ADOLESCENT LITERACY GUIDE
A Professional Learning Resource for Literacy, Grades 7-12
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As students enter adolescence they are making what some researchers assert is the most challenging transition of their lives (Hume, 2008). They are experiencing physical, social, emotional, and intellectual changes. By the time adolescents enter the middle grades, they have learned a great deal about literacy. However, they need to learn more. Literacy continues to evolve as the world changes and its demands shift and become more complex. Literacy is not only used for reading and writing, but also to increase one’s understanding of the world. Adolescents require continual practice over time to refine their skills in thinking, reading, writing and oral communication.

The following key messages guide this resource:

- Literacy supports and is developed through thinking, expressing and reflecting.

- Literacy development continues in adolescence; there is no one grade or content area that provides all the necessary literacy instruction students need as lifelong learners.

- Literacy is embedded in all content areas; in fact, each of the subject-areas provides opportunities for literacy development, often in unique and specialized ways. Embedding literacy instruction in all subjects allows adolescents to deepen their understanding of the knowledge and skills in content areas.

- Literacy is fostered in active and responsive learning environments which feature explicit literacy instruction and meaningful experiences which provide adolescents with avenues for social connection, discovery, motivation, and relevancy.

- Adolescents need to engage with a variety of literacy practices for a range of purposes, including students’ own purposes.

- Literacy is complex. Proficiency in literacy is based on prior experience, sense of self-efficacy, identity, relevance, engagement, and motivation.

- Literacy is a means of empowerment and self-advocacy.

- Literacy learning is a shared responsibility. Students benefit from the efforts of all educators working together in a coordinated, purposeful way with a goal of improving literacy.

- Effective literacy instruction begins with the needs of the learner. Assessment is used to highlight strengths and target direction for both teachers and students to set learning goals for further growth.

- Leading adolescent literacy practices are deepened through research, collaboration and professional learning.
THE APPROACH OF THIS GUIDE

This guide is intended to support professional learning on adolescent literacy. It recognizes that there is no one lesson, single strategy, program or course that meets all the needs of adolescent literacy development. Supporting teens in acquiring literacy requires on-going work by educators in all subjects and all grades.

This guide provides information on critical areas related to adolescent literacy, outlines a framework which may be used for long-term planning to support literacy learning in grades 7 to 12, and provides a basis to develop those supports in the context of facilitated professional learning.

HOW THIS RESOURCE WAS DEVELOPED

This resource was developed through a multi-stage process which involved:

Working closely with an advisory panel and steering team
- In 2008-2010, emphases for adolescent literacy were developed (critical literacy, metacognition, questioning, strategies, structures, student voice) by an advisory panel.
- In 2011, the advisory panel responded to research conducted on the emphases for adolescent literacy and made recommendations.

Synthesizing research
- In 2010, an external review was conducted on the impact of Think Literacy in Ontario schools, grades 7-12.
- In 2011, a review of the emphases for adolescent literacy was conducted which included both a literature and jurisdictional review, feedback from the literacy steering team, and input from an expert panel.
- Recommendations from both research studies indicated a move towards a more comprehensive approach to adolescent literacy in Ontario schools.

Developing the guide
- In 2011, the literacy steering team developed a framework to guide the writing of the resource.
- In spring and fall 2011, a team of writers and reviewers developed the contents of the guide.

Gathering feedback from focus groups
- In 2009-2011, focus groups with representation from various subject associations and faculties of education provided feedback and advice on how the subject areas may support literacy learning.
- In March and April 2012, focus groups with representation from boards across the province provided feedback on the contents and advice on release, distribution, and professional learning for educators.

Connecting with ministry branches for alignment and coherence of work
- Throughout the process, representatives from various ministry branches have contributed to the advisory panel and provided input into the development of this guide.

Listening to the voices of students
- In winter and spring 2011-2012, students in grades 7-12 from various schools in the province contributed their voices to the resource, describing their observations and ideas about literacy in and outside of school.
Key to this guide is keeping the student at the centre. Adolescents bring to the classroom a wide range of learning strengths, needs, interests, life experiences, cultures, languages and values, which influence how they learn. Throughout their adolescent years, students experience significant changes - physically, intellectually, emotionally, and socially. To engage each student as a learner, educators must affirm the personal and cultural identity of each student.

In the adolescent years, it becomes increasingly important to consider:

- the learner’s development, including the need for autonomy and self-efficacy
- the connection between literacy learning and the engagement and motivation of adolescents
- the increasing complexity of literacy demands in a variety of subject disciplines
- the broad range of literacy skills of students in grades 7-12 classrooms
- the influence of students’ out-of-school literacy practices
- the adolescent’s need for social interaction supported in a caring, responsive, and positive classroom environment.
Adolescence is a period of rapid change. Physical change is the most obvious, but adolescents are also changing cognitively, emotionally and socially.

They also deal with shifts in their identity as they move into new roles and responsibilities in their social groups, interests, and communities. It is also a developmental period marked by a number of important transitions and milestones (e.g., related to school, work, cultural or religious significance).

At the same time, students are living with a number of technological innovations previous generations never experienced. Adolescents may:

- be accustomed to receiving information quickly
- prefer multi-tasking
- prefer non-linear access to information
- engage in games, simulations, and role-playing
- engage in social interactions through a variety of technologies (Tapscott, 2008).

For adolescents, it is a time that may seem all at once exhilarating and stressful, while simultaneously for the adults in their lives, a puzzling and hopeful time. However, when learning is responsive to the developmental needs of students, and takes their lives into account, adolescent learners are more likely to experience success. As with any stage of development, educators play a key role in providing learning experiences with the learners’ development in mind.

What teachers need to know about literacy and teens is “that we are a generation of low patience and we need to like something to put effort into it.”

Elaine S., Grade 12
**PHYSICAL DEVELOPMENT**

The physical changes of puberty affect every aspect of the lives of adolescents. Changing bodies may lead to changes in circles of friends, participation in activities such as sports, adults’ view of adolescents, and adolescents’ views of themselves.

During adolescence, students are experiencing:

- rapid growth resulting in relatively significant increases in both weight and height
- development of primary and secondary sex characteristics
- changes in body composition, notably the quantity and distribution of muscle and body fat
- changes in cardiovascular and muscular endurance, strength and flexibility (Steinberg, 2008).

“Recent research suggests that the cerebellum [which is largely responsible for physical movement and coordination] also coordinates cognitive thought processes and that the more physical exercise adolescents get, the better their brains will process information... Academic classrooms should also include movement to activate learning.”

*Sprenger, 2005*

“Remember that teens are not adults. Having scientific evidence to support the view that teens are not adults can be helpful to educators working with families, adolescents and other professionals who may have unrealistic expectations for adolescents.”

*Price, 2005*

<table>
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<tr>
<th>Development may lead students to...</th>
<th>Teachers tap into developmental needs by...</th>
<th>Literacy Links</th>
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<tbody>
<tr>
<td>• be engaged in less physical activity</td>
<td>• providing opportunities for physical activity and social interaction</td>
<td>• Critical Literacy: prompt students to question, challenge and analyze media images of youth</td>
</tr>
<tr>
<td>• experience an increase in strength, energy levels, stamina and sexual maturation at different times and rates</td>
<td>• creating a safe and positive social and emotional climate for learning</td>
<td>• Metacognition: have students reflect on their learning in a variety of learning settings</td>
</tr>
<tr>
<td>• feel fatigued at various times during the day</td>
<td>• creating a learning environment that allows students to move (e.g., four corners, value line), and be kinesthetic</td>
<td>• Voice and Identity: invite student input on the set-up of their learning environment</td>
</tr>
<tr>
<td>• have increased appetite and shift in their eating habits</td>
<td>• connecting body representations to ideas (e.g., tableau)</td>
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**COGNITIVE DEVELOPMENT**

Adolescents are experiencing a brain growth spurt. This in part, explains a number of changes in learners cognitively. Adolescents develop intellectually so that they can think in ways that are more advanced and more efficient than when they were children (Steinberg, 2008). Adolescents’ intellectual and cognitive abilities are developed through practice, so instruction targeting these skills is critical during this period of brain growth.

During adolescence, students are developing:

- the ability to think more about a variety of possibilities
- improved abstract thinking compared to their thinking as children
- the skills to think more about thinking (metacognition), and think more purposefully to advance their learning
- the capacities to engage in thinking that is more multidimensional, rather than limited to a single issue or perspective
- the ability to see issues and situations as relative, rather than absolute, and the realization that individuals can draw different conclusions from the same facts (Steinberg, 2008).

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<th>Development may lead students to...</th>
<th>Teachers tap into developmental needs by...</th>
<th>Literacy Links</th>
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<tbody>
<tr>
<td>• want to find or see relevance in their learning</td>
<td>• co-creating learning goals and success criteria and inviting student input into decisions related to their learning environment</td>
<td>• Critical Literacy: invite students to analyze issues related to equity, power and social justice and invite them to take a critical stance</td>
</tr>
<tr>
<td>• want to play a role in designing their own learning experiences</td>
<td>• using inquiry or project-based processes that integrate, synthesize and apply content knowledge</td>
<td>• Metacognition: develop opportunities for reflection, and to act on their metacognitive thinking</td>
</tr>
<tr>
<td>• develop an increased ability to process and make connections</td>
<td>• providing opportunities for creativity, choice</td>
<td>• Questioning: provide opportunities for students to develop and pose their own questions</td>
</tr>
<tr>
<td>• want to explore creative expression in a supportive environment</td>
<td>• allowing students to generate alternative solutions and explanations</td>
<td>• Strategy: guide students to develop their own strategy as they engage in appropriate complex tasks</td>
</tr>
<tr>
<td>• question and exhibit curiosity</td>
<td>• providing opportunities for students to organize abstract ideas</td>
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EMOTIONAL DEVELOPMENT

Adolescent emotional development is closely connected to their social development and is also tied to their sense of identity.

Adolescents often feel emotions more intensely. Recent brain research indicates that the limbic system, the emotional centre of the brain, matures earlier than the frontal lobes, the part responsible for emotion control. So, adolescents are more likely to have strong emotional responses to situations and issues, and may respond in ways which are considered outside the norm (e.g., being overly dramatic). They may also focus on personal aspects of the emotion (e.g., my teacher hates me). “While adolescents have become more capable of experiencing emotions, their capacity for self-regulation and for decision making lags behind. Learning to regulate their emotions is, therefore, initially quite difficult for adolescents” (Stepping Stones, 2012).

During adolescence, students are developing:

- abilities to accurately read facial cues and body language of others, and interpret these for information about others’ emotional state;
- emotional self control;
- empathy for others;

### Development may lead students to...

- experience new, intense and long lasting emotions
- need independence and to exercise self-assertion
- fear rejection, and experience feelings of uncertainty and inadequacy
- become more intrinsically motivated and increasingly want to pursue opportunities and goals for the own purposes and on their own terms

### Teachers tap into developmental needs by...

- teaching students how to work effectively and respectfully in diverse teams
- modeling and teaching positive communication strategies, conflict-resolution, decision-making, problem-solving, leadership
- co-creating norms of collaboration and classroom conduct
- establishing and maintaining clear classroom routines and structures
- providing learning experiences which involve students’ social network
- guiding students as they deal with stress
- providing opportunities for students to analyze a variety of perspectives

### Literacy Links

- Critical Literacy: provide opportunities for students to analyze a variety of perspectives, and to imagine particular perspectives
- Metacognition: invite students to reflect on how their attitudes toward particular situations affect their learning
- Metacognition: help students develop a “growth mindset” to help them to see mistakes as opportunities for learning

“Empathy during adolescence involves a largely emotional response, while mature empathy that emerges in early adulthood involves a more cognitive evaluation of other person’s emotional response.”

*Stepping Stones, 2012.*

“The brain is biologically programmed to attend to information that has a strong emotional content. It is also programmed to remember this information longer.”

*Wolfe, 2005*
Adolescent social development is connected to all areas of development, particularly emotional development and it is also linked closely to identity. How students appear in the eyes of their peers matters a great deal. “Consequently, adolescence is an intensely social time, when the hunger for belonging, community, social status, and emotional closeness provide the context within which teens discover their identity” (Armstrong, 2006).

During adolescence, students are developing:

- a personal identity and sense of self
- a social identity
- a sense of independence and autonomy
- moral reasoning based on both personal and external factors
- strong relationships which are independent of family relationships (Armstrong, 2006).

"As it turns out, graduating from [high school] is not one of the central developmental tasks of young adulthood... the key issue of young adulthood is the quest for intimacy (failing which the individual feels isolated).”

Armstrong, 2006

“Teachers help their students to develop a sense of competence and self-worth when they are able to convince their students that they care about them as individuals and want them to learn.”

Dillon cited in Think Literacy Success, 2003
Educators are key to providing the environment and learning experiences which help adolescents in (or with) their development. Adolescents have a number of needs that support their development. These include:

- **Affirmation**
  When learners feel a sense of affirmation, they feel listened to, they feel safe, accepted, and acknowledged.

- **Challenge**
  When learners feel an appropriate sense of challenge they are engaged in learning that complements who they are. They are stretching their abilities, they are accountable, and they know they are accomplishing goals that are different than what they have achieved in the past.

- **Contribution**
  When students feel they are making a contribution, they feel like they make a difference, they bring perspective, they are connected, and they help others succeed.

- **Power and Autonomy**
  When learners have a sense of power and autonomy, they feel they can make choices, and they know what quality and success looks like and they know how to get there.

- **Purpose**
  When students feel a sense of purpose they understand what they need to do, they know they make a difference, they see significance in what they are doing, and they are absorbed in a process leading to a desired goal.

Educators support student literacy learning by:

- establishing a classroom environment of trust, respect and cooperation where students feel safe and empowered to take risks, pose questions and seek answers of relevance and interest

- using assessment to gauge students’ needs, and determine next steps for learning and instruction

- using the gradual release model to scaffold instruction

- providing responsive instruction to students when needed

- creating spaces and opportunities for collaboration, and tapping into learning through social interactions in the classroom.

“Today’s teachers are called upon to work with colleagues to design learning environments that promote deeper engagement in learning as a reciprocal process. Learning can no longer be understood as a one-way exchange where ‘we teach, they learn.’ It is a reciprocal process that requires teachers to help students learn with understanding, and not simply acquire disconnected sets of facts and skills. Teachers with effective teaching practices also know how critical strong relationships are in educating students, building social cohesion, and producing minds that thirst for knowledge for a lifetime. They, along with administrators and other important adults, make school a socially, academically, and intellectually exciting and worthwhile place to be.”

*Willms, Friesen & Milton, 2009*

“Successful instruction for adolescents is intellectually demanding, connected to the students’ lives and the world, and socially supportive. It encourages risk-taking and celebrates and encourages difference.”

*Think Literacy Success, 2003*
A VISION OF LITERACY FOR THE ADOLESCENT LEARNER

All students are equipped with the literacy skills to be critical and creative thinkers, effective meaning makers and communicators, collaborative co-learners, and innovative problem solvers in order to achieve personal, career and societal goals.

All students, individually and with others, develop abilities to

**THINK**
access, manage, create and evaluate information in order to think imaginatively and critically to solve problems and make decisions, including those related to issues of fairness, equity and social justice

**EXPRESS**
use language and images in rich and varied forms to read, write, listen, speak, view, represent, discuss and think critically about ideas

**REFLECT**
apply metacognitive knowledge and skills, develop self-advocacy, a sense of self-efficacy and interest in life-long learning
Embedded in the abilities to think, express, and reflect is a range of indicators which form evidence of student learning and a basis for a comprehensive approach to literacy.

These literacy indicators are organized around five components:

- **CRITICAL LITERACY** refers to students critically analyzing and evaluating the meaning of text as it relates to issues of equity, power, and social justice to inform a critical stance, response and/or action.

- **METACOGNITION** refers to students taking active control over their thinking processes so that they understand themselves as learners, they understand a given task, and they understand a variety of strategies and how to use them in a variety of situations.

- **QUESTIONING** refers to students’ curiosity, exploration, and inquiry to evoke, expose and extend their thinking for the purpose of deepening understanding.

- **STRATEGY** refers to students purposefully selecting and using techniques and processes in order to construct and communicate meaning.

- **VOICE AND IDENTITY** refers to students’ decisions, choices and actions that advocate for their learning and make connections to their experience, values, culture, and interests.

