

MEDIA EDUCATION PROJECT
research-based monograph series

MEDIA EDUCATION:
METACOGNITION

mediaeducationproject.ca

TALKING ABOUT TEACHING AND LEARNING

Media Education Project is a collaborative effort of Canadian educators. This monograph series is a collectively authored document that incorporates the ideas and activities of a varied and diverse group. By talking with many stakeholders, one of our goals is to exchange and mobilize knowledge about research, curriculum, and pedagogical approaches for insertion into teacher education, professional support, and professional development programs.

Through the constant back and forth among the vast number of teachers, researchers, and other educators, we have developed this series of monographs to address critical issues in media education. By building on the experiences and practices of teachers these monographs provide a clear and conceptual framework of issues that emerge from both everyday teaching practices and current media education research.

Our intention is to encourage further discussion—to get more people to talk about teaching and learning. Many of the ideas presented here will not be new for experienced teachers. In fact, many teachers are already doing media education on a regular basis. These monographs make explicit that media education approaches emerge from research-based practices, from programs that work, and from everyday classroom experiences. Please share these monographs to instigate further discussion about curriculum and pedagogy, teaching and learning.

While there are several excellent, free resources available for any teacher, the goals in this monograph series are to frame some of the larger conceptual and theoretical issues in the practice of teaching media. We highlight the importance of (1) integration, (2) metacognition, (3) creativity, and (4) assessment.



CONTEXT: MEDIA EDUCATION IN ONTARIO

In 1986, the province of Ontario became the first educational jurisdiction in North America to include media as a compulsory part of all students' education from Grades 7 to Grade 12. In 2006, Ontario mandated media in elementary education as well. The widely acclaimed Ontario Ministry of Education *Media Literacy Resource Guide* (1989), celebrated as a teacher-friendly curriculum, integrates information about media and cultural theory with

practical classroom activities. While Ontario's *Guide* remains an important resource, many acknowledge that radical changes in the media landscape since the 1980s warrant a reconsideration of curriculum and pedagogy in media. Furthermore, a growing body of Canadian and international research suggests that now is the time for media education to assess and revise its core assumptions, goals, and practices.

WHAT IS METACOGNITION?

Metacognition is the awareness or analysis of one's own learning or thinking processes. As a teachable skill, metacognition enables students to work on self-learning, helping them take responsibility for their education. *META* signifies a second or higher order and suggests an understanding of thought and meaning as part of a larger system.

Knowing when to apply appropriate thinking and literacy strategies is a metacognitive skill.

We are metacognitive when we organize a text with sub-headings, for instance, because we are thinking about the system or organization of thought. Naming is also a metacognitive practice, as is the act of creating concepts and thinking about their meanings. Metacognition maintains an epistemological position where the knower personally participates in all acts of knowing and understanding. Knowledge does not exist *out there* in isolation from the knower, but is rather the result of the unique dynamics between texts and the person making meaning. Metacognitive strategies make these meaningful dynamics explicit,

which in turn, promote self understanding. Much of the research about metacognition refers both to the self-monitoring and the conscious use of learning strategies. Metacognition is not an automatic process but something that is learned—the result of a highly developed cognitive system.

A well-developed thought process includes some of the following: (1) a knowledge base, (2) careful observation skills, (3) the ability to name and classify ideas, (4) guided reflection on and elaboration of those ideas, (5) self-assessment, (6) appropriate application, that is, to know when, where, why, and how to apply a strategy, and (7) feedback. This numbered list is deceptive because cognition does not always follow an arranged chronological sequence. Cognition, like most communication processes, is a complex cybernetic system. We are living in a changing media environment and humans will adapt by engaging in necessary symbolic work to address evolving cognitive processes.

METACOGNITION AS SYMBOLIC THINKING

The complexity of human life forces us to develop a full range of cognitive abilities. For many teachers, the first step in developing metacognition in students is through an analysis of the ways students respond to texts. There are two kinds of reactions to media messages that represent an important distinction in the development of cognition and behaviour: *signalic and symbolic responses*. Signals elicit unconscious, automatic reactions, and though important for human survival, are not part of this metacognitive learning. Symbols are more complex message systems that do not make for automatic reactions but call for more thoughtful analytic responses.

