

Snacking on Media Literacy: Young Children, Sustainability, and Design in Media Literacy Education

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Abstract: This case study illustrates a cross-curricular learning experience, anchored in standards, where teachers and students actively engaged in co-constructed, inquiry-based learning and design thinking. The particular question this case study addressed was “How might students connect with environmental citizenship in authentic ways through media literacy experiences?” Specifically, the case study invited primary level learners to engage in a multimodal experience that was anchored in media literacy concepts and process. A pedagogical approach rooted in media literacy theory subsequently empowered students to make positive environmental changes in their communities and develop citizenship skills for the future. The project sought to develop awareness of sustainability through analysis, re-design, and production of snack food packaging. Educator reflections offer ideas for project improvement, such as producing for a wider audience, offering more choice, and making broader subject connections. This case study has implications for practice by demonstrating that, through various stages of scaffolding and integrated lesson design, young children are capable of applying sophisticated media literacy theory, inquiry, and design thinking to meet multiple curriculum standards.

Keywords: Media literacy education, environmental education, case study, sustainability, primary, inquiry, design thinking, production

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Introduction

Research on the benefits of environmental education demonstrates an increase in students' environmental literacy and a fostering of higher academic achievement (Ontario Ministry of Education, 2009). Michael Fullan identifies environmental education as fundamental to nurturing students' future skills. Fullan and Langworthy (2014) have identified six competencies to prepare students' future skills, specifically naming *citizenship*, which they define as "global knowledge, sensitivity to and respect for other cultures, active involvement in addressing issues of human and environmental sustainability" (p. 34). The United Nations in turn defines *sustainability* as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, 1987, p. 37). Building on that definition and incentive, this case study sought to cultivate students' awareness of sustainability through waste reduction in snack food packaging redesign. The case study will be discussed in phases and each phase links theory to practice using media literacy key concepts as a consistent theoretical framework to creatively teach "through and about" media and skillfully embed cross-curricular integration.

Brief Overview of the Case

This case study shares a standards-based, cross-curricular learning experience for primary grade children at their local school in Toronto, Canada. Their learning took place over the course of one month and is the direct result of the children's experiences in inquiry-based learning and design thinking. Using open-ended investigations and creative problem solving, the students explored snack food packaging and its impacts on the environment. Students applied what they learned through practical application, ultimately re-designing and making more sustainable snack food packaging. Anderson, Chiarotto, and Comay (2017) suggest that when students "[place] their questions and ideas at the forefront of their learning [it] conveys that what they think and how they act makes a difference" (p.111). Student voice is strongest when the learning comes from the students and for the students. This case study provides a powerful example of how student voice can lead to positive environmental change. The results suggest that student application of creative curricular design, rooted in media literacy theory, can empower students to make positive environmental changes and develop citizenship for the 21st century.

Theoretical Background

Media Literacy

The fundamental instructional framework that grounds this project is the eight media literacy Key Concepts established by The Association for Media Literacy (AML), which support the understanding and use of media for students of all ages (The Association for Media Literacy n.d.). The Key Concepts are a set of guiding prompts to highlight specific aspects of media texts, thereby providing for a robust understanding grounded in analysis and evaluation. While variations of the Key Concepts are used by other organizations, such as The Center for Media Literacy (CML) and The National Association for Media Literacy Education (NAMLE), these variations are not exclusive and trend towards a common set of concepts. AML's Key Concepts are:

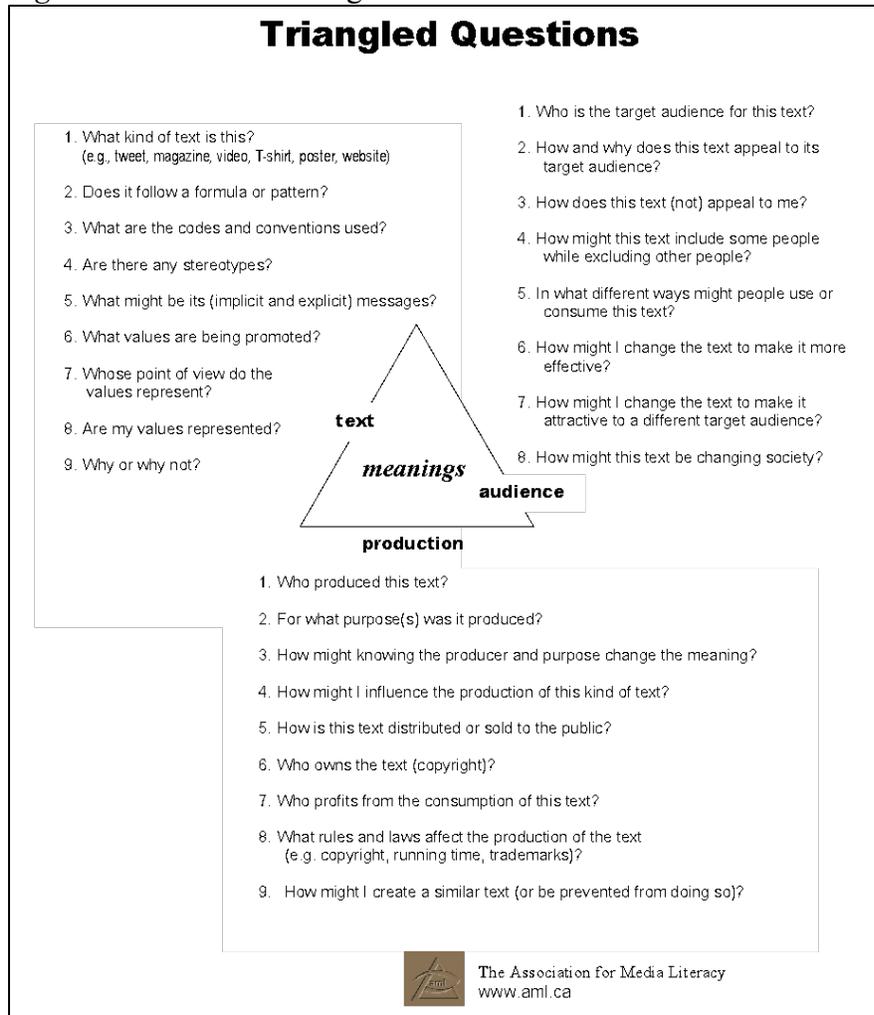
1. Media construct reality

2. Media construct versions of reality
3. Audiences negotiate meaning
4. Media have economic implications
5. Media communicate values messages
6. Media communicate political and social messages
7. Form and content are closely related in each medium
8. Each medium has a unique aesthetic form

More than one Key Concept may apply at any given time in an analysis, illustrating the interconnected nature of this framework.

In conjunction with the Key Concepts, this case used Triangled Questions, also called The Media Triangle, as another tool to support teaching about media texts. The Media Triangle is not separate from the Key Concepts, but is used in combination with them to facilitate discussion (The Association for Media Literacy, n.d.). The triangle may look overwhelming and asking all questions at once may be confusing for students, especially young children, so scaffolding the learning to build understanding is essential. By using the eight Key Concepts in advance of The Media Triangle, students may build familiarity with the key ideas separately and then begin to examine their interconnectedness using the triangle model.

Figure 1. The Media Triangle



Together, the Key Concepts and Media Triangle provide the theoretical foundation that supports students' understanding of media literacy in this case study. However, teaching “*through and about*” media supports students' understanding and appreciation of the form, content, *and* contexts of media communications. Teachers can effectively teach subject content *through* various media, but they can also use these opportunities to teach *about* media (Ontario Ministry of Education, 2008, p.18). For example, this case study taught students about sustainability through the medium of snack food packaging. Additionally, their analysis of the packaging design itself built media literacy skills at the same time (knowledge *about* media).

Inquiry

The Ontario Ministry of Education (2013) defines *inquiry-based learning* as: “... an approach to teaching and learning that places students' questions, ideas and observations at the centre of the learning experience” (p. 2). Chiarotto (2011) describes inquiry as:

Inquiry-based Learning is a dynamic and emergent process that builds on students' natural curiosity about the world in which they live. As its name suggests, Inquiry places students' questions and ideas, rather than solely those of the teacher, at the centre of learning experience. Students' questions drive the learning process forward. Teachers using an inquiry-based approach encourages students to ask and genuinely investigate their own questions about the world. (Chiarotto, 2011, p. 7)

Through the lens of inquiry, students can see their ideas and experiences reflected and educators encourage students to engage in critical problem solving (Chiarotto, 2011, p.7).

Design Thinking

Students who engage in *design thinking* are able to apply theory through hands-on learning. The practical application of learned skills through an iterative process provides meaningful learning. "Design-based lessons have several features that make them ideal for developing technical and subject matter knowledge. For example, design activity supports revisions and iterative activity as students create, assess, and redesign their work product" (Barron & Darling-Hammond, 2008, p. 7). John Spencer states in his blog post, *What is Design Thinking?* (2019), that it "begins with the premise of tapping into student curiosity and allowing them to create, test and re-create until they eventually ship what they made to a real audience (sometimes global but often local)." Design thinking affords students the opportunity to engage in hands-on learning and present their product as a means of engaging in social action. Design thinking can therefore be easily integrated across subject areas.