**THE COMPONENTS**

Although the components are defined separately, and are accompanied by a list of indicators, it is recognized that the components are interconnected (just as Think, Express and Reflect are interconnected). For example, when students use metacognition, they are likely also tapping into questioning by asking themselves questions about their learning, and may also be connecting with strategy by thinking about their success in using a particular process or technique.

The graphic is intended to show how literacy is about thinking, expressing and reflecting. It illustrates how students draw upon the interconnected components of critical literacy, metacognition, questioning, strategy, along with voice and identity as they think, express, and reflect.

Although the components overlap, teachers may want to highlight a component by providing explicit instruction as students develop these skills. As students become more proficient and independent with these components, it is also important to show them how they are interconnected.
THE COMPONENTS

Each component includes a definition. Each definition points out the knowledge and skills students develop and use in their literacy learning.

Critical Literacy refers to students critically analyzing and evaluating the meaning of text as it relates to issues of equity, power, and social justice to inform a critical stance, response and/or action.

STUDENT INDICATORS

Each component lists a set of indicators or evidence of literacy learning for students. In essence, they provide specific knowledge and skills students would demonstrate relating to the component and would help to deepen understanding in subject areas.

This list is not meant to be exhaustive. Educators, on their own or in collaboration with colleagues, may contextualize these for a subject area.

There are links between these indicators and curriculum expectations in all subject areas. This connection may help when looking to incorporate them into learning goals. Teachers can support students in understanding these indicators by helping students know how they connect to the learning in a course and how they support their literacy growth.

TEACHER PRACTICES

Teachers support the development of the literacy indicators through explicit instruction. For each of the components, a list of teacher practices is provided as ways to support students in developing their literacy.

This is a sampling of practices. Teachers, on their own or in collaboration with colleagues, may use this list to assess their own instruction, adapt the practices to make them more specific for their subject area, and/or add other practices which also support student literacy learning.
GUIDING QUESTIONS

For each component, there is a set of guiding questions which facilitators may use or adapt to prompt professional dialogue or for teachers to reflect on practice related to literacy learning.

PRACTICE AND RESEARCH CONNECTION

This guide also contains a set of Practice and Research Connections information articles that are intended to provide more in-depth background, connecting research to practice for various topics related to adolescent literacy. There is a Practice and Research Connections article for each of the components and one on the adolescent learner.

A NOTE ABOUT TEXTS

In this document, the term text is intended to be used in broad terms; that is, text refers to any form of communication that uses language and images to present information and ideas to an audience. This includes print and non-print media, verbal and non-verbal communication, visual, graphic, audio and digital works.
Critical Literacy refers to students critically analyzing and evaluating the meaning of text as it relates to issues of equity, power, and social justice to inform a critical stance, response and/or action.

<table>
<thead>
<tr>
<th>STUDENTS</th>
<th>TEACHERS</th>
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<tbody>
<tr>
<td>Recognize that texts are created by authors who have certain perspectives and biases</td>
<td>Explicitly point out assumptions and values embedded in a text and model appropriate responses</td>
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<td></td>
<td>Provide opportunities to deconstruct a range of texts with a variety of perspectives</td>
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<tr>
<td>Recognize that point of view influences how a text is interpreted and understood</td>
<td>Model and provide multiple opportunities to analyze and evaluate the meaning of texts, particularly about their purpose and audience</td>
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<tr>
<td>Determine whose voices are present and whose voices are missing from the text</td>
<td>Model the use of critical questions such as What is the author’s purpose? Whose point of view is presented? Who is advantaged by this text? Whose voice is missing? How does the graphical representation influence the meaning? What version of reality is presented? What does the author want you to believe? What are the assumptions in this text?</td>
</tr>
<tr>
<td>Evaluate sources for bias, reliability, fairness and validity</td>
<td>Explicitly teach students to evaluate texts for validity, reliability and credibility</td>
</tr>
<tr>
<td>Analyze how language is used to exercise power and/or maintain status quo</td>
<td>Explicitly point out how language is used and how it influences the meaning of texts</td>
</tr>
<tr>
<td>Take a stance and engage in a response or action in the interest of equity, fairness and social justice</td>
<td>Provide opportunities for students to understand their own perspectives and guide appropriate responses to issues of equity, fairness and social justice</td>
</tr>
<tr>
<td>Use technology to seek divergent perspectives, interact with authentic audiences, and express ideas</td>
<td>Provide opportunities and tools for students to explore perspective and to “make public” their response to an issue</td>
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“I always consider things that I take in with the questions ‘Who wrote this? Who pays them? And what would happen if I believe them?’ If something seems grossly inaccurate, biased and/or hateful, I will reject it outright and share my views about it with others who are seeing it.”

Madeline H., Student, Grade 11

“Students need learning opportunities that develop their abilities to become competent consumers and users of information. An approach focused on critical literacy is an approach in which students use their literacy skills to explore, discuss, and investigate the various social, political, and historical content in the print and multimedia texts that surround them at school and in their world.”

(Me Read? And How! Ontario Teachers Report on How To Improve Boys’ Literacy Skills, Ministry of Education, 2009)

“Teaching critical literacy is no longer an ‘option’ or something to be ‘added on’ to a literacy program – in the intermediate grades or any other grade for that matter. It is essential for students to become critical thinkers and producers of new knowledge if they are to see themselves as stakeholders in the future.”

Booth, 2008

“Critically literate students understand that meaning is not found in texts in isolation. People make sense of a text, or determine what a text means, in a variety of ways. Students therefore need to be aware of points of view (e.g., those of people from various cultures), the context (e.g., the beliefs and practices of the time and place in which a text was created), the background of the person interacting with the text (e.g., upbringing, friends, communities, education, experiences), intertextuality (e.g., information that a viewer brings to a text from other texts experienced previously), gaps in the text (e.g., information that is left out and that the reader or viewer must fill in), and silences in the text (e.g., voices of a person or group not heard).”

The Ontario Curriculum, The Arts, 2010

Critical literacy “allows you to not blindly believe things without good reasons/sources.”

Rachel B., Student, Grade 9

GUIDING QUESTIONS

- What kinds of issues of equity, power and social justice are relevant to the subject?
- What relevant texts are used in the subject that could be analyzed for bias, reliability, fairness, and validity?
- What types of actions and/or responses are appropriate in the subject?
- What opportunities allow students to use technology to seek and share perspectives?
- What skills do students need in order to be critical users and creators of information?
ENGAGING STUDENTS IN CRITICAL LITERACY

With critical literacy, learners are active participants in understanding meaning and message. Critical literacy invites students to move beyond passively accepting the text's message to question, examine, or dispute the power relations that exist between readers and authors. It moves learners to reflection, transformation, and action (McLaughlin & DeVoogd, 2004).

CRITICAL LITERACY MEANS...

- recognizing that texts contain certain perspectives and biases
- recognizing that point of view influences how a text is interpreted and understood
- determining whose voices are present or absent
- evaluating multiple perspectives for bias, reliability, fairness and validity
- analyzing how language is used
- taking a stance and engage in a response in the interest of equity, fairness and social justice
- using technology to seek divergent perspectives, interact with authentic audiences, and express ideas

“Once they become aware of how texts manipulate them, adolescent students can become critical consumers and producers of text who challenge dominant meanings and realize that there is more than one way to read texts and their world. This is hard work, but it is work that could lead to a more fair and just world.”

Moje, Young, Readence & Moore, 2000
WHY TEACH IT?

As adolescents experience a barrage of ideas and information from a variety of sources, including social media, online, and in print, critical literacy provides the tools to determine how to engage in, interpret, use and act on this information appropriately. The Ontario Curriculum, The Arts document points out, “With the constant stream of information and the changing realities of contemporary culture, technology and society, by being critically literate, adolescents are able to determine what information is reliable... They learn to use the information gathered to form a personal stance and to take creative risks and become active participants in bringing about change” (Ministry of Education, 2010).

Critical literacy provides opportunities to tap into the interests and needs of adolescent learners. Critical literacy is a springboard for students to exercise their broadened awareness of the world around them. They are drawn to opportunities for perspective-taking, for questioning the status quo, and for seeking solutions to challenges related to inequity and social justice (Steinberg, 2008).

In addition, adolescents’ need for autonomy, to be heard, to make a difference and to have a sense of accomplishment can be addressed through critical literacy (Irvin, Meltzer, Mickler, Phillips & Dean, 2009).

Teaching for critical literacy empowers students to be active thinkers, to look at the world from multiple perspectives and to develop questioning habits that encourage them to think and act on their decisions. Critical literacy can be applied across subject areas, modes of expression, texts and new technologies.

For example, students can take a critical stance in mathematics (e.g., Is the way the data is presented in the graph biased?), and in civics (e.g., Who benefits and who is disadvantaged by this decision?).

“In science, students who are critically literate are able, for example, to read or view reports from a variety of sources on a common issue. They are able to assess how fairly the facts have been reported, what biases might be contained in each report and why that might be, how the content of the report was determined and by whom, and what might have been left out of the report and why. These students would then be equipped to produce their own interpretation of the issue.”

The Ontario Curriculum, Grade 9 and 10, Science, 2008

Watch as Jeffery Wilhelm works with students to explore whose voices are present and missing in their study of an historical event. The series, Discovering Voice, is available at:

http://resources.curriculum.org/secretariat/discovering/deepening.shtml
HOW TO TEACH IT

When teaching for critical literacy, teachers are facilitators and activators of learning. Creating the conditions for the kind of inquiry and stance-taking necessary for critical literacy (e.g., by explicitly teaching respectful interactions and norms) allows students to bring their various perspectives, values and voices to discussions. Fostering an openness and sensitivity supports teens to challenge and question previously held assumptions and beliefs, including their own. This safe environment also encourages students to act in ways that address imbalances of power and that promote fairness, including in their own classroom.

Teachers help students develop their critical literacy skills by:

- providing access to a variety of texts, including electronic, print, visual, and graphical, to analyze and evaluate their meaning, value and perspectives (Mclaughlin & DeVoogd, 2004)
- modeling the use of critical questions (Mclaughlin & DeVoogd, 2004)
- using relevant texts and topics that allow students to take on various positions (e.g., attitudes toward teens, gender representations, issues related to power)
- providing opportunities for perspective-taking, such as through role-play and writer-in-role (Wilhelm, 2002)
- modeling questions to evaluate embedded perspectives in texts for validity, reliability and credibility (Burke, 2001)
- exploring opportunities for taking action and promoting social justice (Fisher & Frey, 2008).

The Four Resources model (Luke & Freebody, 1990, 1999) provides a framework for understanding texts more fully. It outlines the roles of code user, meaning maker, text user, and text analyzer. Although critical literacy is most aligned with text analyzer, students use the other roles in order to inform their critical stance. For example, when examining a website, students take the role of text analyzer and may ask, “Why is this particular photo included on the webpage, and what version of reality does it present?”

In order to fully address the critical literacy question, students need to access the other roles: as a code user (e.g., What are the features and organization of a website? What is the size and position of the photograph?), as a meaning maker (e.g., What message does the website present? How does the photograph make me feel?), and as a text user (e.g., Who would use this website? Why would they use it?). The roles are not intended to be sequential or developmental; that is, teachers should not begin with code user in isolation and work toward text analyzer. In fact, when students participate as text analyzers, they are often more authentically and purposefully engaged in the other areas of understanding.

Students need to “use critical literacy and numeracy skills to think more deeply about the texts they read (situations and problems) and the texts they create (interpretations and solutions).”

*School Effectiveness Framework, 2011*
CRITICAL LITERACY IN THE CLASSROOM

Teachers can empower students in becoming more critically aware by posing critical literacy questions about a text to prompt thinking related to issues of language and power.

Questions Related to a Text
Who created/produced the text? How do I know?
What does the author want me to know, think or feel? Why do I think this?
What assumptions does the author make about my beliefs, values and knowledge? What tells me this?
What view of the world does the text present? Why do I think this?
How does language work to influence my thinking?
What voices, points of view and perspectives are missing? How significant is their omission?
What information does the author leave out? How significant is it?
Who is most likely to benefit from this text?
Why was this text produced?
Is this text consistent with what I already know? Do I need to seek another source of information?
Is the text fair? Why or why not?

Questions to Prompt Action in Response to a Text
How can I find out about other perspectives on the topic?
How have my attitudes, opinions, feelings, or actions changed with respect to this topic? Why?
How will I treat others differently as a result of having critically analyzed this topic?
What action might I need to take to address a concern?
What could I do to change a rule, a procedure or an attitude that is unjust?
How can I use literacy to support those who are treated unfairly?
How can I use literacy to make a difference in the world?
adapted from Literacy Cards, Literacy GAINS, 2008

"[N]o textbook reflects all of the possible viewpoints that privilege some voices and silence others. Rather than trying to hide this reality, it can be used to motivate adolescents, who are at a prime age for questioning authority, to read their textbooks with a critical eye. For example, students can be encouraged to look at whose voices are silenced... Engagement in critical literacies empowers students to read textbooks with an eye to information that might help them make real-life decisions as citizens and consumers."
Sheridan-Thomas, 2008

REFERENCES
Metacognition refers to students taking active control over their thinking processes so that they understand themselves as learners, they understand a given task, and they understand a variety of strategies and how to use them in a variety of situations.

<table>
<thead>
<tr>
<th>STUDENTS</th>
<th>TEACHERS</th>
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<tbody>
<tr>
<td>Identify their own understandings in relation to learning goals and success criteria</td>
<td>Clarify learning goals and co-construct success criteria</td>
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<tr>
<td></td>
<td>Provide opportunities for self and peer assessment</td>
</tr>
<tr>
<td>Use established success criteria and descriptive feedback to monitor learning and plan next steps</td>
<td>Develop checkpoints for students to track their learning and thinking, and identify next steps in the process</td>
</tr>
<tr>
<td></td>
<td>Provide opportunities for self and peer assessment</td>
</tr>
<tr>
<td>Are aware of their own actions and beliefs and recognize how their attitudes, habits and dispositions influence the extent of their learning</td>
<td>Scaffold the learning so that students build stamina, and have persistence, motivation, self-efficacy and curiosity</td>
</tr>
<tr>
<td>Identify, communicate and act on their learning preferences and individual strengths</td>
<td>Support students in understanding themselves, including their multiple intelligences and learning preferences</td>
</tr>
<tr>
<td>Assess learning situations and develop plans of action, and select strategies and resources accordingly</td>
<td>Recognize students’ successes to build their confidence and competence as learners</td>
</tr>
<tr>
<td>Reflect on their learning and engage in conversations to explain, question and refine their thinking</td>
<td>Identify themselves as learners and demonstrate “expert skills” of learning</td>
</tr>
<tr>
<td>Seek clarification and support when barriers to learning are encountered</td>
<td>Demonstrate how to identify any challenges and barriers to learning, and determine possible solutions</td>
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</table>
“Metacognition is “separating what you previously knew, what you now know, what you still don’t know, and making decisions based on that.”

Sarah G., Student, Grade 10

“Good problem solvers regularly and consciously reflect on and monitor their own thought processes. By doing so, they are able to recognize when the technique they are using is not fruitful, and to make a conscious decision to switch to a different strategy, rethink the problem, search for related content knowledge that may be helpful, and so forth. Students’ problem-solving skills are enhanced when they reflect on alternative ways to perform a task even if they have successfully completed it.”

The Ontario Curriculum, Grade 9 and 10, Mathematics, 2005

Metacognition “encourages you to think for yourself. [It] helps you to better understand the way you learn.”

Shannon B., Student, Grade 9

“Metacognitive strategies increase readers’ meaning construction, monitoring of text and reading comprehension, and their ability to evaluate the text they are reading. Metacognitively skilled readers are readers who are aware of knowledge, procedures, and controls of the reading process. They use this knowledge during the reading process to improve reading and comprehension ability.”

Israel, 2007

GUIDING QUESTIONS

- What opportunities do students in the subject have to use assessment as learning (e.g., set goals and strategically plan for learning)?
- How does the subject support students to monitor and adjust their thinking?
- How does the subject provide opportunities for students to develop and use metacognitive strategies?
- What resources, people or materials will support students to be reflective on their learning?
Metacognition means...

- using learning goals, success criteria and descriptive feedback
- recognizing how attitudes and habits influence learning
- identifying, communicating and acting on learning preferences and strengths
- assessing learning situations and developing plans of action
- reflecting on their learning and engaging in conversations about their thinking
- seeking clarification and support when barriers to learning are encountered
WHY TEACH IT?

Metacognition contributes to successful learning, and moves students toward independence, interdependence, and self-efficacy. Through metacognitive strategies, students learn to master information and solve problems more easily (Block et al. 2005; Scruggs, 1985).

