Exploring the Integrated Curriculum:

By

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A thesis submitted in conformity with the requirements
for the degree of Master of Arts
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Abstract

Students demonstrate increased engagement and knowledge retention when they are able to make connections between the text and the outside world. Despite the real world not being formed into neat subjects, the Ontario curriculum is. Through integrated curriculum, Susan Drake and James Beane argue that students are better equipped to become life-long learners and global citizens. As leading professionals in the field of integrated curriculum, this document analysis utilizes inductive analysis to explore the Ontario Ministry of Education’s 2006 curriculum document for Language (Revised) to determine if Drake and Beane’s approaches are explicitly stated. Results found that neither approach was explicitly stated, although the Ministry utilized similar integrated approaches as presented by Drake, while desired student outcomes aligned with Beane. The Ontario Ministry of Education should consider the interdisciplinary and transdisciplinary frameworks of Drake and Beane when producing future editions of the Ontario curriculum documents.
Acknowledgements

There are many people who I owe great thanks to during this process. Without your continued belief and support I am not sure I would have had the courage to complete this.

Special thanks to my parents for always trusting I would make the right decision, even when I was not sure of myself. I finally appreciate the freedom you gave me to do things on my own. The biggest of thanks to my younger brother Stephen. You will never know how proud I am of you, and how much your help has meant to me. I look forward to watching you grow older and taking over the world someday!

Thanks to Jack Miller and Diane Gérin-Lajoie for supervising this project. You both pushed me to be the person I always knew I was. Thank you for teaching authenticity and humility, as they are things that cannot come from a textbook.

I am eternally grateful for the friends and family I have been blessed with. Your love and belief in me was my motivation all along. Thanks to Thomas Lonergan, Nicole Bisol, Alex Grandilli, Katelin Berdini, Racquel Rousseau, Gabriella Bavosa, Emillie Guiney, and Andre Labao.

And last, but not least, Ms. Cerisano. Thank you for your endless inspiration and for showing me what real teaching is. I know you are watching down on us every day.
Dedication

For Stephen
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Chapter One: Introduction

Introduction

The world is comprised of a series of connections, with all things existing from another. When separated from one another, each individual thing weakens in power and in purpose. Synergy is the phenomenon that occurs when each individual part aligns. Buckminster Fuller defines it as, “the behaviour of whole systems unpredicted by the behaviour of the parts taken separately” (Fuller & Applewhite, 1975, p. 59). In short, synergy asserts that the whole is greater than the sum of its parts. Imagine the impact of an entire orchestra compared to the same music played on individual instruments. The world we live in is not fragmented into neat parts, and yet our education system is. Over the course of the past few decades, some educators have come to the forefront of research to expose this flaw, and have worked to correct it through integrated curriculum. Susan Drake and James Beane are specialists in the field of integrated curriculum, and have published multiple resources dedicated to explaining how to step away from the standard discipline based approach to education, and towards a more holistic, constructivist, and child-centered methodology. This document analysis seeks to explore the conceptual frameworks of Drake and Beane, and determine if their ideas are explicitly stated within the intermediate Ontario curriculum document for Language (2006).

The current Ontario curriculum documents specifically outline various subjects ranging from mathematics, language, science, social studies, and the arts. Each subject is then broken down into curriculum expectations, sometimes referred to as learning expectations and subject goals. Students are then assessed by their knowledge and skills across a rubric style achievement chart (Growing Success, 2010). This system is flawed as it does not actively demonstrate the interconnectedness of these various subjects. Students often do not make connections on their
own, and as a result fail to understand the subject’s greater purpose in relation to the outside world. Research has found that this fragmented form of learning also impacts knowledge retention (Sorel, 2005; Boyd, 2004). This begs the question, what is the purpose of education?

**Personal Journey**

I find myself on a quest for authentic learning. Ever since a young age I was fascinated by the concept of knowledge. I remember being a small girl and asking my parents if they could find me a book that had all of the information in the world. They would take me to the library, and every week I would come home with a new pile of books to explore. I had no interest in television. I begged my parents for a season’s pass to the Ontario Science Center. Learning was always a passion for me, yet as I got older, I realized that school was not. I quickly figured out what was expected of me, which was usually a reiteration of a chapter, or a string of lessons and would memorize them. Rote memorization came very quickly to me thanks to my early learning of multiplication tables and public speaking. I found myself so bored in class, finishing my work before the other students. I would often land myself in trouble because there was rarely anything exciting to do. Where were all the experiments I read of? Why did math suddenly seem so dull? Why do I have to paint this way when art is self-expression? My personal quest for learning became very disjointed from what I was being taught.