Cross-Curricular Learning and Standards

The advantage of cross-curricular integration in media literacy learning is that it builds students' understandings that media literacy has real-world, practical applications (Ontario Ministry of Education, 2008, p.16). This case study facilitated the skillful integration of reading, writing, oral communication, and science standards. The specific science standard address was for students to "assess the role of humans in maintaining a healthy environment" (Ontario Ministry of Education, 2007, p. 45). The media literacy standard focuses on "...helping students develop the skills required to understand, create, and critically interpret media texts" (Ontario Ministry of Education, 2006, p. 14). Through group discussions and writing prompts, students applied and demonstrated their writing and oral communication skills. Cross-curricular integration leads to a deeper understanding of content and enables students to see real-world connections. The benefits of integration are noted by Anderson, Chiarotto, & Comay (2017):

Integrated learning transcends subject areas as educators encourage students to see connections among disciplines and draw upon content and skills from multiple areas. Outside the artificial boundaries of some classroom settings, children's questions and thoughts about the real world are seldom contained within a single academic discipline. If we place these ideas and questions at the core of their learning, then our approach has no choice but to incorporate different perspectives, skills, and ways of understanding. (p. 88)

This case study illustrates how media literacy theory— when skillfully integrated across curriculum using an inquiry lens and combined with embedded design thinking— can have a positive impact on student learning. I present this case study as an example for other educators who are looking for inspiration and practical strategies to transform their classroom into a hub for teaching, learning, and the fostering of sustainable citizenship.

Context

This case study ignited students' awareness of sustainability issues by inviting them to engage in waste reduction within their school community. The case includes multiple contextual factors, including the district-based EcoSchools certificate program and the school-based Eco Club team, that may be related to the success of the practice. Relevant contextual factors are briefly introduced in this section.

District School Board Context

This case study took place over the course of one month in the Toronto District School Board, the largest and most diverse school board in Canada (Toronto District School Board, n.d.-b). The Toronto District School Board offers numerous exciting opportunities for students and staff and to make positive impacts on the world around them. The EcoSchools certification program is one of these initiatives. The central aim of the EcoSchools certification program “is for students and staff in learning about, caring for, and protecting the environment starting right in their own school” (Toronto District School Board, n.d.-b).

School Context

The specific school where the case took place is located in the west end of the City of Toronto. The school services students aged three-and-a-half to twelve-years of age with grades spanning from Junior Kindergarten (pre-Kindergarten) to Grade 5. The school is part of the Toronto District School Board's Model Schools for Inner Cities program. This designation as a model school is determined by the Toronto District School Board's Learning Opportunities Index (LOI). The LOI ranks each school based on measures of external challenges affecting student success: “It is important to acknowledge that students in all schools have some external challenges, even those schools that are ranked very low on the LOI” (Toronto District School Board, 2017). The Toronto District School Board has a commitment to achieving equitable opportunities for all students: “The LOI helps to ensure that children who have access to fewer resources at home and in their neighbourhoods have increased access to available resources in their schools” (2017). The school community exists in a thriving neighbourhood where families, educators and community partners care deeply about each child's education and well-being.

Classroom Context

In the spring of 2017, when the case study took place, there were 22 children in the Grade 1 class, ranging between ages 6-7. Our classroom community was fortunate to collaborate with our school Eco Club team which consisted of about 15-20 Grade 4 and 5 students. As part of the EcoSchools program, the students completed a waste audit to gather information about the contamination of waste in the school, such as placing items that are non-recyclable in the municipal

recycle bin or placing items that are recyclable in the garbage bin by mistake. As part of the Eco Club audit, the grade 4 and 5 students determined the levels of contamination by sorting and counting the various items. This project benefited from the partnership with the Eco Club because the grades 4 and 5 Eco Club students were able to provide leadership and support to the grade 1 students with a primary source of information - the contamination results. The findings indicated the waste needed to be better sorted and some of the snack food packages were not entirely recyclable. Our school snack program was beneficial to our learning community on many levels, but our Eco Club expressed concerns about the non-recyclable packaging. The Eco Club also noticed that the snack waste was sorted incorrectly for recycling.

Figure 2 features the three main types of problematic packaging. This included the non-recyclable lids for the applesauce containers and foil-wrapped cereal bars, and the multiple layers of plastic for the rice cakes, which produced a lot of waste.

Figure 2. Sample of the three types of problematic snack food packaging



When the Eco Club brought this to our attention there was an immediate teachable moment and a chance to embed media literacy in a cross-curricular context while engaging students in solving real-world problems relevant to their experiences. Media literacy develops a critical understanding of media and its techniques, the impact of these techniques, and the active and critical use of media. Through the lens of media literacy the students are able to take informed and critical action (Ontario Ministry of Education, 2006, p. 156). Media literacy provides an exemplary lens through which to engage students in environmental activism. Building on the notion of taking an active and critical role, this project allows students to apply their learning through active engagement by creating their own media text - a redesign of their snack food package.