While students in any grade can use metacognition, there are a number of reasons why it is particularly important for adolescents. As students progress through the grades, they experience more specific kinds of texts and models of thinking in the various disciplines. Using metacognition, learners are better able to assess the variety of learning situations, including more specialized subject-specific texts and vocabulary, and adapt their strategies to those contexts (Wood & Blanton, 2009).

As adolescents also need autonomy, using metacognition allows them to have a greater sense of control and independence when they approach learning situations both in- and out-of-school. As Judy Willis points out in her book Brain-Friendly Strategies for the Inclusive Classroom "When students use metacognition to actively and consciously review their learning process, their confidence in their ability to learn grows. They begin to attribute outcomes to the presence or absence of their own efforts and to the selection and use of learning strategies" (154).

Instruction in metacognition:
- helps develop a repertoire of thinking and learning skills
- fosters confidence and independence in the classroom
- encourages students to self-regulate their learning
- improves decision-making and goal-setting skills
- enables students to self-assess the quality of their thinking
- enhances responsible citizenship
- increases awareness of learning styles
- helps to decide which strategies to use in which learning situations
- strengthens essential skills and employability skills (Literacy Gains, 2008)

Metacognition can increase engagement. Metacognition “has the potential to empower students to take charge of their own learning and to increase the meaningfulness of students’ learning.”

Gama, 2007

Watch as students and teachers from Greater Essex District School Board use metacognition to improve learning.

The video, Exploring Metacognitive Habits of Mind, is available at www.edugains.ca.
Metacognition is included as evidence for Indicator 4.4 in the *School Effectiveness Framework*: “Learning is deepened through authentic, relevant and meaningful student inquiry.” It states that, in the classroom, “Metacognition is modeled through the instructional process,” and that students will “Demonstrate skills of metacognition (e.g., monitor their own learning and thought processes by asking themselves questions such as ‘what if’)” (29). There are a number of other indicators in the framework which also relate to metacognition.

Willis suggests that “To reinforce the process of metacognition, teachers can ask students to write down the strategy they used after successfully completing an activity, especially if it was in an area in which they had not previously succeeded” (154-155). Costa notes that “Teachers can spur metacognition by directing students to verbalize plans and strategies solving challenging problems – and by urging students to share their thinking as they monitor their progress, evaluate their strategies, and generate alternative strategies” (Costa, 2008).

*Connecting Practice and Research: Metacognition Guide* (Literacy GAINS, 2008) outlines five basic principles for teaching metacognition:

1. Build an inclusive, positive, and stimulating classroom environment.
2. Model metacognitive thinking, with an emphasis on developing awareness of metacognitive processes, and use the gradual release model to guide students toward independently selecting, using, monitoring, and evaluating their use of these strategies (Graham & Harris, 1993).
3. Create opportunities for students to talk about their thinking and to build a thinking vocabulary.
4. Engage students in talking about metacognitive strategies, e.g., through conference, interview, or survey questions (Israel, 2007).
5. Provide students with ample practice, for example by making the discussion about metacognition part of the everyday classroom (Pintrich, 2002).

“Teachers who help students develop and internalize metacognitive strategies through direct instruction, modeling, and practice promote learning because the effective use of such strategies is one of the primary differences between more and less able learners.”

*McTighe, quoted in Differentiated Assessment Strategies: One Tool Doesn’t Fit All, Chapman & King, 2005*
METACOGNITION IN THE CLASSROOM

Teachers can engage students in metacognitive thinking by posing questions.

Relate to themselves as learners:
What are my strengths? How do I use them?
How can I adapt to a learning situation given my learning preferences?
What skills do I still need to develop? How will I adjust for skills I still need to develop?
What resources, people, or materials can help me be successful?
How will I monitor what is working for me?
How has my thinking about this topic changed as I’ve gathered more information?

Relate to a given task:
What do I have to do? What am I trying to accomplish?
What skills do I need to complete the task? Which of these skills are my strengths?
How close am I to my goal? What will help me recognize that I am meeting the learning goal?
What things have I accomplished that might help me be successful in this task?
How is this task like other tasks I have attempted/completed?
What are my options and alternative approaches?
How well did my choice(s) work?

Relate to strategies and how they use them:
What strategies am I using? What strategies do I need to use?
Are the strategies I am using helping me reach my goal? If not, are there other strategies or approaches that might move me closer to the target?
Do I need to go back and re-read, re-do, or re-think anything?
How am I practicing my strategies?

“Assessment as Learning is the process of developing and supporting student metacognition. Students are actively engaged in this assessment process: that is, they monitor their own learning; use assessment feedback from teacher, self, and peers to determine next steps; and set individual learning goals. Assessment as learning requires students to have a clear understanding of the learning goals and success criteria. Assessment as learning focuses on the role of the student as the critical connector between assessment and learning.”
Growing Success, 2010

REFERENCES
**Questioning** refers to students’ curiosity, exploration, and inquiry to evoke, expose and extend their thinking

<table>
<thead>
<tr>
<th><strong>STUDENTS</strong></th>
<th><strong>TEACHERS</strong></th>
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<tbody>
<tr>
<td>Explore, wonder and investigate to solve problems and build understanding</td>
<td>Monitor student responses to assess the effectiveness of questions and student understanding</td>
</tr>
<tr>
<td>Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic</td>
<td>Model and use open-ended questions to engage students with texts, ideas and issues</td>
</tr>
<tr>
<td>Pose and answer questions in collaboration with peers to explore various ways of thinking</td>
<td>Provide opportunities for students to generate and pose their own questions, individually and collaboratively, and to seek answers</td>
</tr>
<tr>
<td>Construct different types of questions purposefully to meet learning goals</td>
<td>Explicitly teach types of questions, ways to deconstruct questions and model appropriate responses</td>
</tr>
<tr>
<td>Use self-questioning to assess readiness and guide learning</td>
<td>Model how to ask questions during the learning process</td>
</tr>
<tr>
<td>Explain how questioning helps guide thinking and learning</td>
<td>Model and use open-ended questions to engage students with texts, ideas and issues</td>
</tr>
<tr>
<td>Use technology to pose questions and explore divergent perspectives</td>
<td>Provide opportunities and tools (e.g., technology) for students to pose questions and explore divergent perspectives</td>
</tr>
</tbody>
</table>
“Engaging students in generating effective questions helps them to perceive themselves as autonomous and independent learners, producers of knowledge, and generators of important lines of inquiry.”

Moss & Brookhart quoted in School Effectiveness Framework, 2010

“You ask what you don’t know so you can learn and develop.”

Siobhan M., Student, Grade 11

“When teachers use these strategies to ask probing questions, students grow in their thinking processes. At the same time, teachers should share the reasons for their questions.”

Fisher & Frey, 2008

“Making meaning starts not with answers but with questions. Teachers who wish their students to be skilled at formulating their own meaning and their own understanding realize that lessons should not frequently commence with statements stressing answers but with questions posing puzzles.”

Hunkins quoted in Walsh & Sattes, 2011

“Asking questions is the number one most important step to understanding something fully... and no student should hesitate to ask.”

Devon P., Student, Grade 11

GUIDING QUESTIONS

- What are opportunities in the subject which spark students’ curiosity?
- What kinds of inquiry questions will students explore in the subject? How will they be involved in inquiry?
- What are the purposes of questions in the subject (e.g., to investigate, to pose hypotheses, to conduct an inquiry, to assess information, to question perspectives)?
- What are the opportunities in the subject for students to pose and pursue their own questions?
ENCOURAGING THINKING THROUGH QUESTIONS

When students pose their own questions and are involved in inquiry that taps into their sense of wonder and curiosity, they are more engaged in learning. The more learners have opportunities to pose different kinds of questions for a variety of purposes, including exploration and reflection, the more flexible they become in a variety of learning situations. When adolescents are posing questions, it has the potential to help them develop a range of thinking processes as well as greater sense of control and a higher sense of efficacy (Walsh & Sattes, 2011).

QUESTIONING MEANS...

- exploring, wondering and investigating
- asking questions to clarify, probe, extend thinking, and challenge ideas
- collaborating with peers to pose questions and seek answers
- using different types of questions to meet learning goals
- self-questioning as a means of self-assessing
- understanding how questioning shapes thinking and learning
- seeking divergent perspectives

“When teachers use these strategies to ask probing questions, students grow in their thinking processes. At the same time, teachers should share the reasons for their questions.”

Fisher & Frey, 2008
WHY TEACH IT?

When students pose their own questions, they are more likely to find relevance and meaning, have their interests honoured, connect prior knowledge and experiences, and use their skills of reflection. In fact, students’ sense of academic self-efficacy increases when they think about and frame their own questions (Walsh & Sattes, 2011). This is important for adolescent learners who are developing a sense of autonomy and independence. The use of questioning has the potential to connect with their developmental needs in addition to deepening their learning. “When students know how to ask their own questions, they take greater ownership of their learning, deepen comprehension, and make new connections and discoveries on their own” (Rothstein & Santana, 2011).

Adolescents have a tendency to question, and they are often motivated by their questions. They sometimes need guidance to pose different kinds of questions for a range of purposes, for example, to explore ideas, solve problems, create and monitor their thinking.

Questions evoke and expose thinking. When students share their questions in the classroom, they hear the perspectives and ways of thinking of others (McComas & Abraham, retrieved March 2012). In addition, when students are posing and pursuing questions collaboratively, they build a number of connections, including with their peers. “[Q]uality questioning activates and sustains interactions and relationships between students and teachers, between students and content, and between teachers and the content in ways that increase both student engagement and achievement” (Walsh & Sattes, 2011).

The School Effectiveness Framework stresses the importance of authentic, relevant and meaningful student inquiry (Ministry of Education, 2010), and questioning plays a large role in inquiry. Some of the evidence outlined in the framework includes opportunities for students to identify authentic problems and pose significant questions for investigation across all curriculum areas, and to demonstrate curiosity and a positive and productive disposition to learning (Ministry of Education, 2010).

Watch how the students in the class, co-taught by Marlee Falcon and Bill Bazinet, build understanding about different kinds of question prompts.

The video is available at www.edugains.ca.
**HOW TO TEACH IT**

As expert learners, teachers play important roles as effective questioners for a variety of purposes and as facilitators allowing opportunities for students to pose their own questions. “Through their questions, teachers model how students can come up with their own questions. When students learn to identify questions, to inquire, to problematize, they learn to think about their world differently and in depth” (Wood & Blanton, 2009). This is particularly the case when students are actively encouraged to investigate questions with the teacher for which they do not have a perceived answer (Wood & Blanton, 2009).

In order to do this, it is important that learners understand various qualities of questions. Costa and Kallick note that “Some students may be unaware of the functions, classes, syntax or intentions of questions. They may not realize that questions vary in complexity, structure and purpose. They may pose simple questions intending to derive maximal results” (Costa & Kallick, 2000). Students who have limited understanding of the qualities of questions may approach questioning with a narrow range of strategies.

Teachers can sharpen students’ questioning by explicitly teaching students the various qualities of question which evoke different kinds of thinking:

- closed- and open-ended questions, and the kinds of information each type elicits
- explicit and implicit types of questions
- convergent and divergent types of questioning, and when using each of those types of questions are beneficial
- cognitive skills or processes required, for example, Bloom’s Taxonomy is one framework to distinguish the types of processing that may be required for various questions and prompts
- the connection between a student’s background knowledge related to a question, and where the student might go or do to find an answer (see One Approach to Questions at www.edugains.ca).

Teachers also set the conditions for effective questioning in the classroom. An inclusive, positive, and stimulating classroom environment conducive to inquiry allows students to take risks in raising their own questions. Setting norms for positive classroom interactions where questions are valued and helping students develop effective collaborative skills empowers all students to pose questions of personal importance and interest.

“Questioning is fundamental to effective teaching and learning. It is a critical skill that teachers must learn to do well and that students need to be taught.”

*AER GAINS, Questioning: ‘Assessment for Learning’ Video Series Viewing Guide, 2010*
STUDENT QUESTIONING IN THE CLASSROOM

The Question Formulation Technique, developed by the Right Question Institute, provides a way for students to create their own questions, refine them, and use them strategically. One of the goals of the technique is to shift the responsibility of teachers generating the questions to the students generating the questions individually and collaboratively.

Step 1: Create a Question Focus that acts as a prompt and provides a focus for the student inquiry and thinking.

Step 2: Students Produce Questions guided by four rules: generate as many questions as possible, do not stop to answer or evaluate any of the questions, record the questions exactly as stated, rephrase any statement or comment into a question.

Step 3: Students Refine Questions by categorizing the brainstormed list as closed- or open-ended questions, identifying the advantages and disadvantages of each type of question, rephrase one or more of each of the questions into the other type, reflect on how the rephrasing can affect the depth, quality, and value of the information it will elicit.

Step 4: Students Prioritize the Questions by choosing the three most important questions based on criteria or guidelines (e.g., established as a class), and provide a rationale for their selections.

Step 5: Students and Teacher Decide on Next Steps by exploring how they will use the questions, and how they may go about answering the questions.

Step 6: Students Reflect on What they’ve Learned about the process of generating questions, about their thinking, and/or about the topic they are pursuing (e.g., What did they learn about generating your own questions? What did you learn about the topic, so far? What did you learn about collaborating with others? What challenges might you encounter, and how might you manage those challenges?).


REFERENCES


**Strategy** refers to students purposefully selecting and using techniques and processes in order to construct and communicate meaning.

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<thead>
<tr>
<th><strong>STUDENTS</strong></th>
<th><strong>TEACHERS</strong></th>
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<tbody>
<tr>
<td>Set goals, establish criteria, create and follow plans, make judgments and determine the effectiveness of the plan.</td>
<td>Model the use of goals to create, follow and assess a plan.</td>
</tr>
<tr>
<td>Use subject-specific processes to create, solve problems, research, make decisions, revise thinking, communicate ideas and reflect on learning.</td>
<td>Model subject-specific processes and explain how they reflect thinking in the subject area. Co-construct anchor charts, performance walls and collect a range of exemplars to support the literacy demands in the subject.</td>
</tr>
<tr>
<td>Apply comprehension strategies before, during and after reading, listening, viewing to develop understanding.</td>
<td>Model comprehension strategies.</td>
</tr>
<tr>
<td>Apply knowledge of organizational patterns, text structures and features to navigate and advance understanding of text.</td>
<td>Identify the literacy demands of the subject area. Provide explicit instruction in organizational patterns, text structures and features used in the subject area.</td>
</tr>
<tr>
<td>Access and use subject-specific vocabulary to precisely communicate ideas.</td>
<td>Provide explicit vocabulary instruction. Identify the literacy demands of the subject area.</td>
</tr>
<tr>
<td>Use active reading, writing, viewing, listening, speaking and representing techniques to record, react and respond to ideas.</td>
<td>Scaffold reading, writing, listening, speaking and viewing tasks with explicit teaching.</td>
</tr>
<tr>
<td>Use a writing process to generate, explore, develop and refine writing for particular purposes, forms and audiences.</td>
<td>Model and guide the use of a writing process. Co-construct anchor charts, performance walls and collect a range of exemplars to support the literacy demands in the subject.</td>
</tr>
<tr>
<td>Select and use appropriate organizers to gather, manage and communicate information and ideas.</td>
<td>Explain the purpose of organizers and technology to gather, manage and communicate information and ideas and model their use.</td>
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“Key visuals are graphic organizers that provide visual representations of important (key) ideas in a text, lesson, or unit. Examples include charts, Venn diagrams, classification trees, flow charts, story maps, and visual representations of timelines. They are essential tools for reducing the language barrier for English language learners.”

*Many Roots, Many Voices, 2005*

Strategy “is your plan of how you will approach your learning.”

*Matt P., Grade 11*

“To understand, we can predict things... so we can see what we already knew and what we now know.”

*Gaveshini S., Grade 10*

“Providing students with learning strategies in the context of learning the content is certainly powerful; providing them then with the opportunities to practice these strategies comes next, followed by ensuring that the chosen strategies are effective. This comes to the heart of learning to learn: it is about intention to use, consistency in appropriately using the strategies, and knowing when chosen strategies are effective. This learning to learn is often called ‘self-regulation,’ which term highlights the decisions required by the student in the process of learning.”

*Hattie, 2012*

“If you think out a strategy before learning, it becomes easier to gather that knowledge. This way, you aren’t focusing as much on TRYING to learn, but rather just doing it.”