What's important here are the cognitive processes involved in the construction of meaning and the subsequent behavioural responses. To understand metacognition, we're less interested in *what* you respond to, and more interested in *how* you shape your response. In the case of a signal, meaning construction is measured by the behavioural responses that occur whether or not the conditions are warranted. For example, when the fire bell rings we want students to react in

very particular ways: to check for smoke, to form a line, to exit the classroom in single file. Like fire bells, media messages are constructed in careful ways to evoke specific behaviours. Immediate reactions to media messages, like fetching a snack after watching a television cooking show or shouting at a character while playing a violent video game, can be described as *signalic responses* or as conditioned behaviours, like when Pavlov's dogs salivated at the sound of a bell.

The point of metacognition is to move students away from conditioned reactions toward more symbolic responses. The symbolic function of the mind is a primary human activity. It is a fundamental process of cognition and it is constantly occurring. Symbolic work describes more complex *habits of mind*. For example, the sound of a bell outside the classroom context can refer to many things. When engaging in symbolic work, bells might represent liberty, religion, or time: As John Donne meditates in his poem about isolation and mortality " . . . *never send to know for whom the bell tolls; it tolls for thee.*"

METACOGNITION AS SYMBOLIC THINKING

Metacognition works to delay reactions so that symbolic work can take place before any idea calls up a particular behaviour. Keep in mind, symbolic work can be used to enrich the meanings of television, video games, and other media practices, as long as metacognitive skills are employed to develop more symbolic habits of mind and less conditioned behaviours.

Teachers should encourage students to delay responses to media messages. This delay will allow students the psychic time to create a variety of arguments as to why they might feel particular kinds of pleasure when they watch television or play video games. In fact, television and video games might also call up symbolic work that considers other complex issues, like those explored in Donne's poem.

Metacognition forces students to think about why they engage with media, to reflect on their experiences, to classify their answers, and to build their knowledge base. To understand symbolic processes and how they work through metacognition is to be able to use these processes to one's advantage; to not understand metacognition is to remain forever at the will of dominant media and the signals of their messages.

LEARNING TO LEARN

Young people learn best when given the opportunity to reflect on what they have learned. Students produce knowledge for themselves when given an opportunity to contemplate the conditions in which their thought develops. This reflection may involve (1) self-assessment, (2) sharing the outcomes of learning with peers, (3) various forms of feedback, and (4) evaluation by the teacher. The process of *thinking about thinking* enables students to become conscious of how they learn as participants in the teaching and learning cycle. This is an invaluable skill they will use throughout their lives. Canadian society increasingly values the currency of lifelong learning. The ability to be aware of how one learns is key to the successful navigation of the changing media landscape. Individuals are constantly required to learn new things and adapt old knowledge to new areas. Metacognition equips students with the necessary skills for their active participation as media citizens in a changing world.

The first step towards *learning to learn* is to recognize learning as a process and not just as the acquisition of knowledge. These processes emphasize the development of transferable skills, capacities, and literacies, whereas knowledge acquisition emphasizes the adoption of static information. This perspective on learning calls for a way of teaching that is responsive to the individual student. Media education practices facilitate this process by employing the following core ideas:

CONNECT

Connect activities with students' prior knowledge. Young people today are often deeply engaged in a variety of media practices. Teachers can leverage these media habits by making connections to classroom learning environments and the non-negotiable requirements of the curriculum. By connecting classroom activities with the existing media practices of their students, teachers can bridge the gap that separates classroom experience with informal learning.

IDENTIFY

Help students identify their current media knowledge gained through informal learning. This identification *names* a knowledge set for students and solidifies their real-world experiences. The process of naming builds confidence, engages learning, and is the first step towards active metacognition. Students can build upon existing knowledge and become aware of their active contribution to knowledge formation. When students become aware of how their practices build skills, they can reflect on how they might purposively alter those practices.