The only place I ever felt true passion was in the theatre. I learned so much about myself, as well as what it meant to be a proper educator. The only two things my teacher gave me were confidence and freedom. He believed in my talent and allowed me to take on whatever projects I pleased. I would spend hours in the theatre, practicing for performances on my lunch breaks and after the school day had ended. I remember my teacher always reminding me to not simply play my part, but become it. I had to learn about my character – how they would react, their
mannerisms, and their story. This connection to the outside world is what allowed me to better
my craft. I believe it is what also sparked my interest in psychology and human behaviour. I
want to create this spark in my students, and I must create the best learning environment to make
this dream possible.

When the time came to pursue university, I found that suddenly my passion no longer
mattered. I needed to study something that would provide me with a career, and if I happened to
enjoy it that was a bonus. I accepted the corporate, rat-race driven mentality of our society and
embarked upon a degree in history. My reasoning? I had been presented the history award upon
graduation. I look back at this moment with regret for many reasons, but mainly because I had
denied my gift of acting. I had found something that married my love of performance with my
love of authentic learning, and walked away.

I often wonder what happens to the students who were not as fortunate as me to locate
their passion. I do not think subject based teaching truly allows students to find their passion.
Can one truly become passionate about history simply just by reading about it? Can one decide
they would like to pursue mathematics from answering questions alone? I’m sure it is possible. It
is the way of education today, but we can do better. By teaching students through themes and
events, big ideas, differentiating learning, and showing the relationship between curriculum
expectations and their connection to the world outside of the classroom, students will become
authentic and passionate learners.
Approaches to Integrated Curriculum

In their 2004 book, *Meeting Standards through Integrated Curriculum*, Susan Drake and Rebecca Burns explore the meaning of integrated curriculum. While theorists have explored the definition since the 1800s (Stack, 1961), Drake and Burns identify three main approaches: multidisciplinary integration, interdisciplinary integration, and transdisciplinary integration. While the major difference amongst the approaches is the perceived degree of separation that exists amongst disciplines, it is necessary for this paper to define each in detail.

Multidisciplinary Integration

The multidisciplinary approach to integration focuses on the individual disciplines and how each subject relates to a particular theme. There are various types of multidisciplinary integration, each differentiated by the level of intensity teachers utilize to integrate the subjects.

Intradisciplinary Approach: Taking multiple sub-disciplines and teaching them together under the umbrella of a larger discipline.

Example: Teaching biology, chemistry, and physics under the umbrella of science.

Fusion: Incorporating knowledge, skills, and attitudes into every aspect of the curriculum.

Example: Teaching the concept of peace in every lesson; utilizing technology in every lesson.

Service Learning: Community projects that take place during class time.

Example: Distributing clothing and canned goods to newly immigrated refugees.

Parallel Disciplines: Teachers sequence their lessons to match what is being taught in other classes.
Example: Reading the Diary of Anne Frank in language arts, while learning about WWII in history.

Theme Based Units: Exploring one particular theme for an extended period of time across multiple subjects, ending with one culminating activity.

Example: Studying the Olympics in math, language arts, and history with a culminating performance task incorporating expectations from each discipline.

Interdisciplinary Integration

In contrast to the multidisciplinary approach, interdisciplinary integration is more focused on a central theme, as opposed to the individual disciplines. In this approach, common curriculum expectations from various subjects are located and centralized under one theme, concept, or skill.

Example: A house building project where students work collaboratively to construct a model home. All curriculum expectations are taught out of the house’s construction. Students learn mathematics through the measurements of the home, language through marketing it, and history through the antiquity of the land and area.

Transdisciplinary Integration

The curriculum is executed solely through student questions and interest. In this approach, students acquire various life skills as their learning is connected to the real world. Transdisciplinary integration is broken down into two categories.