*Megan N., Grade 11*

__GUIDING QUESTIONS__

- What processes (e.g., scientific inquiry, mathematical processes, writing process) are important to thinking in the subject area? How are these processes similar and/or different from processes in other subject areas?

- How are students supported in using subject-specific texts and vocabulary?

- Are there particular comprehension strategies (e.g., make connections, draw conclusions) that students need to use in order to make meaning and communicate understanding in the subject area?

- How and when do students gather, organize, manage, and communicate information? Do these take a particular form in the subject area?
BUILDING STUDENTS’ STRATEGY FOR LEARNING

Just as teens use strategy to play a video game to get to the next level, or to think about and execute a play in sports, students also need to use strategy for learning. Strategy is most powerful when students draw on a wide range of techniques, tools and processes which allow them to be agile in a variety of learning situations.

STRATEGY MEANS...

- setting goals, and creating, following and monitoring plans using subject-specific processes
- using subject-specific processes
- applying comprehension strategies for reading/listening/viewing
- accessing and using subject-specific vocabulary and texts
- using active reading, writing, viewing, listening, speaking, and representing techniques
- using a writing process
- selecting and using appropriate organizers and technology to gather and manage ideas

“Adolescents deserve expert teachers who model and provide explicit instruction in reading comprehension and study strategies across the curriculum.”

Ivey & Fisher, 2006
Why Teach It?

Strategy refers to students purposefully selecting and using techniques and processes in order to construct and communicate meaning. This means students use a variety of knowledge and skills in order to learn. For example, they need to create plans. They need to select and evaluate a number of sources in various forms and from a variety of perspectives. They need to read texts deeply, and their reading may cause them to shift their purpose, ideas, and plans. They need to use subject-specific texts which may contain print, visual and graphical information. When reading is difficult, they need to find ways to help them understand. They need to sift through vast amounts of information and make judgments about appropriateness and validity of those sources. They need to make notes, synthesize information, talk about work in progress, and articulate where they are and where they need to go. They need to communicate their thinking in particular forms, for specific purposes and audiences, perhaps by using technology. And on it goes.

Although students enter the intermediate grades with many literacy skills, they still need to acquire and deepen those skills: “as texts become increasingly complex, multimodal, and necessary for discipline-specific learning, middle and high school students must adapt more advanced, specific strategies for deeper understanding and composing” (International Reading Association, 2012). As Mark Conley points out, “adolescents will need to master cognitive strategies for reading, writing, and thinking in complex situations where texts, skills, or requisite knowledge are fluid and not always clearly understood” (Conley, 2008).

Effective learners “stick to a task until it is completed. They don’t give up easily. They are able to analyze a problem, to develop a system, structure, or strategy to attack a problem. They employ a range and have a repertoire of alternative strategies for problem solving. They collect evidence to indicate their problem-solving strategy is working, and if one strategy doesn’t work, they know how to back up and try another.”

Costa & Kallick, 2010

Listen to Chris MacDonald metacognitively talk about his use of strategies, and how they’ve made a difference for his learning.

The video, Promoting Meaningful Student Involvement, is available at

http://www.edugains.ca/newsite/literacy2/adolescent/strategy.html
HOW TO TEACH IT

Teachers can deliberately use instructional strategies so that students build their own strategy. Teachers use instruction to “orchestrate learning for depth and exploration” and simulate processes and skills in structured ways to explicitly show how learning and thinking may occur (Conley, 2008, Alexander & Jetton, 2000). For example, when teachers use a think aloud to demonstrate how they understand a text, they explicitly show learners what ‘experts’ do and why they do it. Teachers gradually release responsibility to students so that their use of these skills and processes is transportable and transparent, and becomes part of the students’ thinking to be independently and automatically applied across subject areas (Ivey & Fisher, 2006).

As teachers guide students toward independent practice, they should also invite learners to make choices and decisions. For example, teachers may model the use of a variety of graphic organizers to demonstrate their purpose and structure. As students gain confidence using various organizers, they should be selecting graphic organizers themselves that best fit the task and the thinking they are demonstrating, rather than the teacher prescribing a single organizer.

Another area in which teens need explicit instruction so they work toward independent practice is applying comprehension skills (e.g., predicting, making connections, visualizing) purposefully and strategically to subject-specific texts. “A challenge in adolescent literacy is the number and variety of structures that underlie expository and informational text. These are much more varied than narrative structures, both across and within subjects. The challenges are compounded by less familiar content, dense information and unfamiliar vocabulary” (RAND as quoted in Literacy GAINS, 2008). Subject teachers need to move from generalized instruction of comprehension skills to explicitly showing students how to work with texts for specific purposes within their disciplines. For example, a science teacher may explicitly demonstrate how predicting may be used in a particular way in science.

Across the disciplines, adolescent learners are also expected to use a number of processes. Whether it be a writing process or subject-specific processes (e.g., creative process in the Arts), it is important to show students that these are not intended to be followed lock-step. At various stages in a process, the learner may need to revisit certain stages and/or reflect on their progress. Furthermore, subject-specific processes represent ways in which experts in the disciplines build knowledge and understanding, and when “teachers apprentice students in the literacy practices of their disciplines, they make explicit the tacit reasoning processes, strategies, and discourse rules that shape successful readers’ and writers’ work... one should be constructing understanding rather than passively carrying out prescribed procedures” (Schoenbach & Greenleaf, 2009). Students also need opportunities to articulate the kinds of decisions they make as they engage in a process.

“Good thinkers, after all, are more than people who simply think well when they think. They also think at the right times with the right commitments – to truth and evidence, creativity and perspective taking, sound decisions, and apt solutions.”

Ritchhart & Perkins, 2005
STRATEGY IN THE CLASSROOM

A number of subject areas use particular processes which support understanding in the discipline. Often these processes represent how experts in the subject area think. Some examples include the design process for the planning and development of products or services in Technological Education, the scientific investigation process for inquiry and research in Science, and the critical analysis process for responding to, connecting with and appreciating art works in the Arts.

The following outlines a way teachers can support students’ use of a particular process:

- Model the use of a process for an authentic task. During modeling, cue students to note what is happening. Use a think aloud to make explicit the thinking of an expert.
- Invite students to deconstruct the modeled process.
- Co-construct an anchor chart representing the process.
- Guide students in applying the process for a task.
- Monitor the students’ use of the process, and provide feedback. If needed, respond to any misconceptions and provide responsive support.
- Ask students to document their use of the process. Have students visually represent their thinking by posting on the anchor chart stickie note reflections on their use of the process.
- Continue to refer to the process throughout a unit or course. Use the anchor chart to remind students where they are in the process.
- Provide opportunities for students to reflect on their use of the process and how it may have changed their thinking.

“Literacy demands change drastically in grades 4-12. So, too, do the students who must meet these demands… secondary grade students are expected to learn new words, new facts, and new ideas from reading, as well as to interpret, critique, and summarize texts they read. The literate practices embedded in these tasks, combining literacy skills and content knowledge, are often invisible (or taken for granted) and yet require a high level of sophistication.”

Time to Act, Carnegie Report, 2010

REFERENCES


**Voice and Identity** refers to students’ decisions, choices and actions that advocate for their learning and make connections to their experience, values, culture, and interests

<table>
<thead>
<tr>
<th><strong>STUDENTS</strong></th>
<th><strong>TEACHERS</strong></th>
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<tbody>
<tr>
<td>Recognize their roles and responsibilities in their own learning</td>
<td>Provide opportunities which allow students to find relevance and agency in their own learning</td>
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<tr>
<td>Make personal connections to text and task during reading, writing, speaking, listening and representing</td>
<td>Provide opportunities for students to set personal goals, determine their needs, interests and learning preferences</td>
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<tr>
<td>Value their own knowledge and experience and that of others by actively contributing and welcoming new ideas</td>
<td>Invite students to explain how their background knowledge and experience affect their thinking</td>
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<tr>
<td>Advocate for self and others to advance learning</td>
<td>Invite students to reflect and have input on how the class environment may be adjusted to meet their needs</td>
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<td>Recognize how personal views and the views of others can affect thinking</td>
<td>Establish a safe collaborative classroom environment that encourages the expression of personal opinions</td>
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<tr>
<td>Seek opportunities for purposeful self-expression to authentic audiences about meaningful topics and issues</td>
<td>Encourage students to reflect on their own personal views and to take them into account in collaborative situations</td>
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<tr>
<td>Advocate for choice in learning opportunities</td>
<td>Allow students to respond to feedback</td>
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<tr>
<td>Set personal goals and explore ideas of personal interest relevant to topics of study</td>
<td>Establish a safe collaborative classroom environment that encourages the expression of personal opinions</td>
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<td></td>
<td>Recognize how literacy proficiency affects identity and achievement</td>
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<td></td>
<td>Create inquiries that help students connect their learning to personal and real world situations</td>
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<td></td>
<td>Provide authentic audiences and production opportunities</td>
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<td>Provide opportunities for students to set personal goals, determine their needs, interests and learning preferences</td>
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<td></td>
<td>Model how to request options that match personal preferences</td>
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<td></td>
<td>Model how to pose questions of personal interest related to a topic of study</td>
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</table>
“I find it is easier to learn things when I can relate it to my own life.”

*Viola M., Student, Grade 8*

“It is important that all students have opportunities to share information about their languages, cultures, and experiences. In this way, they can develop an enriching awareness of both the differences and similarities among their cultures and languages, and all students can experience a sense of belonging.”

*Many Roots, Many Voices, 2005*

“Learning [is] more interesting when you can connect with your life outside of school.”

*Nick S., Student, Grade 11*

“Student Voice is about Ontario’s students taking control of their learning by becoming engaged. It’s about connecting what’s happening in the classroom to real-life experience out of school and giving students ways to help achieve their goals.”

*Equity and Inclusive Education in Ontario Schools, 2009*

“When I have to do an assignment that relates to me, I get a further understanding of everything to do with the topic.”

*Joe K. Student, Grade 10*

“While the exclusion of identity and voice from classroom learning and school experiences can lead to student disengagement and behavioural issues (such as defiance, silence and poor attendance), paying attention to them can be transformative for students and teachers. A widening awareness of students’ capabilities can lead to new excitement about teaching and enrich pedagogic practices.”

*Rudduck & McIntyre, 2007*
Learning that taps into voice and identity offers students active opportunities to express their opinions and make decisions regarding their learning (Rogers, 2005). When students’ voices and identities are invited into the classroom, they are involved in setting learning goals, pursuing questions of relevant interest, and finding ways to express and explore who they are. In essence, the learning is connected to students’ lives and their worlds.

**VOICE AND IDENTITY MEANS...**

- recognizing roles and responsibilities in learning
- making personal connections
- valuing personal knowledge and experience and valuing that of others
- contributing and welcoming new ideas
- recognizing personal biases and advocating for self and others
- recognizing how personal views and views of others affect thinking
- seeking opportunities for purposeful self-expression
- posing questions of personal interest
- advocating for choice in learning opportunities

“Students’ engagement in learning depends on studying topics that relate to their own lives. Students report feeling most engaged when they help define the content to be studied; have time to pursue areas of most interest; are encouraged to raise questions and view topics in new ways; have passionate, inventive, and respectful teachers; and sense that their study is open-ended rather than predetermined and predictable.”

WHY ACCESS IT?

Teaching practices that engage voice and identity in the classroom can support students in taking an active role in their learning. When students see themselves in the learning, they are more engaged and have a stronger sense of self, they have greater understanding of their strengths and needs, they have a greater sense of belonging, and they develop a sense of respect and self-worth in their abilities (Fielding & Rudduck, 2002).

While it is important not to treat adolescents as a single, homogenous group (Blanton & Wood, 2009, Alvermann, 2009), there are some key characteristics of adolescent learners. These include their need for sense of purpose and relevance in what they do. They also have a tendency to think more about who they are and to assume identities other than student. For example, teens may think about themselves as musicians, athletes, and employees. So, students may gravitate toward learning that they see as being relevant to their lives. “What students do in school needs to feel important to them and they need to feel important in doing the work. The feeling of importance is not merely a truism when it comes to adolescence. It is perhaps the central core of our work with them... It is a matter of creating and re-creating fresh and unrehearsed opportunities to make discoveries about texts, about language, about the world, and about themselves” (Appleman, 2007).

The relationship between voice and identity and literacy is interconnected. On one level, students’ abilities to use literacy to think, express, and reflect are enhanced when students can draw on their prior knowledge, experiences, values, culture and interests. So when students can relate what they are learning to something that is important to them, they tend to feel more competent and are likely to think more deeply. When students find relevance, meaning and interest, and when they see their ideas valued, students gain confidence in their thinking and develop their own voice (Ontario Ministry of Education, 2011).

On another level, students use literacy to “contribute their voice” and “express their identity.” Students need to use literacy skills, for example, to listen to others (e.g., by focusing, making connections to personal thinking), take in a variety of perspectives (e.g., by identifying similarities and differences in points of view), and to communicate their ideas (e.g., by contributing an idea in a group).

“Students can and should participate, not only in the construction of their own learning environments, but as research partners in examining questions of learning and anything else that happens in and around schools.”

School Effectiveness Framework, 2010

Listen to Lucy West connect student voice and thinking. This video, part of the series Lucy West: Insights Into Effective Practice, is available at

http://resources.curriculum.org/secretariat/snapshots/lucy.html
HOW TO ACCESS IT

Ben Levin suggests that educators need to focus on what learners do, why they do it and allow learners the opportunities to shape their own learning (Levin, 2000).

Foundational to allowing students to shape their learning is building classroom communities that are safe and collaborative, and where students feel able to take intellectual risks. Students can have input in how that classroom community is created. Modeling how to self-assess needs and take on responsibility for learning provides students with an explicit “picture” of how to do this effectively and appropriately.

Creating inquiries that help adolescents connect their learning to personal and real world situations taps into voice and identity. Relevance is increased when students can apply what they’ve learned to personal decision-making, for example, making choices based on studying their ecological footprint or considering a purchase applying mathematical processes. These opportunities heighten relevance as well as deepening students’ understanding of the concepts and ideas under study.

Inviting students to co-construct success criteria and learning goals provides another way for them to shape their learning. It gives adolescents a sense of control, and it allows them to better assess themselves as learners and to see their connection to the learning. The Assessment for Learning video series “Learning Goals and Success Criteria” (AER GAINS, 2010) provides suggestions on how to include the input of students in determining and using learning goals and success criteria.

Some guiding principles for accessing voice and identity include:

1. Establish a classroom community where students learn from each other (Lewis & Del Valle, 2009).
2. Ensure that all voices are heard (e.g., using turn-and-talk, think time, collaboration) (Riviere, 2008, Lyle & Hendley, 2010).
3. Teach skills for active and accountable collaboration (Ritchhart, 2002).
4. Connect curriculum to learning goals that students and teachers jointly construct (Schoenbach & Greenleaf, 2009).
5. Plan time for students to dialogue with peers to explore, reflect, question and extend their ideas.

“Teachers should try to help students relate to academic information through their experiences, goals, and interests. Students can find personal relevance in all kinds of events in the world around them... making material authentically meaningful to each learner is crucial.”

Willis, 2007
Accountable talk is talk by students and teacher that responds to and builds on what others in the classroom have said. It is focused, meaningful, and mutually beneficial to the speaker and listener. “In a classroom filled with accountable talk, students... extend understandings by using the statements they have heard from their classmates to form new ideas” (Fisher, Frey & Rothenberg, 2008).

In accountable talk, both speaker and listener use skills (e.g., ask questions for clarification, rephrase ideas, use appropriate body language and eye contact) and have responsibilities (e.g., share opportunities to speak, respectfully challenge ideas, come to consensus). Brainstorm these skills and responsibilities with students and post them in the classroom.

Generate with students the various purposes and prompts for accountable talk:

- Ask questions to clarify understanding (e.g., *Can you tell me more about...?*, *Would you say that again?*, *Can you give me an example of what you mean?*)
- Give a reason to support an idea (e.g., *This reminds me of... because...*, *I think this is true because...*)
- Ask for evidence when something sounds inaccurate or vague (e.g., *I'm not sure about that. Can you tell me why you think it's true?*, *Can you show me a place in the text that supports your idea?*)
- Give evidence to support statements (e.g., *It says here...* (read a passage from a text that illustrates the idea), *Here is another source that says...* (read from another supporting source of information))
- Use ideas from others to add to your own (e.g., *I agree with... because his/her idea reminds me of...*)


**REFERENCES**


This resource is intended to be flexible and allow for a number of entry points and connections for facilitating professional learning. The guide may be used in various contexts, such as:

- collaborative inquiry
- school improvement planning
- coaching and
- peer-to-peer collaboration.