REFLECT

Encourage students to reflect upon the challenges they have faced and the problems they have encountered in their own formal and informal learning. Reflection on learning challenges help students to notice and name the symbolic strategies that work best for them. Once students identify what they know about media, they can begin to reflect upon how to apply that knowledge in other contexts. Reflection is a key element of media education as students consider how to employ their skills in conscious communication.

STRATEGIZE

Once students are conscious of assessing and creating communication messages, whether writing a paper or producing a media text, they can become strategic about the decisions they make as they work. Strategy is the pinnacle of metacognition. Another way to understand strategy is by creating an awareness of methods for analysis and production. For example, if students can anticipate how their choices in content, structure, organization, and form will influence the reception of their created messages, then they have relied on a higher order of strategic thinking. Becoming conscious of message construction through strategic creation enables students to simultaneously become aware of the construction of messages in the classroom and in the media saturated environments in which they live. In the game of knowledge, methods of analysis are metacognitive strategies.

EVALUATE

Through metacognitive strategies, real symbolic work can help students identify what's at stake with the work they undertake. Too often students examine a media text and make a declaration of love or hate without evaluative reasoning. Using metacognition, teachers can help students evaluate the meanings they make of media works both inside and beyond the classroom. Media education can help students evaluate the meanings at work in a pluralistic Canadian society. Teaching evaluative reasoning fulfills teachers' responsibilities to consider the moral character and unique worldviews of their individual students.

Media education draws on and strengthens creative thinking and critical literacy by engaging students in the practice of finding the theses in texts and creating arguments to support their readings. Learning to learn helps students apply and transfer their media knowledge, skills, capacities, and literacies between and within different contexts. Learning these processes are necessary for navigating the complex social and symbolic worlds produced by contemporary information and communication technologies.

EXPANDING OUR UNDERSTANDING OF COGNITION

In the early 1980s, a renewed interest in human cognition considered a range of *multiple intelligences*. Educational researchers formulated a provisional list of seven intelligences to help educators classify knowledge in a learning context. Following this research, the first two intelligences (*linguistic and logical-mathematical*) are typically highly valued in schools; the next three intelligences (*musical, spatial, and bodily-kinesthetic*) are usually associated with the arts; and the final two (*interpersonal and intrapersonal*) are referred to as personal and emotional intelligences. In the decades since the notion of multiple intelligences was first put forward, other pieces have been added (and subtracted) to this cognitive puzzle. Since the 1980s, researchers have argued that intelligence may be the wrong concept and have further expanded definitions of cognition to consider multiple literacies, modalities, and learning styles. The emphasis is on *plural constructions of human nature*.

The plural nature of cognition requires teachers to ask multiple questions to take advantage of the uniqueness of each student. Plurality takes as a given that each mind exhibits a different combination and recombination of intelligences, literacies, modalities, and learning styles. This is what most teachers understand as *teaching the whole child*.

Teaching the whole child from a metacognitive point of view requires a question-centred classroom where teachers stimulate the symbolic capacities of every student.

Questioning is a key metacognitive strategy. By making questions a central part of the curriculum, teachers can engage students to become active participants in the educational process. When students become participants in their own learning they shift from being passive recipients of knowledge into active learners. Active learning is a process in which students bring their prior knowledge and their particular literacies, modalities, and learning styles to the learning process. In helping students to become active learners, teachers take into account the multiple cognitive abilities of their students while facilitating the learning process. As facilitators, teachers assist students in coming to know how they learn and how they understand the world.

A question-centred curriculum is open to spontaneity. These unplanned classroom experiences can be exciting opportunities for teachable moments leading to student enrichment and growth. Armed with a strategic use of questions, educators can draw out particular modalities and learning styles and encourage the development of new knowledge.