Project-Based Learning: Students work with teachers to address a local problem. It can be broken down into three steps (Chard, 1998).

1. Teacher and students select a topic of study based on student interest, curriculum
expectations, and available resources

2. Teacher determines the classroom’s existing knowledge, assists students in developing big questions to explore, and provides necessary resources

3. Students complete a culminating activity to display their results and evaluate the project

Negotiating the Curriculum: Student questions form the basis of the curriculum. Students develop their own curriculum, teaching methods, and assessments.

For the purpose of this paper, it is foundational to understand these three different approaches to integrated curriculum. This paper seeks to explore the conceptual frameworks of Susan Drake and James Beane and if they are explicitly stated within the Ontario curriculum document for *Language* (2006). In their respective articles, Drake & Reid’s (2010), *Integrated Curriculum: Increasing relevance while maintaining accountability* and Beane’s (1991), *The Middle School: The natural home of integrated curriculum*, the authors present their step-by-step methods to creating an integrated curriculum. Both articles are geared towards the intermediate classroom and represent two different approaches. Drake & Reid’s article represents Drake’s interdisciplinary approach to curriculum integration, while Beane strongly advocates for a transdisciplinary integration. In the early 90s, the Ontario Ministry of Education mandated integrated curriculum for kindergarten to grade nine. This mandate for integrated curriculum will be interrogated through the Ontario curriculum document for *Language* (2006).

*Does the Language (2006) curriculum document explicitly state the interdisciplinary framework presented by Susan Drake or the transdisciplinary framework by James Beane?*
Chapter Two: A History of Integrated Curriculum – A Review of the Literature

Introduction

Discussions surrounding the philosophical and psychological antecedents of integrated curriculum can be traced back to the 1800s in the writings of Herbert Spencer (Stack, 1961). Referred to as core curriculum during these times, educators were trying to identify trends in the classroom and their subsequent psychological effects on students (Harville as cited in Vars, 1991). Debates surrounding the benefits of teaching a core curriculum versus a discipline based approach were taking place during the 1920s. Educational reforms were occurring through the progressive education movement and integrated curriculum was perceived as an innovative method to teaching. At its inception, integrated curriculum emphasized student-centered approaches to education. This combatted the existing discipline based approach that had come under fire, as many educators believed it prevented students from making connections across the subjects and decreased content relevancy (Eisner as cited in Maxwell 1999). In the 1930s, the famous Eight Year Study was undertaken as a means to understand the impact of integrated curriculum. Students from 30 different schools across the United States of America were followed, and researchers found positive implications for those exposed to a theme based approach when compared to isolated subject classrooms (Boss, 2011).

In her 1989 publication Interdisciplinary Curriculum: Design and Implementation (as cited in Boss, 2011), Heidi Hayes Jacobs discusses the flawed nature of the discipline based classroom. She argues that students will not be properly equipped to face the challenges of the outside world when taught in a subject oriented classroom. “The primary disadvantage to this form of content construction is that it does not reflect the reality of life outside school. We simply do not function in a world where problems are discipline specific in regimented time
blocks” (p. 2), she states. She asks the question, how can students personally connect to fragmented learning, when everything they know outside of the classroom is not?

It was during the 1960s that the discipline based classroom came to be widely regulated (Maxwell, 1999). Based on the work of Jerome Bruner’s concept of curriculum development, classrooms slowly became more discipline oriented. His work encouraged curriculum developers to believe that the individual structure of the disciplines facilitated the most access to the storage and retrieval of knowledge (Bruner as cited in Drake, 1993). It was not until 1993 that the Ontario Ministry of Education revisited the concept of integrated curriculum, and reformed their curriculum documents to reflect some aspects of integrated learning, particularly within the achievement charts. In their 1995 final draft of *The Common Curriculum*, integrated curriculum was named as a, “vision for education in Ontario schools” (The Ontario Ministry of Education as cited in Maxwell, 1999, p. 4).