Collaborative inquiry, an effective model for job-embedded professional learning, is a process used by teams of educators for professional learning to improve student achievement and engagement. Learning occurs during and between team meetings when educators share practice, examine student work and access opportunities to build their instructional skills and knowledge-base. To be an effective job-embedded learning experience, collaborative inquiry must be facilitated, aligned with existing goals and initiatives, and supported by school and system leaders.

**Subject-specific Collaborative Inquiry Team**

Educators, working in subject specific collaborative inquiry teams and having identified a literacy and/or curriculum learning goal, may:

- use the components and student indicators to identify literacy learning to support curriculum learning goals
- contextualize the student indicators for a subject area
- use the corresponding teacher practices as starting points for planning instruction and for professional learning and inquiry
- refer to the *Practice and Research Connections* and *Ministry Resources Related to the Components* (Appendix D) to support professional learning.

**Interdisciplinary Collaborative Inquiry Team**

Educators, working in teams representing multiple subject areas and having identified a literacy learning goal based on an assessment and/or a School Improvement Plan, may:

- use the components and the student indicators to frame conversations about student literacy needs based on assessments
- use the corresponding teacher practices as starting points for planning instruction and for professional learning and inquiry
- refer to the *Practice and Research Connections* and *Ministry Resources Related to the Components* (Appendix D) to support professional learning.
School and System Improvement Planning Teams

Educators, working in teams focusing on improvement planning (e.g., School Improvement Plan for Student Achievement (SIHPA), Board Improvement Plan for Student Achievement (BIHPSA)), may:

- use the vision and goals for adolescent literacy as a starting point to frame school and/or district vision and goals for literacy learning
- use the components and student indicators as starting points to identify school or system literacy goals
- refer to the At a Glance chart that shows the goals, components, student indicators, and teacher practices to develop communication about literacy improvement plans
- refer to the School Effectiveness Framework Connections chart (Appendix A) to make links to the Framework.

Facilitators Working with Other Educators

Facilitators, working with other educators, may:

- use the components and student indicators to identify literacy learning needs of students
- use the Guiding Questions for each of the components to prompt professional dialogue about literacy learning
- use the teacher practices as starting points for professional dialogue and learning
- refer to the Practice and Research Connections and Ministry Resources Related to the Components (Appendix D) to support professional learning.

Coaches Working with Teachers

Coaches, working with classroom teachers, may:

- use the components and student indicators to identify literacy learning needs of students
- use the teacher practices to support a coaching cycle (i.e., assessing learning needs, co-planning, co-teaching, co-reflecting)
- use the Curriculum Connections chart (Appendix B) as a model for examining links between curriculum and literacy
- refer to the Learning Skills Connections chart (Appendix C) to make links between literacy and the learning skills
- refer to the Practice and Research Connections and Ministry Resources Related to the Components (Appendix D) to support professional learning.
The chart shows an example of how the Adolescent Literacy Guide may be used by a subject-specific team involved in the Professional Learning Cycle.

The ‘e.g.’s at each point in the stage provide specific details related to a literacy need that teachers may consider as they engage in collaborative work.

The ‘checkout’ provides links to resources that are relevant for this example.
**ACT**

Implement evidence based strategies and actions

**e.g.,**
Teachers implement the plan for classroom instruction (e.g., using co-teaching).

**CHECKOUT**

Professional Learning Cycle resources
http://www.edugains.ca/newsite/di2/prolearningcycle.html

**OBSERVE**

Monitor student learning and educator learning

**e.g.,**
Teachers assess students’ use of appropriate terminology in talk and in writing on an ongoing basis.
Teachers use metacognition to reflect on their own practice.
Teachers observe, co-assess and reflect on student work.
Teachers refer to the learning goal(s) and success criteria as they examine evidence of student learning.

**REFLECT**

Examine, analyze and evaluate results

**e.g.,**
Teachers analyze the results from assessments to determine students’ growth in relation to learning goal(s) and inquiry question.
Teachers reflect on their own learning and possible next steps.

---

**Professional Learning Cycle**

Plan

Act

Building Capacity

Leadership

Facilitation

Reflect

Observe
INTERDISCIPLINARY COLLABORATIVE INQUIRY TEAM

PLAN

Identify a literacy need

e.g.,
Interdisciplinary team of teachers of grade 9 applied courses considers how the SIPSA literacy goal ‘improve students’ ability to understand implicitly stated information’ connects to their subject areas and uses this as a starting point for their collaborative inquiry.

Select a learning focus that addresses the student need

e.g.,
Using a selected assessment tool (e.g., It Says, I Say. And So template) teachers assess their students’ ability to understand implicitly stated information in a subject related text.

Teachers bring samples of their students’ work to the professional learning team to analyze data.

e.g.,
Based on evidence, teachers determine the literacy learning for their students.

Teachers use the Adolescent Literacy Guide to identify the components and student indicators related to the goal, for example:

Critical Literacy
Analyze how language is used to exercise power and/or maintain status quo.

Questioning
Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic.

Strategy
Apply comprehension strategies before, during and after understanding.

e.g.,
Teachers use the Adolescent Literacy Guide to explore possible teacher practices which address the literacy learning need:

Critical Literacy
Explicitly point out how language is used and how it influences the meaning of texts

Model the use of critical questions such as What is the author’s purpose? Whose point of view is presented? Who is advantaged by this text? Whose voice is missing? How does the graphical representation influence the meaning? What version of reality is presented? What does the author want you to believe? What are the assumptions in this text?

Questioning
Model and use openended questions to engage students with texts, ideas and issues

Use wait time and collaborative structures to allow students to think about questions and formulate answers.

Strategy
Model comprehension strategies.

Determine educator learning (i.e., what and how) required to address the area of student need

e.g.,
Teachers create an inquiry question or theory of action (e.g., How can we use modeling to explicitly show students how to draw conclusions from text?).

Teachers use the list of teacher practices as a basis to determine the instructional practice which targets the literacy learning need, for example, use modeling and think aloud for explicit instruction.

Plan for classroom instruction and assessment.

Teachers co-plan lessons that address curriculum expectations and incorporate modeling and think aloud as part of the instruction.

CHECKOUT

School Improvement Plans for Student Achievement

SEF Indicators

CHECKOUT

It Says, I Say. And So in Think Literacy
http://www.edugains.ca/resourcesLIT/ LearningMaterials/ SubjectSpecific/ ThinkLiteracy/ ThinkLiEnglish.pdf

CHECKOUT

Literacy Assessment Matters learning module
http://www.edugains.ca/newsite/literacy2/ literacyassessment matters.html

The chart shows an example of how the Adolescent Literacy Guide may be used by an interdisciplinary team involved in the Professional Learning Cycle.

The ‘e.g.’s at each point in the stage provide specific details related to a literacy goal that teachers may consider as they engage in the collaborative work.

The ‘checkout’ provides links to resources that are relevant for this example.
**ACT**
Implement evidence based strategies and actions

**OBSERVE**
Monitor student learning and educator learning

**REFLECT**
Examine, analyze and evaluate results

e.g.,
Teachers implement the plan for classroom instruction (e.g., using co-teaching).

e.g.,
Teachers use It Says, I Say, And So with a different text to re-assess students related to goal.
Teachers observe, adjust as necessary, and co-assess student work.

e.g.,
Teachers analyze the results from the second assessment to determine students' growth.
Teachers reflect on their own learning and possible next steps.

**CHECKOUT**
Greater Essex County District
School Board video, Professional Learning Cycle - Think Aloud
www.edugains.ca

**CHECKOUT**
Professional Learning Cycle Resources
http://www.edugains.ca/newsite/dl2/prolearningcycle.html
# SCHOOL IMPROVEMENT PLANNING TEAM

<table>
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<tr>
<th>Data Analysis / Needs Assessment</th>
<th>Smart Goals</th>
<th>Targeted Evidence-Based Strategies and Actions</th>
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<tr>
<td>School Improvement Planning team reviews and analyzes literacy related evidence and data from various sources, including student achievement, perceptual and program data.</td>
<td>School Improvement Planning team develops and communicates SMART goal. School Improvement Planning team uses the Adolescent Literacy Guide to identify component(s) related to the SMART goal, for example: <strong>Strategy</strong> refers to students purposefully selecting and using techniques and processes in order to construct and communicate meaning.</td>
<td>School Improvement Planning team selects student indicator(s) related to the SMART goal, for example: <strong>Specific student indicator:</strong> Apply comprehension strategies before, during and after reading, to develop understanding. School Improvement Planning team uses the teacher practices in the Adolescent Literacy Guide to plan for educator learning, for example: <strong>Strategy</strong> Model comprehension strategies. School Improvement Planning team develops a list of specific instructional approaches which help to model comprehension strategies (e.g., think aloud, explicit instruction).</td>
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### CHECKOUT

- Board Improvement Planning for Student Achievement Guide

### CHECKOUT

- What Works? Research into Practice, Using Data to Improve Student Achievement

The chart shows an example of how the Adolescent Literacy Guide may be used by a School Improvement Planning team working through the improvement planning process.

The ‘e.g.’s at each point in the stage provide specific details related to a literacy goal that the team considers as part of their improvement planning.

The ‘checkout’ provides links to resources that are relevant for this example.
<table>
<thead>
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<th>Professional Learning</th>
<th>Monitoring</th>
<th>Responsibility</th>
<th>Evaluation</th>
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| e.g., School Improvement Planning team plans for opportunities for educator learning, including establishing or re-focusing professional learning cycles, accessing coach. | e.g., School Improvement Planning team co-constructs success criteria (i.e., look-fors of student learning) with staff. Teachers use sample look-fors to focus observations in their classrooms. | e.g., School Improvement Planning team invites teachers to share evidence of student learning, celebrate success and identify challenges. | \[\text{CHECKOUT} \]

Professional Learning Cycle Resources
http://www.edugains.ca/newsite/d12/prolearningcycle.html

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SEF School Self-Assessment Process

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Literacy GAINS Coaching Framework
http://www.edugains.ca/resourcesLIT/CoachingforLiteracyGAINS/
LiteracyCoachingFramework_Dec2010.pdf

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Professional Learning Monitoring Responsibility Evaluation
COACHES WORKING WITH TEACHERS

ASSESS LEARNER NEEDS

Collaboratively examine evidence and determine an area of need related to adolescent literacy

The teacher finds that few students engage in learning conversations in class.
The teacher invites the coach to observe the class.
The coach agrees that very little talk which supports thinking is happening in the classroom.
The teacher and the coach use the Adolescent Literacy Guide to explore the information on the adolescent learner.

CHECKOUT

Literacy GAINS Coaching Framework

The chart shows an example of how the Adolescent Literacy Guide may be used by a teacher and a coach using a literacy coaching cycle.
The ’e.g.’s at each point in the stage provide specific details related to a literacy need that teachers consider as they engage in the collaborative work.
The ’checkout’ provides links to resources that are relevant for this example.

CO-PLAN

Collaboratively identify content and instructional focus, and establish observation criteria

The teacher and the coach use the Adolescent Literacy Guide to explore possible teacher practices which address the literacy learning need:

Questioning
Model and use open-ended questions to engage students with texts, ideas and issues.
Use wait time and collaborative structures to allow students to think about questions and formulate answers.

Strategy
Scaffold reading, writing, listening, speaking and representing techniques to record, react and respond to ideas.

Voice & Identity
Value their own knowledge and experience and that of others by actively contributing and welcoming new ideas.

The teacher and coach co-plan lessons incorporating the use of wait time and collaborative structures to support talk and thinking in the classroom which will support content.
The teacher and coach use the References and Ministry Resources Related to the Components (Appendix D) in the Adolescent Literacy Guide to support their co-planning.
The teacher and coach use the student indicators as a starting point to develop observation criteria.

The teacher and coach use the Adolescent Literacy Guide to identify the components and student indicators related to the goal of increasing student talk to support student thinking, for example,

Questioning
Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic.

Strategy
Use active reading, writing, viewing, listening, speaking and representing techniques to record, react and respond to ideas.

Voice & Identity
Value their own knowledge and experience and that of others by actively contributing and welcoming new ideas.

Teacher and coach use the student indicators to develop goals and success criteria related to the literacy need.

CHECKOUT

Capacity Building Series,
Let’s Talk about Listening
http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/Talk_about_listening.pdf
CO-TEACH
Collaboratively teach, monitor and gather evidence of student learning

e.g.,
The teacher and coach co-teach a lesson, monitor the students using observation criteria and gather evidence of student learning related to talk and thinking.

CHECKOUT
Learning-focused Conversations and Shared Reading in Grade 12 History video http://www.edugains.ca/newsite/literacy2/videocliplibrary.html

CO-REFLECT
Collaboratively share observations and analyze results to determine next steps

e.g.,
The teacher and coach assess the impact of wait time and collaborative structures on student talk. Teacher and coach reflect on their own learning and possible next steps.

CLASSROOM LEARNING

BUILDING & DEVELOPING RELATIONSHIPS
The coach strives to foster genuine, trusting relationships with colleagues and students, guided by a sense of mutual respect.

SUPPORTING ADULT LEARNING & PROFESSIONAL GROWTH
The coach is a guide, facilitator, and co-learner who supports collaborative cultures to attain professional learning goals.

ASSESS LEARNER NEEDS
Collaboratively examine evidence and determine an area of need related to adolescent literacy

CO-PLAN
Collaboratively identify content and instructional focus, and establish observation criteria

CO-TEACH
Collaboratively teach, monitor and gather evidence of student learning

CO-REFLECT
Collaboratively share observations and analyze results to determine next steps

LEADING INSTRUCTIONAL PRACTICE
The coach draws on a repertoire of instruction and assessment practices to support adolescent literacy learning.

CONNECTING WITH IMPROVEMENT PLANNING
The coach helps bridge individual professional learning goals with school and board plans for improvement.
**Think**
access, manage, create and evaluate information in order to think imaginatively and critically to solve problems and make decisions, including those related to issues of fairness, equity and social justice

**Express**
use language and images in rich and varied forms to read, write, listen, speak, view, represent, discuss and think critically about ideas