Having the Eco Club share their findings with the primary students and acting as experts opened up a dialogue and a collaborative learning experiences. Educators must facilitate such opportunities for students. Anderson, Chiarotto, and Comay (2017) articulate this notion well, writing:

Children are empowered when they are genuinely able to act upon their own decisions. Placing their questions and ideas at the forefront of their learning conveys that what they

think and how they act makes a difference. Over time, this belief can spur them to initiate and participate in thoughtful, relevant action in the world (p.111).

Student voice is amplified when educators provide opportunities for students to express themselves, to see their ideas and theories as meaningful, and to share their learning with peers beyond their immediate community.

Learning Phases

Phase 1 Inquiry

Inquiry-based learning was a natural fit for this project because it reflected the collaborative learning relationship between the Grade 1 students and the Eco Club. Chiarotto and Jackman (2011) explain that inquiry-based learning approaches "...[entail] an overall mindset, one that pervades school and classroom life to foster a culture of collaborative learning and idea improvement" (p. 7). Based on the feedback from the Eco Club, the Grade 1 students generated inquiry questions that related to the notion of sustainability and were able to pose the questions to our school Eco Club, also referred to as the "Green Team." The questions were:

- Why do you recycle?
- How do factories make water bottles?
- How are garbage bins made?
- What types of materials are recycled?
- How are milk cartons made?

The inquiry questions and discussions allowed students an opportunity for further exploration. The questions played the role of "provocateur," by finding creative ways to introduce students to ideas and to subject matter that was of interest to them and offered "inquiry potential" or promise in terms of opportunities to engage in their own sustained inquiry. The educator was solely a facilitator. The next phase of the project illustrated how the students were able to build upon initial knowledge generated here, moving towards taking action to reduce their waste, as the learning goal articulated.

Phase 2 Learning Goals

The articulated learning goal was, "we are learning to reduce our waste." This reflected the findings of the Green Team. The learning goal is articulated so students can collaboratively understand the goal through discussion. This reflects the overall curriculum standards the student can achieve by the end of the instruction period (Ontario Ministry of Education, 2010, p. 33). The support the Green Team contributed to the classroom community was beneficial because the junior students supported the inquiry process through relevant, accurate and expert information. This elevates student voice by situating student knowledge and ideas at the centre of the learning experience.

Phases 1 and 2 of the project established the foundation for students to take action and prepare for the design of their own snack food container. The following section of the case study will outline how the media literacy theoretical frameworks provided students with multiple opportunities to engage in analysis to demonstrate their learning in multiple curriculum standards, and deepen their awareness of environmental sustainability.

Phase 3 Analysis

The goal of phase three was to apply the media literacy key concepts through analysis of authentic media texts, while building sustainability awareness - thereby teaching “through and about” media. Two print ads (previously) published by the City of Toronto, Live Green initiative provided the texts (Campaigns of the World, 2017). They provided a rich example because the students were able to make a personal text-to-self connection to the text, to implement inferencing skills, and to engage with an authentic media text, allowing the educator to teach through the media and about the media.

The two advertisements used in the lesson were part of a series of six public service announcements that depicted recognizable snack food brands lying on the ground side-by-side and spelling out words such as “lazy”, “pig”, or “selfish”, conferring character traits on those who litter. For example, the word “lazy” was made up of the first two letters of a Lays chip bag (*la*) and the last two letters (*zy*) from Krazy Glue packaging. The tagline under the image said, “*littering says a lot about you*”. The clever, eye-catching advertisements were pulled after publication due to concerns over trademark use by the brands featured in the ads, and the potential negative effects (Haynes, 2014). The two advertisements chosen for analysis constructed the word *lazy* using the potato chip bag and glue, and the ad containing the word *selfish* made up the *sel* lettering from Alka-Seltzer brand antacid and the word *fish* from children’s Goldfish snack food. The two ads were photographed using an overhead shot and showed the packaging lying on the cement surrounded by grass and leaves. The background was dark and the brands popped out with their bright colours and partial images on the packaging.