Today, the most current available resources published by the Ontario Ministry of Education do not reflect an enormous growth in the realm of integrated curriculum. The *Growing Success* (2010) document was released as an additional reference for teachers that superseded the existing curriculum documents. The document was created to provide the most updated information on assessment, evaluation, and reporting policy, notably with exception to the achievement charts originally presented in the curriculum documents. The purpose of the *Growing Success* document was targeted at authentic assessment through the development of global citizens. The Ministry of Education outlined what they asserted to be the most coveted traits for working in the 21st century, and encouraged teachers to create assessment tasks that drew on these skills. The *Growing Success* (2010) document outlined the following skills for
success: “working safely, teamwork, reliability, organization, working independently, initiative, self-advocacy, customer service, and entrepreneurship” (p. 12).

Growing Success (2010) honed in on the importance of transferable skills, yet still did not clearly advocate for subject integration to be the driving force. Instead, it pushed for the creation of co-constructed success criteria, and introduced the concepts of assessment for learning, assessment as learning, and assessment of learning. Co-constructed success criteria encouraged teachers to work with students to develop common learning goals. The motivation behind co-created success criteria was that when students became part of the process of learning, they were more likely to retain information. The introduction to this teaching methodology was significant as it actively demonstrated the Ministry of Education’s interest in improving knowledge retention, particularly through transferable learning skills. Despite integrated curriculum representing a, “vision for education in Ontario schools” in 1995 (The Ontario Ministry of Education as cited in Maxwell, 1999, p. 4) the Growing Success document published over a decade later failed to further develop the concept. Additionally, the Ontario Ministry of Education failed to update the information presented in the achievement charts in Growing Success (2010), which were one of the few areas that explicitly discussed integrated learning (see Diagram 2.1).

Rather than developing concepts of integrated curriculum to enforce knowledge retention and transferable learning, the Ministry of Education introduced the concept of assessment for learning, assessment as learning, and assessment of learning. Going forward, teachers were to utilize this methodology to assess student knowledge. Assessment for learning represented a diagnostic assessment whereby students would demonstrate existing knowledge. Assessment as learning represented peer and self-assessments that took place throughout the learning. They
tracked progression and incorporated the aforementioned co-constructed success criteria. Assessment of learning represented a summative task that measured the student’s ability to perform and understand the curriculum expectations, as well as the 21st century learning skills presented by the Ministry of Education. Growing Success (2010) outlined this assessment tool as a necessity for educators to achieve authentic evaluations and to improve student learning. The assessment for, as, and of learning tool demonstrated the Ministry of Education’s vested interest in promoting global citizens, although it also revealed a lack of interest in utilizing integrated curriculum as the vehicle to do so. Since the publication of the Growing Success (2010) document, there has been no further publications outlining specific methodologies to promote authentic assessment and transferable learning skills.

The Role of the Teacher

While the success of these documents to execute the integrated frameworks of Drake and Beane will be discussed later, it is important to note that as curriculum integration is not formally mandated as a teaching methodology, it is essentially the responsibility of the teacher to undertake. The extent to which curriculum becomes integrated in the classroom is at the discretion of the teacher. As the current education system still identifies individual disciplines and their respective expectations, a more innovative, integrated, and student centered classroom can only be possible if the teacher believes in these frameworks. In Becoming Human (2008), Jean Vanier refers to this tasked responsibility of teachers as, “the accompanier”. Accompaniers represent the teachers who are willing to go above and beyond to support their students. Vanier believes they are the teachers who, “reassure us and allow us to see new possibilities and opportunities in the world around us” (p. 128). For integrated curriculum to thrive within education, accompaniers are necessary. Author and holistic educator, Alex Gerber (2001) also
believes that the integrated classroom begins with the teacher. He states that the teacher must possess an intuition towards holistic education to utilize this approach. Once his or her intuition is embodied, all activities and lessons can become infused with it. Gerber emphasizes the importance of appreciating the individuality and cultural diversity of all things. This extends from people and cultures, to all living creatures and habitats. This respect creates an environment of trust, bringing the synergistic nature of the classroom full circle.

Integrated curriculum refers to the aforementioned multidisciplinary, interdisciplinary, and transdisciplinary approaches to teaching. Each approach represents a different way to connect the individual disciplines, with the difference being the extent of integration amongst them. Individual case studies detailing the efforts of educators to implement integrative curriculums into their classrooms will now be discussed.