One of the chief ways we encourage symbolic work is through the creation of metatexts with every assignment. Metatexts are articulations about the self and critical reflections about the assigned task. As indicators of cognition, metatexts should be understood as symbolic explanations of texts, media, and the world. These assignments can take the form of letters, diary entries, stories, scripts, blogs, or just plain narratives. In this open-ended writing, students freely summarize what they have learned, measure themselves against their own goals, and set future goals.

Invite students to write and talk about their own personal histories, concerns, and interests as a *way into* a text and its meanings. The point here is for students to use their personal anecdotes to help define and understand media texts. Too often in our culture, we take the first person anecdote as primarily oriented to emotions and feelings—to what we have called signalic reactions. But this isn't necessarily the case. In fact, writing in first person, and encouraging students to write about themselves in first person narratives can function as precise, local, and social discursive practices that can be oriented to building one's knowledge base. First person narratives should be seen as symbolic expositions of the way the world can be said to be working. Writing about the self can create distance between the writer as

subject and the text as object, and allow the writer to explore a complex negotiation between personal histories and meaning constructions.

To promote this complex process, teachers should use metatexts because this tool creates ideological distance between personal histories and the text in question. When this ideological distance is discovered metacognitive strategies of learning are engaged. Metatext assignments can be personal, descriptive, creative, or analytic, as long as students are given (1) a free forum to construct their narratives, (2) a rubric that provides direction about how to discuss assigned tasks, and (3) an opportunity for feedback and support to examine freely what they gained through the process of writing and creation.

The conventional wisdom is that writing reflects thinking. Within the context of metacognition we ask you to consider a different position: Writing is thinking—or stated more cautiously, writing is a form of thinking. Evidence of student thinking lies in a range of student produced work. Whether students are writing or engaging in production work, metatextual assignments add value by promoting cognitive self discovery.

METACOGNITIVE STRATEGIES

Besides the metatext assignment, there are several other media education strategies that promote metacognitive learning. These strategies help forge symbolic habits of mind and foster meaningful relationships between students and their media practices. Encouraging these strategies in the classroom will influence

both the formal and informal media learning of students. Metacognitive thinking can activate student agency, autonomy, and empowerment. These strategies challenge students to participate in discourses about media taking place in classrooms, schools, homes, and communities.

MEDIA EXPOSURE

Make sure your students have an accurate awareness of their media exposure. Have them keep a journal of their media usage for a week. How do students define media? Media refer to any form of communication that carries and conveys meaning. By repeating this exercise over time, they can monitor their changing interests in media. They can also keep track of how changes in their lives have influenced the kinds of messages to which they have been exposed. Students will have a difficult time paying attention to the variety of media messages. As they build symbolic skills, they will pay attention to a greater variety of messages, begin to broaden their interests, and possibly demand different kinds of media content.

EXAMINE OPINIONS

Question students about their opinions on hot topics: e.g., celebrity power, youth violence, body image, bottled water, and surveillance technology. Ask students to give reasons for their opinions.

Rarely are students systematic in gathering and assessing information when constructing their opinions. Instead, most young people operate following signalic reactions. Use your question-centred classroom to encourage symbolic habits that prompt students to develop reasons for their opinions. This way, you encourage students to participate in the community's discourse about media as responsible and informed media citizens.

DEVELOP ACTIVE HABITS

For some, participation with media can be regarded as a mindless experience, a form of escape. Through stronger symbolic skills, students can develop active processing and higher involvement with media. Active habits will reduce conditioned responses by delaying behavioural reactions, making room for symbolic work. People who delay their reactions to media messages and who prefer to actively interact with media content retain control over their learning by discounting certain messages and carefully encoding others for memory storage.

METACOGNITIVE STRATEGIES

CONSIDER REALITY VS FANTASY

Continually ask students to consider the degree to which something is real or fantasy. Some texts will be easy to spot as fantasy, like cartoons or comics. But others may not be as obvious such as documentary or reality television. Exposure to fantasy can be a pleasurable leisure time activity because of its imaginative or humorous appeal. But often this entertainment encourages signalic reactions. Fantasy messages, in particular, are designed to elicit particular kinds of behaviour from audiences, such as *escape from your reality, buy this product, or play more of these games*. But attention to a fantasy-reality continuum can also stimulate thinking and creativity. When students delay their reactions and engage in symbolic thinking, the reality-fantasy continuum can be seen as a tool for creativity.