<table>
<thead>
<tr>
<th>Critical Literacy</th>
<th>Metacognition</th>
<th>Questioning</th>
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<tbody>
<tr>
<td>refers to students critically analyzing and evaluating the meaning of text as it relates to issues of equity, power, and social justice to inform a critical stance, response and/or action</td>
<td>refers to students taking active control over their thinking processes so that they understand themselves as learners, they understand a given task, and they understand a variety of strategies and how to use them in a variety of situations</td>
<td>refers to students’ curiosity, exploration, and inquiry to evoke, expose and extend their thinking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Students</th>
<th>Students</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognize that texts are created by authors who have certain perspectives and biases</td>
<td>Identify their own understandings in relation to learning goals and success criteria</td>
<td>Explore, wonder and investigate to solve problems and build understanding</td>
</tr>
<tr>
<td>Recognize that point of view influences how a text is interpreted and understood</td>
<td>Use established success criteria and descriptive feedback to monitor learning and plan next steps</td>
<td>Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic</td>
</tr>
<tr>
<td>Determine whose voices are present and whose voices are missing from the text</td>
<td>Are aware of their own actions and beliefs and recognize how their attitudes, habits and dispositions influence the extent of their learning</td>
<td>Pose and answer questions in collaboration with peers to explore various ways of thinking</td>
</tr>
<tr>
<td>Evaluate sources for bias, reliability, fairness and validity</td>
<td>Identify, communicate and act on their learning preferences and individual strengths</td>
<td>Construct different types of questions purposefully to meet learning goals</td>
</tr>
<tr>
<td>Analyze how language is used to exercise power and/or maintain status quo</td>
<td>Assess learning situations and develop plans of action, and select strategies and resources accordingly</td>
<td>Use self-questioning to assess readiness and guide learning</td>
</tr>
<tr>
<td>Take a stance and engage in a response or action in the interest of equity, fairness and social justice</td>
<td>Reflect on their learning and engage in conversations to explain, question and refine their thinking</td>
<td>Explain how questioning helps guide thinking and learning</td>
</tr>
<tr>
<td>Use technology to seek divergent perspectives, interact with authentic audiences, and express ideas</td>
<td>Seek clarification and support when barriers to learning are encountered</td>
<td>Use technology to pose questions and explore divergent perspectives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Teachers</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide opportunities to deconstruct a range of texts with a variety of perspectives</td>
<td>Clarify learning goals and co-construct success criteria</td>
<td>Monitor student responses to assess the effectiveness of questions and student understanding</td>
</tr>
<tr>
<td>Explicitly point out assumptions and values embedded in a text and model appropriate responses</td>
<td>Clarify learning goals and co-construct success criteria</td>
<td>Model and use open-ended questions to engage students with texts, ideas and issues</td>
</tr>
<tr>
<td>Model and provide multiple opportunities to analyze and evaluate the meaning of texts, particularly about their purpose and audience</td>
<td>Develop checkpoints for students to track their learning and thinking, and identify next steps in the process</td>
<td>Provide opportunities for students to generate and pose their own questions, individually and collaboratively, and to seek answers</td>
</tr>
<tr>
<td>Model the use of critical questions such as What is the author’s purpose? Whose point of view is presented? Who is advantaged by this text? Whose voice is missing? How does the graphical representation influence the meaning? What version of reality is presented? What does the author want you to believe? What are the assumptions in this text?</td>
<td>Scaffold learning so that students build stamina, and have persistence, motivation, self-efficacy and curiosity</td>
<td>Explicitly teach types of questions, ways to deconstruct questions and model appropriate responses</td>
</tr>
<tr>
<td>Explicitly teach students to evaluate texts for validity, reliability and credibility</td>
<td>Recognize students’ successes to build their confidence and competence as learners</td>
<td>Model how to ask questions during the learning process</td>
</tr>
<tr>
<td>Explicitly point out how language is used and how it influences the meaning of texts</td>
<td>Identify themselves as learners and demonstrate “expert skills” of learning</td>
<td>Use wait time and collaborative structures to allow students to think about questions and formulate answers</td>
</tr>
<tr>
<td>Provide opportunities for students to understand their own perspectives and guide appropriate responses to issues of equity, fairness and social justice</td>
<td>Engage students in reflective writing and learning conversations to expose thinking</td>
<td>Provide opportunities and tools (e.g., technology) for students to pose questions and explore divergent perspectives</td>
</tr>
<tr>
<td>Provide opportunities and tools for students to explore perspective and to “make public” their response to an issue</td>
<td>Demonstrate how to identify any challenges and barriers to learning, and determine possible solutions</td>
<td>Support students in understanding themselves, including their multiple intelligences and learning preferences</td>
</tr>
<tr>
<td>Strategy</td>
<td>Voice &amp; Identity</td>
<td></td>
</tr>
<tr>
<td>----------</td>
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<td></td>
</tr>
<tr>
<td>refers to students purposefully selecting and using techniques and processes in order to construct and communicate meaning</td>
<td>refers to students’ decisions, choices and actions that advocate for their learning and make connections to their experience, values, culture, and interests</td>
<td></td>
</tr>
</tbody>
</table>

**Students**

- Set goals, establish success criteria, create and follow plans, make judgments and determine the effectiveness of plans
- Use subject-specific processes to create, solve problems, research, make decisions, revise thinking, communicate ideas and reflect on learning
- Apply comprehension strategies before, during and after reading, listening, viewing to develop understanding
- Apply knowledge of organizational patterns, text structures and features to navigate and advance understanding of text
- Access and use subject-specific vocabulary to precisely communicate ideas
- Use active reading, writing, viewing, listening, speaking and representing techniques to record, react and respond to ideas
- Use a writing process to generate, explore, develop and refine writing for particular purposes, forms and audiences
- Select and use appropriate organizers to gather, manage and communicate information and ideas

**Teachers**

- Model the use of goals to create, follow and assess a plan
- Model subject-specific processes and explain how they reflect thinking in the subject area
- Model comprehension strategies
- Identify the literacy demands of the subject area
- Provide explicit instruction in organizational patterns, text structures and features used in the subject area
- Provide explicit vocabulary instruction
- Scaffold reading, writing, listening, speaking and viewing tasks with explicit teaching
- Model and guide the use of a writing process
- Explain the purpose of organizers and technology to gather, manage and communicate information and ideas, and model their use
- Co-construct anchor charts, performance walls and collect a range of exemplars to support the literacy demands in the subject

---

**Explain**

- apply metacognitive knowledge and skills, develop self-advocacy, a sense of self-efficacy and interest in life-long learning

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**AT A GLANCE**

This chart outlines the goals for adolescent literacy learning, (i.e., Think, Express, Reflect), the components which support these goals, the student indicators which provide evidence of literacy learning, and the teacher practices which support this learning.
APPENDIX A — SCHOOL EFFECTIVENESS FRAMEWORK CONNECTIONS

The chart below shows sample connections between School Effectiveness Framework (SEF) indicators and the adolescent literacy components and student indicators. More explicit connections may be made by referring to the evidence which support each of the SEF indicators.

<table>
<thead>
<tr>
<th>Critical Literacy</th>
<th>SEF Indicator</th>
<th>Metacognition</th>
<th>SEF Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognize that texts are created by authors who have certain perspectives and biases</td>
<td>2.2 Processes and practices are designed to deepen content knowledge and refine instruction to support student learning and achievement.</td>
<td>Identify their own understandings in relation to learning goals and success criteria</td>
<td>1.1 Students and teachers share a common understanding of the learning goals and related success criteria.</td>
</tr>
<tr>
<td>Recognize that point of view influences how a text is interpreted and understood</td>
<td>4.3 Teaching and learning incorporates 21st Century content, global perspectives, learning skills, resources and technologies.</td>
<td>Use established success criteria and descriptive feedback to monitor learning and plan next steps</td>
<td>1.2 During learning, students receive ongoing, descriptive feedback based on the success criteria from the teacher and from peers. 1.3 Students are taught, and regularly use self-assessment skills to monitor their progress toward achieving learning goals, and to set their own learning goals within the context of the Ontario curriculum and/or Individual Education Plan (IEP).</td>
</tr>
<tr>
<td>Determine whose voices are present and whose voices are missing from the text</td>
<td>3.4 Explicit strategies are in place to enable students to demonstrate strong citizenship skills.</td>
<td>Are aware of their own actions and beliefs and recognize how their attitudes, habits and dispositions influence the extent of their learning</td>
<td>2.2 Processes and practices are designed to deepen content knowledge and refine instruction to support student learning and achievement.</td>
</tr>
<tr>
<td>Evaluate sources for bias, reliability, fairness and validity</td>
<td>4.4 Learning is deepened through authentic, relevant and meaningful student inquiry.</td>
<td>Identify, communicate and act on their learning preference and individual strengths</td>
<td>3.1 The teaching and learning environment is inclusive and reflects individual student strengths, needs and learning preferences. 4.5 Instruction and assessment are differentiated in response to student strengths, needs and prior learning.</td>
</tr>
<tr>
<td>Analyze how language is used to exercise power and/or maintain status quo</td>
<td>4.2 A clear emphasis on high levels of achievement in literacy and numeracy is evident throughout the school.</td>
<td>Assess learning situations and develop plans of action, and select strategies and resources accordingly</td>
<td>4.6 Resources for students are relevant, current, accessible and inclusive.</td>
</tr>
<tr>
<td>Take a stance and engage in a response or action in the interest of equity, fairness and social justice</td>
<td>4.3 Teaching and learning incorporates 21st Century content, global perspectives, learning skills, resources and technologies.</td>
<td>Reflect on their learning and engage in conversations to explain, question and refine their thinking</td>
<td>4.3 Teaching and learning incorporates 21st Century content, global perspectives, learning skills, resources and technologies.</td>
</tr>
<tr>
<td>Use technology to seek divergent perspectives, interact with authentic audiences, and express ideas</td>
<td>4.3 Teaching and learning incorporates 21st Century content, global perspectives, learning skills, resources and technologies.</td>
<td>Seek clarification and support when barriers to learning are encountered</td>
<td>1.5 A variety of valid and reliable assessment data is used by students and teachers to continuously monitor learning, to inform instruction and assessment and to determine next steps. 2.2 Processes and practices are designed to deepen content knowledge and refine instruction to support student learning and achievement.</td>
</tr>
<tr>
<td>Questioning</td>
<td>SEF Indicator</td>
<td>Strategy</td>
<td>SEF Indicator</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Explore, wonder and investigate to solve problems and build understanding</td>
<td>1.3 Students are taught, and regularly use self-assessment skills to monitor their progress toward achieving learning goals, and to set their own learning goals within the context of the Ontario curriculum and/or Individual Education Plan (IEP).</td>
<td>Set goals, establish criteria, create and follow plans, make judgments and determine the effectiveness of the plan</td>
<td>1.1 Students and teachers share a common understanding of the learning goals and related success criteria.</td>
</tr>
<tr>
<td>Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic</td>
<td>2.2 Processes and practices are designed to deepen content knowledge and refine instruction to support student learning and achievement.</td>
<td>Use subject-specific processes to create, solve problems, research, make decisions, revise thinking, communicate ideas and reflect on learning</td>
<td>2.2 Processes and practices are designed to deepen content knowledge and refine instruction to support student learning and achievement.</td>
</tr>
<tr>
<td>Pose and answer questions in collaboration with peers to explore various ways of thinking</td>
<td>2.2 Processes and practices are designed to deepen content knowledge and refine instruction to support student learning and achievement.</td>
<td>Apply comprehension strategies before, during and after reading, listening, viewing to develop understanding</td>
<td>4.2 A clear emphasis on high levels of achievement in literacy and numeracy is evident throughout the school.</td>
</tr>
<tr>
<td>Construct different types of questions purposefully to meet learning goals</td>
<td>1.3 Students are taught, and regularly use self-assessment skills to monitor their progress toward achieving learning goals, and to set their own learning goals within the context of the Ontario curriculum and/or Individual Education Plan (IEP).</td>
<td>Apply knowledge of organizational patterns, text structures and features to navigate and advance understanding of text</td>
<td>4.2 A clear emphasis on high levels of achievement in literacy and numeracy is evident throughout the school.</td>
</tr>
<tr>
<td>Use self-questioning to assess readiness and guide learning</td>
<td>1.3 Students are taught, and regularly use self-assessment skills to monitor their progress toward achieving learning goals, and to set their own learning goals within the context of the Ontario curriculum and/or Individual Education Plan (IEP).</td>
<td>Access and use subject-specific vocabulary to precisely communicate ideas</td>
<td>2.2 Processes and practices are designed to deepen content knowledge and refine instruction to support student learning and achievement.</td>
</tr>
<tr>
<td>Explain how questioning helps guide thinking and learning</td>
<td>4.4 Learning is deepened through authentic, relevant and meaningful student inquiry.</td>
<td>Use active reading, writing, viewing, listening, speaking and representing techniques to record, react and respond to ideas</td>
<td>4.3 Teaching and learning incorporates 21st Century content, global perspectives, learning skills, resources and technologies.</td>
</tr>
<tr>
<td>Use technology to pose questions and explore divergent perspectives</td>
<td>4.3 Teaching and learning incorporates 21st Century content, global perspectives, learning skills, resources and technologies.</td>
<td>Use a writing process to generate, explore, develop and refine writing for particular purposes, forms and audiences</td>
<td>4.2 A clear emphasis on high levels of achievement in literacy and numeracy is evident throughout the school.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select and use appropriate organizers to gather, manage and communicate information and ideas</td>
<td>4.3 Teaching and learning incorporates 21st Century content, global perspectives, learning skills, resources and technologies.</td>
</tr>
<tr>
<td>Voice &amp; Identity</td>
<td>SEF Indicator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognize their roles and responsibilities in their own learning</td>
<td>1.1 Students and teachers share a common understanding of the learning goals and related success criteria.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.3 Students are taught, and regularly use self-assessment skills to monitor their progress toward achieving learning goals, and to set their own learning goals within the context of the Ontario curriculum and/or Individual Education Plan (IEP).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make personal connections to text and task during reading, writing, speaking, listening and representing</td>
<td>4.5 Instruction and assessment are differentiated in response to student strengths, needs and prior learning.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.2 A clear emphasis on high levels of achievement in literacy and numeracy is evident throughout the school.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value their own knowledge and experience and that of others by actively contributing and welcoming new ideas</td>
<td>3.1 The teaching and learning environment is inclusive and reflects individual student strengths, needs and learning preferences.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advocate for self and others to advance learning</td>
<td>2.5 Organizational structures are coherent, flexible and respond to the needs of students.</td>
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</tr>
<tr>
<td></td>
<td>1.2 During learning, students receive ongoing, descriptive feedback based on the success criteria from the teacher and from peers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognize how personal views and the views of others can affect thinking</td>
<td>2.5 Organizational structures are coherent, flexible and respond to the needs of students.</td>
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<tr>
<td></td>
<td>4.2 A clear emphasis on high levels of achievement in literacy and numeracy is evident throughout the school.</td>
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</tr>
<tr>
<td>Seek opportunities for purposeful self-expression to authentic audiences about meaningful topics and issues</td>
<td>4.4 Learning is deepened through authentic, relevant and meaningful student inquiry.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advocate for choice in learning opportunities</td>
<td>3.1 The teaching and learning environment is inclusive and reflects individual student strengths, needs and learning preferences.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set personal goals and explore ideas of personal interest relevant to topics of study</td>
<td>3.2 School programs incorporate students’ stated priorities and reflect the diversity, needs and interests of the school population.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>4.4 Learning is deepened through authentic, relevant and meaningful student inquiry.</td>
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</tr>
<tr>
<td></td>
<td>5.1 Programs, pathways and career planning meet the learning needs and interests of all students.</td>
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</tr>
</tbody>
</table>
Literacy supports the learning of all curriculum expectations. The chart below shows the explicit connections between Grade 8 Science and Technology curriculum expectations and the components and student indicators. This may be used as a template for examining links between literacy and the curriculum expectations in other subjects or courses.

### Understanding Life – Systems Cells

1. assess the impact of cell biology on individuals, society, and the environment;
2. investigate functions and processes of plant and animal cells;
3. demonstrate an understanding of the basic structure and function of plant and animal cells and cell processes.

<table>
<thead>
<tr>
<th>Specific Expectations</th>
<th>Potential Component Connection</th>
<th>Specific Expectations</th>
<th>Potential Component Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 assess the role of selected technologies in enhancing our understanding of cells and cellular processes</td>
<td><strong>Questioning</strong> Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic</td>
<td>2.6 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes</td>
<td><strong>Strategy</strong> Select and use appropriate organizers to gather, manage and communicate information and ideas</td>
</tr>
</tbody>
</table>
| 1.2 assess the potential that our understanding of cells and cell processes has for both beneficial and harmful effects on human health and the environment, taking different perspectives into account | **Critical Literacy** Evaluate sources for bias, reliability, fairness and validity
**Voice & Identity** Make personal connections to text and task during reading, writing, speaking, listening and representing | 3.1 demonstrate an understanding of the postulates of the cell theory | |
| 2.1 follow established safety procedures for handling apparatus and materials and use microscopes correctly and safely | | 3.2 identify structures and organelles in cells, including the nucleus, cell membrane, cell wall, chloroplasts, vacuole, mitochondria, and cytoplasm, and explain the basic functions of each | |
| 2.2 use a microscope correctly and safely to find and observe components of plant and animal cells and make accurate drawings of their observations | | 3.3 compare the structure and function of plant and animal cells | |
| 2.3 prepare dry- and wet-mount slides of a variety of objects for use with a microscope | | 3.4 explain the processes of diffusion and osmosis and their roles within a cell | |
| 2.4 use scientific inquiry/experimentation skills to investigate the processes of osmosis and diffusion | **Strategy** Use subject-specific processes to create, solve problems, research, make decisions, revise thinking, communicate ideas and reflect on learning
**Questioning** Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic | 3.5 identify unicellular organisms and multicellular organisms, and compare ways in which they meet their basic needs | |
| 2.5 use appropriate science and technology vocabulary, including organelle, diffusion, osmosis, cell theory, selective permeability, membrane, stage, and eyepiece, in oral and written communication | **Strategy** Access and use subject-specific vocabulary to precisely communicate ideas | 3.6 describe the organization of cells into tissues, organs, and systems | |
### Understanding Structures and Mechanisms – Systems in Action

1. assess the personal, social, and/or environmental impacts of a system, and evaluate improvements to a system and/or alternative ways of meeting the same needs;
2. investigate a working system and the ways in which components of the system contribute to its desired function;
3. demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation.