In an American grade three classroom, teacher Katherine Sorel (2005), implemented an integrated unit for social studies and science. While her interdisciplinary approach still acknowledged the existence of the individual disciplines, it introduced new ways of thinking about them as she actively explored the common themes of, people and the planet. She found that the interest to learn increased amongst her classroom as students were exposed to real world connections, thus allowing them to better draw personal meanings. Educational psychology instructor Shaundra Boyd (2004) asserts that the connections established through integrated learning are one of the most powerful ways for students to retain information. She writes that as students are better able to connect the information to their own points of reference, their ability to retain information is increased. At the end of Sorel’s unit she reported,
The world is not divided into things scientific and things social. Humans are in constant interaction with the world around them and have been throughout history. When children approach a topic from this dual perspective, history makes sense and science becomes relevant. When you show children how people and the planet are interconnected, they begin to make connections themselves. When you offer children multiple ways that they can approach a topic, you increase the likelihood that more students will find angles that interest them (p. 1).

Research by Arslan and Saka (2010) found that pairing the biology curriculum along with the language curriculum increased English language skills for English as a second language learners. Anna Chronaki (2000) investigated a teacher’s approach to teaching mathematics through the arts curriculum. The concept of symmetry was presented to students as Roman tile mosaics. The fact of doing, ‘math work’ was never presented to students at all. Chronaki found students to be more engaged in critical thinking when learning through this method.

In Florida, Okhee Lee took a multidisciplinary approach to teaching students writing and science through the form of fusion. Students were tasked with creating miniature wind and rain machines. While the emphasis remained on larger concepts such as evaporation, condensation, and thermal energy, Lee taught her students to write about these processes in a formal and structured manner. She saw an increase in her students’ writing and comprehension scores and attributed this success to her integrated teaching methods (Lee, 2004).

In public schools in Asheville and Buncombe, North Carolina, students were taught the mathematics curriculum through clog dancing and the planets of the solar system through modern dance. These methods took a more interdisciplinary approach as it linked commonalities between the disciplines and was less focused on each individual subject, but rather what the two combined created. The specific pairing of mathematics and languages with various arts (music, performance, etc.) is explored by Edward Fiske in his 1999 publication of *The Impact of the Arts on Learning*. His research demonstrated that integrating particular art forms with mathematics
and reading increased student success, as well as increased the academic and personal efforts of at-risk students (Fiske, 1999).

Integrated programs such as these have shown to increase student interpersonal skills (Russell & Burton, 2000), increase differentiation in the classroom (Lieberman & Hoody, 1998), and promote holistic thinking and real-world connections (Haluza-Delay, 1999). Studies by Oliver, Schofield and Mcevoy (2006) even found that integrated curriculum programs could help increase physical activity. They followed a four week multidisciplinary physical education program implemented at the elementary school level. The program included 78 students, who wore a pedometer daily to measure physical activity. Teachers at the school were asked to base their curriculum around the pedometer during the four week program as per the fusion approach. At the end of the program, the results showed a significant increase in steps taken by participants compared to baseline data. Moreover, results were also significant for students who showed little to no engagement in physical activity at baseline.

Mark Springer of Radnor, Pennsylvania implemented a transdisciplinary program for students named Soundings. In his program, intermediate students were responsible for developing their own curriculum, activities, and assessments based on their own interests. Some examples of themes created by the students have been, “Violence in Our Culture”, “Medical Issues Affecting Our Lives”, and “Surviving Alien Environments”. Graduates of the Soundings program perform equally on standardized testing when compared to those who have not participated, but have been found to discuss global issues with a higher level of sophistication (Brown, 2002, p. 10).

In 1997, Sandra Mathison and Melissa Freeman completed a comprehensive review of existing research on integrated studies. Their findings detailed a variety of benefits for students
and teachers alike, including the, acquisition of life skills such as cooperation and problem solving, greater motivation and academic achievement, better attitudes toward learning, and opportunities for more meaningful relationships between students and teachers. They argued that integrated teaching methods were not only beneficial for student learning, but also acted as a sensible and efficient way for teachers to deliver the curriculum (Boss, 2011).