It is important to contextualize analysis using the aforementioned theoretical frameworks. Reading media texts supports students with developing a deeper understanding of the texts. The strategy for reading media is outlined in *A Guide to Effective Literacy Instruction*:

Before reading a media text, [students] determine their purpose for reading and draw on prior knowledge (e.g., recalling what they already know about the text form, author, or topic). During reading, they use comprehension strategies to make meaning from the text. After reading, they assess, critique, and reflect on what they have read. However, to be media literate requires more than an understanding of the words; it means knowing how to determine the who, where, how, and why of media messages. (Ontario Ministry of Education, 2008, p. 16)

It is the later part of the explanation - “...who, what, how, and why of media messages” – we see how the implementation of the media literacy Key Concepts and the Media Triangle can support

reading a media text. The relevant Key Concepts to our discussion about the ads are: 1. Media construct reality; 3. Audiences negotiate meaning; 4. Media have economic implications; 5. Media communicate values messages; 6. Media communicate political and social messages; 8. Each medium has a unique aesthetic form (The Association for Media Literacy n.d.). Through group discussion, the Media Triangle question prompts built student understanding of the texts. We asked them:

- *What kind of text is this?*
- *What are implicit or explicit messages?*
- *Whose point of view is represented?*
- *Who is the target audience?*
- *What elements are used to engage the audience?*
- *What effect might this have on others?*
- *Who produced this text?*
- *What are the codes and conventions of the text?*

The questions from the media triangle relate to key concepts. Through their analysis, the students were able to learn more about the media text codes and conventions, such as camera angles and composition and how these techniques influenced the message. (Concept 1 and 2). The students noticed how brands constructed the eye-catching wording and commented that it could appeal to both adults and children because both adults and children consume those products. (Concepts 1 and 3). Through further analysis, the students were able to negotiate meaning and infer that someone who litters might be considered by society to be lazy or selfish (Concept 5).

Another factor that enriched this learning was the background story behind the public service announcements and that the announcements had ultimately to be pulled due to copyright infringement. We presented this in a slightly simpler context for the students but it illustrated how different audiences negotiate meaning (Concept 3) and the social and political implications of media (Concept 6). The students were fascinated that real people were upset and they understood how the *Lays* chip company would perceive negative implications for their brand after seeing their product as litter in a photograph (Concept 4).

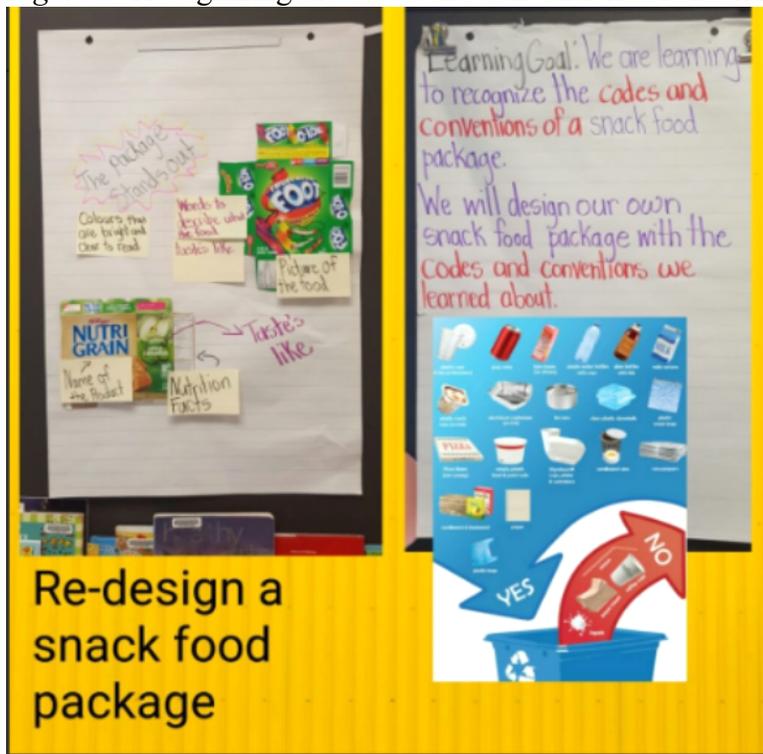
To demonstrate their thinking, students completed a written/oral response to explain the messaging in the text. It is important to give students choice in how they can show their learning and to consider students who may need modifications or accommodations to demonstrate their thinking. Granting modifications ensured an equitable learning space.

After the analysis of the public service announcements, the students looked at real snack food packages to prepare them for the production phase. The snack food package analysis activity began with asking children to save their own snack food packages from their lunch or to bring in packages from home. Bringing packages from home as opposed to the educator selecting the packages allowed the children to see their experiences reflected in the learning. It is important for an educator to be aware of the learning community s/he/they work/s with. Some families may choose to eliminate food packaging, buy more fresh food that contains less packaging, choose

not to purchase snack foods, or experience food security issues. The educator must be respectful of multiple perspectives.

The children began by sorting the packages, which allowed them to see similarities and differences, and to create their own categories. Sorting connected to mathematical thinking and integrated other skills, such as synthesis. From this experience, the students were able to look at colour use, language, composition, images, fonts, and slogans. We asked similar types of questions as those discussed when analyzing the print ads to elicit student thinking, although the emphasis here was on audience and production in order to prepare the students for making their own snack food packages. Figure 3 captures the learning goal: *We are learning to recognize the codes and conventions of a snack food packaging* and educator annotations on the packaging highlighted the key text features.