<table>
<thead>
<tr>
<th>Specific Expectations</th>
<th>Potential Component Connection</th>
<th>Specific Expectations</th>
<th>Potential Component Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 assess the social, economic, and environmental impacts of automating systems</td>
<td><strong>Questioning</strong> Explore, wonder and investigate to solve problems and build understanding</td>
<td>3.1 identify various types of systems</td>
<td></td>
</tr>
<tr>
<td>1.2 assess the impact on individuals, society, and the environment of alternative ways of meeting needs that are currently met by existing systems, taking different points of view into consideration</td>
<td><strong>Critical Literacy</strong> Evaluate sources for bias, reliability, fairness and validity</td>
<td>3.2 identify the purpose, inputs, and outputs of various systems</td>
<td></td>
</tr>
<tr>
<td>2.1 follow established safety procedures for working with apparatus, tools, materials, and electrical systems</td>
<td></td>
<td>3.3 identify the various processes and components of a system that allow it to perform its function efficiently and safely</td>
<td></td>
</tr>
<tr>
<td>2.2 investigate the work done in a variety of everyday activities and record the findings quantitatively</td>
<td><strong>Strategy</strong> Use subject-specific processes to create, solve problems, research, make decisions, revise thinking, communicate ideas and reflect on learning</td>
<td>3.4 compare, using examples, the scientific definition with the everyday use of the terms work, force, energy, and efficiency</td>
<td><strong>Strategy</strong> Select and use appropriate organizers to gather, manage and communicate information and ideas</td>
</tr>
<tr>
<td>2.3 use scientific inquiry/ experimentation skills to investigate mechanical advantage in a variety of mechanisms and simple machines</td>
<td><strong>Strategy</strong> Use subject-specific processes to create, solve problems, research, make decisions, revise thinking, communicate ideas and reflect on learning</td>
<td>3.5 understand and use the formula work = force X distance (W = F x d) to establish the relationship between work, force, and distance moved parallel to the force in simple systems</td>
<td></td>
</tr>
<tr>
<td>2.4 use technological problem-solving skills to investigate a system that performs a function or meets a need</td>
<td><strong>Questioning</strong> Explore, wonder and investigate to solve problems and build understanding</td>
<td>3.6 calculate the mechanical advantage (MA = force needed without a simple machine divided by force needed with a simple machine) of various mechanical systems</td>
<td></td>
</tr>
<tr>
<td>2.5 investigate the information (e.g., owner’s manual for a car, weather advisories for a region, pest forecasts/warnings for a crop/region) and support (e.g., a technical support line for computers) provided to consumers/clients to ensure that a system functions safely and effectively</td>
<td><strong>Strategy</strong> Apply knowledge of organizational patterns, text structures and features to navigate and advance understanding of text</td>
<td>3.7 explain ways in which mechanical systems produce heat, and describe ways to make these systems more efficient</td>
<td></td>
</tr>
<tr>
<td>2.6 use appropriate science and technology vocabulary, including mechanical advantage, input, output, friction, gravity, forces, and efficiency, in oral and written communication</td>
<td><strong>Questioning</strong> Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic</td>
<td>3.8 describe systems that have improved the productivity of various industries</td>
<td></td>
</tr>
<tr>
<td>2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes</td>
<td><strong>Strategy</strong> Access and use subject-specific vocabulary to precisely communicate ideas</td>
<td>3.9 identify social factors that influence the evolution of a system</td>
<td><strong>Questioning</strong> Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic</td>
</tr>
</tbody>
</table>
## Understanding Matter and Energy – Fluids

1. analyze how the properties of fluids are used in various technologies, and assess the impact of these technologies on society and the environment;
2. investigate the properties of fluids;
3. demonstrate an understanding of the properties and uses of fluids.

<table>
<thead>
<tr>
<th>Specific Expectations</th>
<th>Potential Component Connection</th>
<th>Specific Expectations</th>
<th>Potential Component Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 assess the social, economic, and environmental impacts of selected technologies that are based on the properties of fluids</td>
<td>Questioning Use technology to pose questions and explore divergent perspectives</td>
<td>2.8 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes</td>
<td>Strategy Select and use appropriate organizers to gather, manage and communicate information and ideas</td>
</tr>
<tr>
<td>1.2 assess the impact of fluid spills on society and the environment, including the cost of the cleanup and the effort involved</td>
<td>Critical Literacy Evaluate sources for bias, reliability, fairness and validity Questioning Use technology to pose questions and explore divergent perspectives</td>
<td>3.1 demonstrate an understanding of viscosity and compare the viscosity of various liquids</td>
<td></td>
</tr>
<tr>
<td>2.1 follow established safety practices for using apparatus, tools, and materials</td>
<td></td>
<td>3.2 describe the relationship between mass, volume, and density as a property of matter</td>
<td></td>
</tr>
<tr>
<td>2.2 determine the mass-to-volume ratio of different amounts of the same substance</td>
<td></td>
<td>3.3 explain the difference between solids, liquids, and gases in terms of density, using the particle theory of matter</td>
<td></td>
</tr>
<tr>
<td>2.3 investigate and compare the density of a variety of liquids</td>
<td>Questioning Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic</td>
<td>3.4 explain the difference between liquids and gases in terms of their compressibility and how their compressibility affects their usage</td>
<td></td>
</tr>
<tr>
<td>2.4 investigate applications of the principles of fluid mechanics</td>
<td>Questioning Explore, wonder and investigate to solve problems and build understanding</td>
<td>3.5 determine the buoyancy of an object, given its density, in a variety of fluids</td>
<td></td>
</tr>
<tr>
<td>2.5 use scientific inquiry/experimentation skills to identify factors that affect the flow rates of various fluids</td>
<td>Strategy Use subject-specific processes to create, solve problems, research, make decisions, revise thinking, communicate ideas and reflect on learning Questioning Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic</td>
<td>3.6 explain in qualitative terms the relationship between pressure, volume, and temperature when a liquid (e.g., water) or a gas (e.g., air) is compressed or heated</td>
<td></td>
</tr>
<tr>
<td>2.6 use technological problem-solving skills to design, build, and test devices that use pneumatic or hydraulic systems</td>
<td></td>
<td>3.7 explain how forces are transferred in all directions in fluids (Pascal’s law)</td>
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<tr>
<td>2.7 use appropriate science and technology vocabulary, including viscosity, density, particle theory of matter, hydraulic, and pneumatic, in oral and written communication</td>
<td>Strategy Access and use subject-specific vocabulary to precisely communicate ideas</td>
<td>3.8 compare the ways in which fluids are used and controlled in living things to the ways in which they are used and controlled in manufactured devices</td>
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</tr>
</tbody>
</table>
### Understanding Earth & Space Systems – Water Systems

1. assess the impact of human activities and technologies on the sustainability of water resources;
2. investigate factors that affect local water quality;
3. demonstrate an understanding of the characteristics of the earth’s water systems and the influence of water systems on a specific region.

<table>
<thead>
<tr>
<th>Specific Expectations</th>
<th>Potential Component Connection</th>
<th>Specific Expectations</th>
<th>Potential Component Connection</th>
</tr>
</thead>
</table>
| 1.1 evaluate personal water consumption, compare it with personal water consumption in other countries, and propose a plan of action to reduce personal water consumption to help address water sustainability issues | Critical Literacy
Take a stance and engage in a response or action in the interest of equity, fairness and social justice | 2.6 use appropriate science and technology vocabulary, including water table, aquifer, polar ice-cap, and salinity, in oral and written communication | Strategy
Access and use subject-specific vocabulary to precisely communicate ideas |
| 1.2 assess how various media sources address issues related to the impact of human activities on the long-term sustainability of local, national, or international water systems | Critical Literacy
Recognize that texts are created by authors who have certain perspectives and biases | 2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes | Strategy
Select and use appropriate organizers to gather, manage and communicate information and ideas |
| 1.3 assess the impact on local and global water systems of a scientific discovery or technological innovation | Questioning
Explore, wonder and investigate to solve problems and explore divergent perspectives | 3.1 identify the various states of water on the earth’s surface, their distribution, relative amounts, and circulation, and the conditions under which they exist | |
| 2.1 follow established safety procedures for the use of apparatus and chemicals | Questioning
Explore, wonder and investigate to solve problems and build understanding | 3.2 demonstrate an understanding of the watershed as a fundamental geographic unit, and explain how it relates to water management and planning | |
| 2.2 investigate how municipalities process water (e.g., obtain it, test it, and treat it) and manage water | Questioning
Ask questions that clarify, extend thinking and challenge ideas to probe more deeply into an issue or topic | 3.3 explain how human and natural factors cause changes in the water table | |
| 2.3 test water samples for a variety of chemical characteristics | Questioning
Explore, wonder and investigate to solve problems and build understanding | 3.4 identify factors that affect the size of glaciers and polar ice-caps, and describe the effects of these changes on local and global water systems | Metacognition
Use established success criteria and descriptive feedback to monitor learning and plan next steps |
| 2.4 use scientific inquiry/research skills to investigate local water issues Sample guiding questions: Where does your local water supply come from? How might you and your family have become aware of the issue? | Strategy
Use subject-specific processes to create, solve problems, research, make decisions, revise thinking, communicate ideas and reflect on learning | 3.5 explain changes in atmospheric conditions caused by the presence of bodies of water | |
| 2.5 use technological problem-solving skills to design, build, and test a water system device that performs a practical function or meets a need | | | |
APPENDIX C — LEARNING SKILLS AND WORK HABITS CONNECTIONS

Literacy supports students developing effective learning skills and work habits. This chart shows explicit connections between the student indicators and the sample criteria outlined for each of the Learning Skills in Growing Success.

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Potential Component Connection</th>
<th>Organization</th>
<th>Potential Component Connection</th>
<th>Independent Work</th>
<th>Potential Component Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample behaviours</td>
<td>The student</td>
<td>Sample behaviours</td>
<td>The student</td>
<td>Sample behaviours</td>
<td>The student</td>
</tr>
<tr>
<td>fulfills responsibilities and commitments within the learning environment;</td>
<td>Voice &amp; Identity</td>
<td>Recognize their roles and responsibilities</td>
<td>devises and follows a plan and process for completing work and tasks;</td>
<td>Metacognition</td>
<td>Assess learning situations and develop plans of action, and select strategies and resources accordingly</td>
</tr>
<tr>
<td>completes and submits class work, homework, and assignments according to agreed-upon timelines;</td>
<td>Metacognition</td>
<td>Assess learning situations and develop plans of action, and select strategies and resources accordingly</td>
<td>establishes priorities and manages time to complete tasks and achieve goals;</td>
<td>Metacognition</td>
<td>Assess learning situations and develop plans of action, and select strategies and resources accordingly</td>
</tr>
<tr>
<td>takes responsibility for and manages own behaviour.</td>
<td>Voice &amp; Identity</td>
<td>Recognize their roles and responsibilities in their own learning</td>
<td>identifies, gathers, evaluates, and uses information, technology, and resources to complete tasks.</td>
<td>Critical Literacy</td>
<td>Use technology to seek divergent perspectives, interact with authentic audiences, and express ideas</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Potential Component Connection</td>
<td>Initiative</td>
<td>Potential Component Connection</td>
<td>Self-regulation</td>
<td>Potential Component Connection</td>
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<tr>
<td>Sample behaviours</td>
<td>The student</td>
<td>Sample behaviours</td>
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<td>Sample behaviours</td>
<td>The student</td>
</tr>
<tr>
<td>accepts various roles and an equitable share of work in a group;</td>
<td>Voice &amp; Identity Recognize their own knowledge and responsibilities in their own learning</td>
<td>looks for and acts on new ideas and opportunities for learning;</td>
<td>Voice &amp; Identity Seek opportunities for purposeful self-expression to authentic audiences about meaningful topics and issues</td>
<td>sets own individual goals and monitors progress towards achieving them;</td>
<td>Metacognition Identify their own understandings in relation to learning goals and success criteria</td>
</tr>
<tr>
<td>Strategy Use active reading, writing, viewing, listening, speaking and representing techniques to record, react and respond to ideas</td>
<td></td>
<td></td>
<td>Voice &amp; Identity Set personal goals and explore ideas of personal interest relevant to topics of study</td>
<td></td>
<td>Strategy Set goals, establish criteria, create and follow plans, make judgments and determine the effectiveness of the plan</td>
</tr>
<tr>
<td>responds positively to the ideas, opinions, values, and traditions of others;</td>
<td>Voice &amp; Identity Value their own knowledge and experience and that of others by actively contributing and welcoming new ideas</td>
<td>demonstrates the capacity for innovation and a willingness to take risks;</td>
<td>Questioning Use technology to pose questions and explore divergent perspectives</td>
<td>seeks clarification or assistance when needed;</td>
<td>Metacognition Seek clarification and support when barriers to learning are encountered</td>
</tr>
<tr>
<td>builds healthy peer-to-peer relationships through personal and media-assisted interactions;</td>
<td>Voice &amp; Identity Advocate for self and others to advance learning</td>
<td>demonstrates curiosity and interest in learning;</td>
<td>Questioning Explore, wonder and investigate to solve problems and build understanding</td>
<td>assesses and reflects critically on own strengths, needs, and interests;</td>
<td>Metacognition Assess learning situations and develop plans of action, and select strategies and resources accordingly</td>
</tr>
<tr>
<td>works with others to resolve conflicts and build consensus to achieve group goals;</td>
<td>Voice &amp; Identity Value their own knowledge and experience and that of others by actively contributing and welcoming new ideas</td>
<td>approaches new tasks with a positive attitude;</td>
<td>Metacognition Are aware of their own actions and beliefs and recognize how their attitudes, habits and dispositions influence the extent of their learning</td>
<td>identifies learning opportunities, choices, and strategies to meet personal needs and achieve goals;</td>
<td>Metacognition Assess learning situations and develop plans of action, and select strategies and resources accordingly</td>
</tr>
<tr>
<td>shares information, resources, and expertise and promotes critical thinking to solve problems and make decisions.</td>
<td>Strategy Select and use appropriate organizers to gather, manage and communicate information and ideas</td>
<td>recognizes and advocates appropriately for the rights of self and others.</td>
<td>Voice &amp; Identity Advocate for self and others to advance learning</td>
<td>perseveres and makes an effort when responding to challenges.</td>
<td>Metacognition Are aware of their own actions and beliefs and recognize how their attitudes, habits and dispositions influence the extent of their learning</td>
</tr>
</tbody>
</table>
# APPENDIX D — MINISTRY RESOURCES RELATED TO THE COMPONENTS

The chart below provides a sampling of Ministry print and video resources which may be used to illustrate the adolescent literacy components.