MAKE COMPARISONS

While media education as a generic concept spans across channels of communication, there are some special challenges presented by different forms of technology. For example, reading a magazine article engages skills not required when watching television. The information about an event in television news will be significantly different from how it is reported in a magazine or a newspaper. This point is obvious, but the nature of the differences themselves are not so obvious. For example, watch a news story on television and then look for that story in your local paper. Analyze the similarities and differences. The symbolic work that comes to the surface when such comparisons are made helps reveal particular biases and approaches to media messages that might otherwise be missed.

CHANGE BEHAVIOURS

Ask students to reflect upon the connections between their opinions and their subsequent behaviours. Once symbolic thinking is engaged, students have more sophisticated habits of mind.

With these habits come greater responsibilities to participate in the classroom, the community, and society in ways that reflect informed opinion. When students provide good reasons for their opinions, further challenge them to make sure that their behaviours match their reasons. In media education, one of the primary approaches to this strategy is through some kind of activism.

Encourage students to boycott advertisers, cancel subscriptions, or write letters when they see something they don't like in the media. By taking action, students gain a degree of control over the media.

METACOGNITION THROUGH MEDIA PRODUCTION

Metacognitive learning can be promoted through media production. Creative production stimulates symbolic thinking, challenging students to become self-motivated creators and self-directed problem solvers. Collaborative approaches to learning build collective knowledge and provide students with different perspectives on their own work. In collaboration, students design, plan, create, organize, present, reflect, and circulate media projects to stimulate and reinforce metacognitive thinking. To this end, teachers can organize classroom instruction around the following activities:

DESIGN

Students can demonstrate their understanding of a variety of media texts by designing a message and determining the appropriate audience and context. Part of the design process requires students to identify the relevant media forms, and explain how the conventions and techniques associated with each form are used to create meaning. Designing a project is an act of imagination that triggers metacognition. Creative imagination, in and of itself, promotes self-reflection. The goal is to have students design projects that relate media messages to their everyday lives. As students make connections, the metacognitive strategies they exercise give them a real investment in their own learning.

PLAN

Student plans help generate, gather, and organize ideas and information so projects address an intended purpose and audience. Collaborative plans consider the supplies, equipment, and resources at hand. Groups engage in research to make careful decisions about the final creation. Collaborative planning, organizing, and research are all metacognitive skills that require students to use critical and creative thinking processes. As critical thinking is engaged in the planning process, students develop skills to manage their own thinking.

CREATE

Students create media texts using appropriate forms, conventions, and techniques. The process of creation encourages students to take risks and remain open to creative experimentation. Media production work is an expression of ideas and information that relies on symbolic forms of communication: oral, written, visual, auditory, and other mediated forms. Metacognitive thinking is activated when students express and organize ideas in a variety of forms. Creating media provides an opportunity to use different conventions, terminology, and vocabulary, to communicate with different audiences for different purposes. Metacognition is stimulated further through the use and application of technological tools and the transfer of this technical knowledge and skill to other contexts, as students make interconnections among various learning environments.

METACOGNITION THROUGH MEDIA PRODUCTION

PRESENT

Oral presentations give students practice in describing their work, articulating ideas, and speaking in front of a group. Students describe their role in the project, answer questions, and respond to general feedback from the class. Creative productions help students discover appropriate speaking strategies to communicate with different audiences for different purposes. In turn, students listen so as to understand and respond appropriately. As media students reflect on communication skills, speaking and listening easily relate to other symbolic forms of expression, demonstrating how students transfer their knowledge and skill of these experiences to other contexts.