Figure 3. Recognizing the codes and conventions of snack food packaging



In the next phase of the learning the students examined key concepts #7: *Form and content are closely related in each medium;* and #8: *Each medium has a unique aesthetic form* (The Association for Media Literacy, n.d.). To further prepare students for the production phase, we used a recycling poster. The posters are available through the Toronto District School Board EcoSchools website (n.d.-b).

The particular poster we selected was an effective mentor text (*What Goes In the Recycling*, n.d.). It was displayed in the classroom and the children referenced it to dispose of their own waste on a daily basis. Through the process of analysis, the children were able to determine what

materials were recyclable and therefore appropriate for the creation of our snack food package redesign. The students were already familiar with the codes and conventions of a poster because earlier in the year they had experienced a poster unit.

The Waste Wizard website was a helpful resource for researching materials not found on the posters. The City of Toronto created The Waste Wizard website to help residents sort their waste appropriately (n.d.). Users type in the material/object in the waste wizard box and the website directs the user to the appropriate receptacle to dispose of the waste (e.g., garbage, recycling or compost). Allowing students to access diverse forms of texts for research lets them engage meaningfully with texts and experience how using online resources can be helpful for learning outcomes. It is important to use authentic resources for students because it makes real-world connections evident. Through the use of the poster and Waste Wizard, we generated an inclusive list of materials to create our snack food packages.

The three activities in this phase of the project highlight how we integrated curriculum. We explored science, reading, writing, and oral communication standards by analyzing print ads, snack food packaging, and posters. The careful selection of the texts (i.e., print ads and snack food packaging) illustrates the understanding of the impact of human behaviour on the environment. The process of teaching through media, using authentic texts, allows educators to teach about media. In order for students to understand the meaning of the text, they had to conceptualize the text features, decipher the text, and consider how audience and production work together to communicate the message. The key concepts and media triangle provided the framework to teach through and about media, thereby developing a rich discussion and building a deeper understanding of media. The final stage, creating a list of snack food codes and conventions, supported the students in moving forward with the production of their own package.

Phase 4: Application

The application phase allowed students to prepare for production. To support the design process, students co-created success criteria which supported the attainment of the learning goals, listed assessment criteria, assessed students, and included evidence of the knowledge and skills students would demonstrate to communicate learning (Ontario Ministry of Education, 2010,p. 33). The co-created criteria included:

- *My snack food package is made from recyclable material only.*
- *My package uses the codes and conventions of a snack food package (e.g., bright colours, nutritional facts, large font)*
- *My snack food package uses fasteners.*
- *My snack food package can hold the food for at least one day (it does not break or leak).*
- *I can name the recycled material I used in my package.*
- *I completed my planning sheet before I started constructing my package.*
- *I can tell/explain the adjusts I had to make in designing my snack food package.*
- *I used the posters and Waste Wizard to help me research rebatable material.*

Co-created success criteria lists are clear examples of student voice. The students themselves determine how the project will be assessed. We posted the co-created success criteria in the classroom for use throughout the production phase. The criteria clearly outlined what the students must do to be successful in the production phase and achieve the learning goal of reducing their waste. Generating the co-created success criteria set the stage for production.

Phase 5: Production

Production gave students the freedom to be their own media makers. In this phase, the students prepared to re-design their own snack food container for either a rice cake, applesauce or snack bar package made from all recyclable packaging, to accomplish the learning goal of waste reduction. The exhaustive list of recyclable materials included: plastic yogurt containers, zip lock bags, tape, paper, aluminum containers, plastic cups, and plastic water bottles. Using the design thinking framework, students worked in pairs and completed a planning sheet provided in the appendix.

The planning sheet invited the students to think about the snack food package selected for re-design, the types of materials they would use to create it and a sketch of what they visualized their package to look like. The students created their initial ideas, testing and re-creating. The planning phase also allowed them to gather feedback on their projects from their peers and the educator in the form of small group conferencing. This improved the students' designs and allowed them to make iterations. In this way, the educator was able to gather data for assessment *for* learning as well as assessment *as* learning (Ontario Ministry of Education, 2010, p. 28).

The final phase of the production consisted of short, 3-5 minute presentations in which each pair of students (or those who chose to work individually) presented their snack food package to the learning community. Some members of the school Eco Club viewed the final project and the results were shared with the Eco Club teacher supervisor. The presentations provided a good opportunity for both the educator and students to pose questions to one another about their process and final product, and to contribute to building the shared knowledge. Questions included: *Why did you use the colour pink?* and *What did you enjoy or find challenging about the project?* Questioning provides further opportunity to assess students' thinking, communication and application skills. Monitoring process was important, as process *is* always more important than the product, particularly when it comes to young children's media production.