<table>
<thead>
<tr>
<th>Critical Literacy</th>
<th>Resource</th>
<th>Description</th>
<th>Format</th>
<th>Links to other Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource</td>
<td>Description</td>
<td>Video</td>
<td>Print</td>
<td></td>
</tr>
<tr>
<td>Capacity Building Series – Critical Literacy</td>
<td>This monograph emphasizes that all text is constructed for a purpose and that reading is not a passive act but an interaction between the text and a reader who looks for meaning, asks questions and challenges assumptions.</td>
<td>x</td>
<td></td>
<td>Strategy</td>
</tr>
<tr>
<td><a href="http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/Critical_Literacy.pdf">http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/Critical_Literacy.pdf</a></td>
<td>In this lesson students examine various points of view through dramatic exploration.</td>
<td>x</td>
<td></td>
<td>Strategy Voice and Identity</td>
</tr>
<tr>
<td>Differentiated Instruction – Teaching Learning Examples: Grade 7 Arts, Drama: Step Into My Shoes – Exploring Perspective</td>
<td>In this lesson students discuss and evaluate media texts through a critical literacy lens.</td>
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<tr>
<td><a href="http://www.edugains.ca/resourcesDI/TeachingLearningExamples/Arts/GR7_ARTS_DRAMA_STEPINTOMYSHOESEXPLORINGPERSPECTIVES.pdf">http://www.edugains.ca/resourcesDI/TeachingLearningExamples/Arts/GR7_ARTS_DRAMA_STEPINTOMYSHOESEXPLORINGPERSPECTIVES.pdf</a></td>
<td>In this lesson students analyze a piece of media and follow the steps in the design process to develop a design proposal for an advertisement.</td>
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<tr>
<td>Differentiated Instruction – Teaching/Learning Examples: Grade 10 English, Applied (ENG2P): Critical Literacy— Media Texts</td>
<td>This video series illustrates an integrated inquiry-based study that has students answer questions of who has voice, and who is marginalized and why. They assume a critical stance as they use a variety of sources examine what voices are missing in history, literature and society. Includes a facilitator’s guide.</td>
<td>x</td>
<td>x</td>
<td>Voice and Identity Metacognition Strategy Questioning</td>
</tr>
<tr>
<td>Differentiated Instruction – Teaching/Learning Examples: Grade 9 Exploring Technologies (TUJ1O) or Exploring Communications Technology (TGJ1O): Design Proposal – Technological Education</td>
<td>This quick reference contains information about the principles, benefits and strategies of critical literacy.</td>
<td>x</td>
<td></td>
<td>Questioning Strategy</td>
</tr>
<tr>
<td><a href="http://www.edugains.ca/resourcesDI/TeachingLearningExamples/TechEd/GR9_EXPLORINGTECHNOLOGIES_TU10_TG10.pdf">http://www.edugains.ca/resourcesDI/TeachingLearningExamples/TechEd/GR9_EXPLORINGTECHNOLOGIES_TU10_TG10.pdf</a></td>
<td>In this video, Allan Luke discusses using all the forms of text that exist in everyday life to teach critical literacy.</td>
<td>x</td>
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<td>Voice and Identity</td>
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<tr>
<td>The Literacy and Numeracy Secretariat Webcast Professional Learning Series: Discovering Voice</td>
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<td><a href="http://resources.curriculum.org/secretariat/discovering/">http://resources.curriculum.org/secretariat/discovering/</a></td>
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<tr>
<td>Literacy GAINS: Reading Beneath, Behind and Beyond the Text</td>
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<td>Snapshots of Effective Practice: Twenty-First Teaching and Learning: Allan Luke - Critical Literacy</td>
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<tr>
<td><a href="http://resources.curriculum.org/secretariat/snapshots/learners.html">http://resources.curriculum.org/secretariat/snapshots/learners.html</a></td>
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| AER GAINS: Planning Assessment with Instruction | This video series outlines how to integrate assessment with instruction to improve student learning and to inform teacher instruction. | x | Strategy
| | | | Voice and Identity |
| AER GAINS: Self-Assessment | This video series shows the impact of self-assessment on student learning, and the critical role it plays in teaching students to learn how to learn independently. Includes a Viewer’s Guide. | x | Voice and Identity |
| AER GAINS: Descriptive Feedback | This video series shows teachers purposefully planning critical points at which students receive descriptive feedback to help students to become increasingly more independent and more able to monitor their own progress and determine next steps. | x | Strategy
| | | | Voice and Identity |
| Capacity Building Series: Student Self-Assessment | This monograph describes the benefits, process and practical application of self-assessment. | x | Voice & Identity
| | | | Strategy |
| Differentiated Instruction – Teaching/ Learning Examples: GRADE 10 Introduction to Computer Studies (ICS2O): Animation Programming – Computer Studies | This lesson on animation creation includes appendices with personal learning preferences and goals as a focus. | x | Voice and Identity |
| | | | |
| Differentiated Instruction – Teaching/ Learning Examples Grade 8 Guidance and Career Education: Pathways – Goal Setting and Action Planning | This lesson takes students through the process of creating personally relevant goals. | x | Strategy
| | | | Voice and Identity |
| Literacy GAINS: Exploring Metacognitive Habits of Mind | This video series shows teachers working with students to develop strategies and metacognitive thinking skills. It also includes Barrie Bennett speaking about the importance of students internalizing their learning. | x | Questioning
| | | | Strategy
| | | | Voice and Identity |
| Literacy GAINS: Metacognition Lessons - English Grade 9 Applied ENG1P | This series of lessons provides a way to explicitly teach metacognition. It includes assessment tools, question prompts and related student materials. | x | Strategy |
| Literacy GAINS: Promoting Meaningful Student Involvement – Listening to What Students Have to Say | This video features a student talking about how he learns best and the strategies that he uses. | x | Voice and Identity
<p>| | | | Strategy |</p>
<table>
<thead>
<tr>
<th>Resource</th>
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<tbody>
<tr>
<td>AER GAINS: Questioning</td>
<td>This video series provides research and practice related to questioning, and its important connection to assessment for learning.</td>
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<td>x</td>
<td>Voice &amp; Identity</td>
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<tr>
<td><a href="http://www.edugains.ca/newsite/aer2/aervideo/questioning.html">http://www.edugains.ca/newsite/aer2/aervideo/questioning.html</a></td>
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<tr>
<td>Capacity Building Series: Getting Started with Student Inquiry</td>
<td>This monograph outlines an inquiry process which enables teachers to create learning opportunities for students to pose questions, make sense of information, and build on natural curiosity as they develop higher-order thinking skills.</td>
<td></td>
<td>x</td>
<td>Voice and Identity</td>
</tr>
<tr>
<td><a href="http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_StudentInquiry.pdf">http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_StudentInquiry.pdf</a></td>
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<td>Critical Literacy</td>
</tr>
<tr>
<td>Differentiated Instruction – Teaching/ Learning Examples: Grade 7 Science and Technology: Go ECO! Ecosystem</td>
<td>In this lesson, students use questioning to research an ecosystem of their choice.</td>
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<tr>
<td>Literacy GAINS: One Approach to Questions</td>
<td>In this video, Michael Hardt outlines a strategy for students to understand questions.</td>
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<td>Strategy</td>
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<tr>
<td><a href="http://www.edugains.ca/newsite/literacy2/videocliplibrary.html">http://www.edugains.ca/newsite/literacy2/videocliplibrary.html</a></td>
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<tr>
<td>Math GAINS: Big Ideas and Proportional Reasoning, K-12</td>
<td>This content-based package supports students’ learning, including questions to develop proficiency connected to the mathematical processes.</td>
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<td>Strategy</td>
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<tr>
<td><a href="http://www.edugains.ca/resources/LearningMaterials/ContinuumConnection/BigIdeasQuestioning_ProportionalReasoning.pdf">http://www.edugains.ca/resources/LearningMaterials/ContinuumConnection/BigIdeasQuestioning_ProportionalReasoning.pdf</a></td>
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<tr>
<td>Math GAINS: TIPS – Posing Powerful Questions</td>
<td>These lessons focus on effective questioning, using both the TIPS template and the Posing Powerful Questions template.</td>
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<td><a href="http://www.edugains.ca/newsite/math2/tips_ppq.html">http://www.edugains.ca/newsite/math2/tips_ppq.html</a></td>
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<tr>
<td>Snapshots of Effective Practice: Collaborative Learning</td>
<td>This video shows students in a learning team ask probing questions of one another to deepen their understanding of the topic of study.</td>
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<td>Critical Literacy</td>
</tr>
<tr>
<td><a href="http://resources.curriculum.org/secretariat/snapshots/learners.html">http://resources.curriculum.org/secretariat/snapshots/learners.html</a></td>
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<td>Resource</td>
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<tr>
<td><strong>Strategy</strong></td>
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<tr>
<td><strong>Capacity Building Series: Let’s Talk About Listening</strong></td>
<td>This monograph explains that good talkers and listeners are more likely to become good readers and writers and encourages teachers to create a listening classroom while utilizing various strategies for listening.</td>
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<tr>
<td><a href="http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/?talk_about_listening.pdf">http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/?talk_about_listening.pdf</a></td>
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<td>Metacognition, Questioning, Voice and Identity</td>
</tr>
<tr>
<td><strong>Capacity Building Series: Writing to Learn</strong></td>
<td>This monograph outlines practical activities teachers can implement to enable students to deepen and extend their understanding of subject material.</td>
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<tr>
<td><a href="http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_WritingtoLearn.pdf">http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_WritingtoLearn.pdf</a></td>
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<td>Metacognition</td>
</tr>
<tr>
<td><strong>Capacity Building Series – A World of Words</strong></td>
<td>This monograph explores vocabulary development strategies for English Language Learners.</td>
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<tr>
<td><a href="http://www.edugains.ca/resourcesELL/Monographs/AWorldofWords.pdf">http://www.edugains.ca/resourcesELL/Monographs/AWorldofWords.pdf</a></td>
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<tr>
<td><strong>Differentiated Instruction: Mathematics - Centennial S. S.</strong></td>
<td>In this video, students use strategy, questioning and thinking vocabulary to deepen understanding of mathematical concepts.</td>
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<td>Voice and Identity, Questioning</td>
</tr>
<tr>
<td><a href="http://www.edugains.ca/newsite/di2/secondarydvvideo.html">http://www.edugains.ca/newsite/di2/secondarydvvideo.html</a></td>
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<tr>
<td><strong>Differentiated Instruction: Science – Bishop Macdonell</strong></td>
<td>In this video, students work collaboratively to learn subject-specific vocabulary in a science classroom.</td>
<td>x</td>
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<td>Voice and Identity</td>
</tr>
<tr>
<td><a href="http://www.edugains.ca/newsite/di2/secondarydvvideo.html">http://www.edugains.ca/newsite/di2/secondarydvvideo.html</a></td>
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<tr>
<td><strong>Differentiated Instruction – Teaching/Learning Examples: Grade 9 English, Applied (ENG1P): Reading Graphic Text</strong></td>
<td>This lesson on reading graphic texts describes several comprehension strategies for student use.</td>
<td>x</td>
<td></td>
<td>Metacognition</td>
</tr>
<tr>
<td><a href="http://www.edugains.ca/resourcesDI/TeachingLearningExamples/Language%20-English%20Grades%207-10/Folder%20Eng_GR9_Graphic%20Text.pdf">http://www.edugains.ca/resourcesDI/TeachingLearningExamples/Language%20-English%20Grades%207-10/Folder%20Eng_GR9_Graphic%20Text.pdf</a></td>
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<td><strong>Differentiated Instruction – Teaching/Learning Examples: Grade 10 Mathematics, Applied (MFM2P): Introduction to Solving Linear Systems</strong></td>
<td>In this lesson students assess the effectiveness of a problem solving strategy used and propose alternative strategies.</td>
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<td><a href="http://www.edugains.ca/resourcesDI/TeachingLearningExamples/Mathematics%20Grades%207-10/Folder%20Math_GR10_Linear%20Systems.pdf">http://www.edugains.ca/resourcesDI/TeachingLearningExamples/Mathematics%20Grades%207-10/Folder%20Math_GR10_Linear%20Systems.pdf</a></td>
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<tr>
<td><strong>Literacy GAINS: Assessment Matters - Working Together in Response to our Students</strong></td>
<td>This module features a collaborative professional learning cycle on literacy learning and how reading assessment prompts responsive instruction. Includes a facilitator’s guide.</td>
<td>x</td>
<td>x</td>
<td>Metacognition</td>
</tr>
<tr>
<td><a href="http://www.edugains.ca/newsite/literacy2/literacyassessmentmatters.html">http://www.edugains.ca/newsite/literacy2/literacyassessmentmatters.html</a></td>
<td>In this video, a coach and teacher co-teach a lesson which focuses on summarizing and notetaking in a science class.</td>
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<tr>
<td><strong>Literacy GAINS: Summarizing and Notetaking in Secondary Science</strong></td>
<td>In this video, a coach and teacher co-teach a lesson which focuses on summarizing and notetaking in a science class.</td>
<td>x</td>
<td></td>
<td>Metacognition</td>
</tr>
<tr>
<td><a href="http://www.edugains.ca/newsite/literacy2/coachingforliteracy.html">http://www.edugains.ca/newsite/literacy2/coachingforliteracy.html</a></td>
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### Strategy (cont’d)

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<thead>
<tr>
<th>Resource</th>
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<th>Format Video</th>
<th>Print</th>
<th>Links to other Components</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math GAINS: Differentiated Instruction Math Cards</strong></td>
<td>This series of cards provide suggestions for students to demonstrate their understanding of the math processes using a variety of strategies and tools.</td>
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<tr>
<td><strong>Math GAINS: TIPS4RM Mathematical Processes</strong></td>
<td>This resource suggests strategies for students and provides possible instructional strategies, along with sample questions and feedback, to support development of adolescents’ mathematical problem-solving skills.</td>
<td>x</td>
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<td>Metacognition</td>
</tr>
<tr>
<td><strong>What Works? Research Into Practice Series - Improving Student Writing</strong></td>
<td>This monograph focuses on using feedback as a teaching tool to support students' writing development.</td>
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<td>Voice and Identity</td>
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<tr>
<td><a href="http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/WW_Improving_Student_Writing.pdf">http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/WW_Improving_Student_Writing.pdf</a></td>
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### Voice and Identity

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<thead>
<tr>
<th>Resource</th>
<th>Description</th>
<th>Format Video</th>
<th>Print</th>
<th>Links to other Components</th>
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</thead>
<tbody>
<tr>
<td><strong>Differentiated Instruction – Teaching/Learning Examples: Grade 9 Learning Strategies (GLS1O, GLE1O): Community involvement Investigation – Guidance and Career Education</strong></td>
<td>In this lesson students explore community involvement opportunities to understand how individual learning can be enhanced through community-based learning experiences.</td>
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<tr>
<td><strong>Differentiated Instruction – Teaching/Learning Examples: GRADE 10 Introduction to Computer Studies (ICS2O): Animation Programming – Computer Studies</strong></td>
<td>This lesson on animation creation includes appendices with personal learning preferences and goals as a focus.</td>
<td>x</td>
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<td>Metacognition</td>
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<tr>
<td><strong>Differentiated Instruction – Teaching/Learning Examples: Grade 8 Guidance and Career Education: Pathways—Goal Setting and Action Planning</strong></td>
<td>In this lesson, students create personally relevant goals.</td>
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<td><strong>ELL GAINS: Dr. Jim Cummins - OISE</strong></td>
<td>In this video, Jim Cummins describes the connections between language and literacy, particularly for English Language Learners.</td>
<td>Video</td>
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<td><a href="http://www.edugains.ca/newsite/ell2/webcasts.html">http://www.edugains.ca/newsite/ell2/webcasts.html</a></td>
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<tr>
<td><strong>Financial Literacy in The Arts – Grade 9 and 10 Music</strong></td>
<td>In this video series, students discuss the factors that would need to be considered when making a purchase, co-construct criteria for the purchase and discuss how these skills may apply to other purchases in their lives.</td>
<td>Video</td>
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<tr>
<td><a href="http://www.edugains.ca/newsite/financialLiteracy/secondary.html">http://www.edugains.ca/newsite/financialLiteracy/secondary.html</a></td>
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<td>Print</td>
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<td><strong>Financial Literacy in Grade 9 Geography</strong></td>
<td>In this video series, students make personal connections as they consider the global, economic, environmental, and social implications of investments and reflect on their personal learning.</td>
<td>Video</td>
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<td><a href="http://www.edugains.ca/newsite/financialLiteracy/secondary.html">http://www.edugains.ca/newsite/financialLiteracy/secondary.html</a></td>
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<td><strong>Financial Literacy in Grade 11 &amp; 12 Canadian and World Studies</strong></td>
<td>In this video, students plan a trip for themselves while considering all possible constraints and financial implications. Includes a facilitator’s guide.</td>
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<td><a href="http://www.edugains.ca/newsite/financialLiteracy/secondary.html">http://www.edugains.ca/newsite/financialLiteracy/secondary.html</a></td>
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<td><strong>The Literacy and Numeracy Secretariat Webcast Professional Learning Series: Discovering Voice - Developing Student Voice</strong></td>
<td>This series of video segments explores student voice by illustrating effective practice for whole group and small group sharing.</td>
<td>Video</td>
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<tr>
<td><a href="http://resources.curriculum.org/secretariat/discovering/developing.shtml">http://resources.curriculum.org/secretariat/discovering/developing.shtml</a></td>
<td>The link below leads to other resources related to this segment.</td>
<td>Critical Literacy</td>
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<td><a href="http://resources.curriculum.org/secretariat/discovering/">http://resources.curriculum.org/secretariat/discovering/</a></td>
<td>Questioning</td>
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<tr>
<td><strong>Snapshots of Effective Practice: Lucy West – Insights into Effective Practice</strong></td>
<td>In the video segment, Student Voice, Lucy West outlines how teachers can foster student voice by encouraging them to articulate their reasoning and by valuing their ideas in the classroom. In additional segments, she also explains how to create a culture of classroom discourse, and describes the barriers to classroom talk.</td>
<td>Video</td>
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<tr>
<td><a href="http://resources.curriculum.org/secretariat/snapshots/lucy.html">http://resources.curriculum.org/secretariat/snapshots/lucy.html</a></td>
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REFERENCES

CRITICAL LITERACY


METACOGNITION


VOICE AND IDENTITY