ORGANIZE

Organized media portfolios demonstrate a range of symbolic work, and emphasize media production as a learning process. The work selected for inclusion in student portfolios is based both on student creativity and teacher criteria. For example, a portfolio rubric might list possible items for inclusion and invite students to pick among these. When students organize their own work, teachers invite them to draw on strengths, become self-directed learners, and play an active role in the construction of their curriculum. By conveying meaning through various symbolic forms, portfolios function as important metacognitive tools for assessing student achievements in communication.

REFLECT

Reflection occurs at various intervals throughout the project and these should be included in the portfolio as metatexts. Reflection gives students the opportunity to explain their intentions, their learning challenges, and to highlight their successes and achievements. When reflection is included throughout the creative process and required as a final assignment, students identify their symbolic strengths attending to the interconnections among their work as writers, readers, speakers, listeners, and media producers.

CIRCULATE

Creative projects need not end in the classroom. Part of the production cycle considers how media texts are positioned in the world writ large. Make the circulation of student-produced media part of the curriculum. Student media production often has its greatest impact when the project addresses an issue of local, national, or global importance; media campaigns can spread awareness about poverty, global warming, or tobacco use prevention. Have students keep the ends of media projects in mind when designing and brainstorming projects that could circulate beyond the classroom. The distribution and circulation of media products provides students with metacognitive experiences to make connections within and between formal and informal learning contexts.

WORLDVIEWS

Media send powerful messages to young people that shape not only consumer practices, but also the larger worldviews that organize one's sense of identity and self. Students do not need to be protected from these media messages; rather, they need to be armed with a range of metacognitive strategies to help them navigate their own symbolic work.

Metacognition, because it is key to symbolic thinking, can help educators provoke their students to reflect upon the values and morals that are implicit within various media texts. When students learn to shift their behaviour from conditioned reactions to more symbolic habits of mind, complex cognitive processes are applied to formal and informal learning. This informal learning speaks to the everyday, real-life experiences that make up the larger worldviews of young people.

A worldview, simply put, is an individual's perspective on and approach to the world. Worldviews influence value systems, and media can function as a means through which values are constructed, explored, and represented. As media are increasingly integrated across the

curriculum, and as metacognitive strategies reveal a full range of students' symbolic and cognitive learning capacities, teachers find themselves on the front lines of social and ethical change. The social changes brought about by information and communication technologies bring with them shifts in values and ethics. As teachers witness these changes, it is important to recognize how metacognitive strategies help students develop their own worldviews.

When media use promotes signalic reactions, students are often tied to a technological infrastructure to which they remain powerless. With a firm worldview rooted in sophisticated symbolic thought, students become active agents in their uses of media, recognizing how information and communication technologies are powerful tools of communication, creativity, critique, persuasion, and education.

MEDIA EDUCATION: OUR MISSION

Media Education Project is a collective and collaborative effort of Canadian teachers and researchers. In addition to this monograph series, we have developed a digital learning commons for media educators. This is an online portal that welcomes user-generated content and seeks to support the needs of media educators by providing resources and forums that promote interaction. We launched our site in November 2007 and have been overwhelmed with the response from teachers across Canada. Monographs are available in French and English at mediaeducationproject.ca. A limited number of print copies are available for free to schools in Ontario. Just ask!

A member of our team can be available to visit your school (in Ontario) to meet with groups of teachers to talk about media education or other issues discussed in this monograph series, in the learning portal, or about the project in general. Don't hesitate to contact us, and visit our site to see the latest developments!

Looking for a curricular starting place for media education? We highly recommend Media Awareness Network's *Media Education: Make It Happen!* available on their website www.mediaawarenessnetwork.ca



We hope you will visit our learning community so you can participate in the discussion. Join the crowd! Add your voice! mediaeducationproject.ca

The project thanks the hundreds of teachers who shared their best practices and classroom experiences.



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The mandate of Media Education Project is to support Ontario teachers while collecting information about best practices and teacher experiences.

This is a research-based study housed at the University of Guelph. If you have any questions about this project please feel free to contact the Faculty Investigator Dr. Mark Lipton by email [liptonm@uoguelph.ca] or by phone at 519-824-4120, extension 56049.

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