The educator assessed the projects through the use of a rubric. The rubric was scored with levels 1-4 (3= achieving the expectations and 4=exceeding them). There was space at the bottom of the rubric for open-ended responses. The final mark was generated based on the following: the co-created success criteria; anecdotal notes by the educator during the process; and a short self-assessment checklist the students completed in cooperation with their partner (if applicable), outlining what aspects of the project they found to be challenging. The exemplars in Figure 4 demonstrate how the students were able to proficiently implement a design process that resulted in a successful re-design with considerable stability.

Figure 4. Student exemplars



The image on the left shows an applesauce container. The student team initially tried to design the container using a tissue box. After conferencing with the educator, the student team realized that the paper container they designed to wrap around the applesauce was round. Therefore, eliminating the square box and wrapping more layers around the applesauce to hold it firmly in place led to a better design decision from a sustainability standpoint. The colour selection of red, blue and white is purposeful and the star made it eye-catching like a real snack food package. This aesthetic choice illustrates students applied their knowledge of the media codes and conventions, as discussed in the analysis phase.

The image in the middle demonstrated this student team's package was designed for portability and easy opening. In their oral presentation, the students explained that rice cakes are easy to eat on the go and that this package makes the rice cake easy to access with the lid that flips up. In the analysis phase of our snack food sorting, the students noted that part of the allure of snack food packaging is that they are easy to eat on the go (a marketing strategy). This package design demonstrates that students applied their analysis/knowledge of media literacy to their design through the use of marketing strategy. The image on the right illustrated this student team's struggle with their design process, having to make several iterations of their cereal bar package redesign. Specifically, they were challenged by the use of the fasteners and finding a suitable recyclable material with which to create their package. The result is that they successfully implemented the feedback given, and were able to create a fully recyclable package with working fasteners. The students' deliberate use of shapes is evidence of their knowledge of snack food package codes and conventions that appeal and connect to young children. The production phase of this case study provided ample opportunity for the students to engage in sustainable citizenship action. It was meaningful because it was generated by students' own quest to learn and make

change to an issue that mattered to them. Their voice was present throughout each phase of the project from its initial learning goal through to the production phase. “If we want to nurture students’ belief in their own efficacy, we need to provide opportunities for them to make small differences from the start” (Anderson, Chiarotto, and Comay, 2017, p. 112). The small difference of reducing waste led to a deep learning opportunity that will lay the foundation for citizens of a sustainable future.

Reflections and Considerations

Reflection is key to improving practice, particularly in the profession of teaching. Looking back on this project, I would have offered my students the opportunity to share their projects with a wider audience such as: setting up a display in the school lobby documenting each stage of the process; having the students share their findings through the morning school announcements routine; or inviting additional classes to listen to a condensed version of their findings. The school Eco Club was an integral part of our knowledge building and having those students present during the production stage would have further supported the collaboration amongst one another and furthered opportunity for student voice and leadership.

My own understanding of design thinking has evolved, thereby scaffolding the process further for students and through the lens of empathy. Asking students to consider the user’s point of view, thoughts and feelings is an integral part of design thinking. As well, my understanding of inquiry as a pedagogical approach has also grown. In retrospect, the unit of study could have been longer, providing the children with multiple opportunities to explore the notion of sustainable citizenship through more open-ended pre-production tasks (e.g., working with loose parts; a learning centre; making thoughtful mathematical connections; connecting classroom read-alouds) and providing the students with the opportunity to talk with an industry leader who has experience with sustainable design. In keeping with building a robust inquiry program, I would have allowed the students to have choice in the final product they design, beyond a snack food package. The possibilities are infinite and students always bring their unique ideas and creativity when the learning is thoughtfully designed. Since the evolution of this project, the district tools students use to document their learning have evolved. Implementing those documentation tools for students allows them to document their process in the learning and both the student and educator can review this documentation for assessment and evaluation purposes.

Final Thoughts

Media Literacy provides authentic learning opportunities for cross-curricular exploration across grade levels. Through media literacy, students may cultivate their own agency to question their environment and to analyze and interpret texts. This particular case study provides an example of how to link media literacy theory to practice. Through various stages of learning scaffolding, plus integrated lesson design, the students were able to apply sophisticated media literacy theory and design thinking, through the lens of inquiry, to meet multiple curriculum standards. Using creative eye-catching ads and students’ own snack food packages facilitated teaching through and about media literacy. The students regularly revisited their learning goal: we are learning to reduce our waste. Students engaged in learning from and with another. Linking classroom prac-

tice to theory, engaging in reflection and sharing that learning with others in the educational community allows educators to build their own professional knowledge and refine their practice. Through sharing this case study, it is my intention that other educators will engage in learning alongside their students, using their students' experiences as curriculum. Media literacy and environmental education may be incorporated together in order to support the citizens of today in becoming the citizens of tomorrow and in cultivating their agency to build sustainable communities.

