflecting through further reading and research.

SECTION 9

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