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Appendix
Appendix Planning Doc

Editor's Note: please contact the author for a higher resolution file of the material below.
Design Thinking Planning Sheets

Name: _____

Snack Food Package Redesign Planning



You will re-design one of these snack food packages. Circle the snack food package you would like to re-design.

-Apple Sauce

-Nutril Grain

-Rice Cake

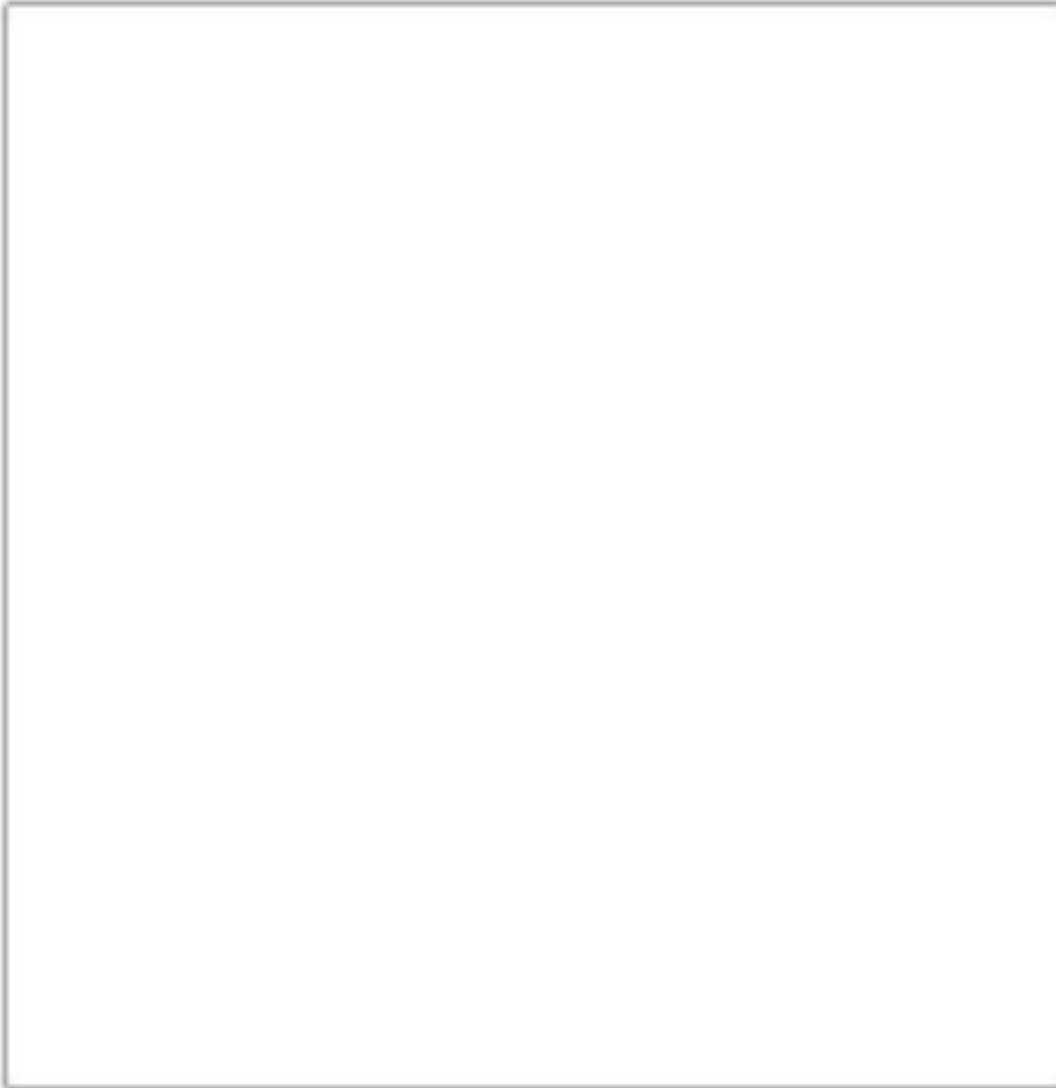
Your task is to use **all or mostly** recycled materials to re-design your snack food package. Make a list of most of the materials you think you will use.



Which types of fasteners?

Write the name of the fasteners you will use in the space below.

In the space below sketch what your package will look like. Be sure to LABEL the types of fasteners and materials you will use.

A large, empty rectangular box with a thin black border, intended for a student to draw a sketch of a package. The box is currently blank.