**Knowledge Retention**

One of the most significant benefits of integrated curriculum is knowledge retention. If students do not utilize or remember the information they are being taught, what is the purpose of them learning it at all? Beane (1991) furthers this assertion. He states, “To students, the typical curriculum presents an endless array of facts and skills that are unconnected, fragmented and disjointed” (p. 9). He believes that genuine learning “involves interaction with the environment in such a way that what we experience becomes integrated into our system of meaning” (p. 9). He argues that a student-centered, integrated approach to learning is necessary for students to internalize information, create meaning for it, and demonstrate retention (Beane, 1991; Drake & Reid, 2010; Ramsburg & Youmans, 2013).

The retention of knowledge is not to be confused with rote memorization and the reiteration of facts. Conceptual understanding is the foundation for learning. While a student may be able to memorize information, they are likely to forget it if it is not linked to a larger concept (Case & Myers, 2008). “Studies going back almost a century in the area of learning show that emphasizing the facts at the expense of teaching the concepts impairs understanding and even retention of these facts” (Wineburg, 2001, p. 89). In his book, *The Aims of Education*, Alfred North Whitehead (1929) suggests that the central problem of education is preventing knowledge from becoming inert. By inert, Whitehead means, “ideas that are merely received into the mind
David Perkins (1993), an educational psychologist at Harvard University furthers Whitehead’s definition of inert knowledge as, “knowledge that learners retrieve to answer the quiz question, but that does not contribute to their endeavors and insights in real complex situations” (p. 90). “Coverage is the enemy of understanding” (Howard Gardner as cited in Antonelli, 2004, p. 42). Instead of focusing on covering so many facts, teachers should apply a, less is more approach in their classrooms – less facts, to allow for the retention of more concepts (Case, 2008).

John Dewey (as cited in Hare, 1994) advised educators to stop turning pupils into, “cyclopedias of useless information” (p. 72). Shirley Engle (1960) warned educators of a, “ground-covering fetish”, whereby students use rote memorization to absorb as many facts as possible (p. 302). The solution to these problems is in the way we perceive learning. Rather than looking at learning as, “the warehousing of facts”, Walter Parker (1989) suggests to perceive learning as, “the progressive construction of understandings” (p. 41). He provides the example of a construction project. One where the teacher is the leader, and the students are contracted to build all aspects of the house.

What is evident amongst the research is that students learn and retain information more when they can apply it to their own contextual frame of reference. By personalizing information, students recognize why it is significant and become more likely to apply it within other contextual settings. The problem within education is that teachers are tasked with executing many curriculum expectations, and are not provided a methodology to do so. As a result, the expectations are taught separately – increasing time spent on individual lessons, and decreasing retention (Case, 2008; Wineburg, 2001)
We must invite students to think critically and conceptually about their work. Ken Osborne (2004) provides the example of a student who can master a whole list of outcomes describing the First World War, but still have no real understanding of the War as a historical phenomenon. The best way to promote understanding in students is to make sure all lessons promote comprehension, connections, and justifications (Case, 2008) and the best method to do so is through integrated curriculum. By demonstrating the interrelations of the individual disciplines, students become more likely to retain and apply their knowledge (Drake & Reid, 2010).

**Criticisms**

While integrated curriculum has been widely received as an effective solution to the structured discipline based classroom, not all educators are in support of this framework. Despite integration being posited as a way for teachers to alleviate work stress by combining multiple subjects, teachers have reported feeling isolated from co-workers and the building itself when planning for integrated units (Hood & MacMillan, 2002). Educators who have personally taken on the responsibility of engaging an integrated curriculum approach to learning in their classrooms have also reported higher burnouts when compared to teachers who did not employ these strategies (Comishin et al., 2004; Simms, 1996).

There also lies criticism with the way in which integrated curriculum programs are implemented. As the nature of the program is holistic, many educators choose to incorporate environmental studies and outdoor education. Russell and Burton (2000) found that teachers and administrators did not perceive their holistic based courses as serious. Questions arose regarding the quantity and quality of learning that could take place outdoors. Simms (1996) found that educators choosing to engage integrated curriculum programs oftentimes had to dispute their
merit. Dawson (2003) also found a distrust for integrated curriculum work in that the priority of the teacher still remained to produce high test scores to receive funding.

In his 1995 publication, *Curriculum Integration and the Disciplines of Knowledge*, James Beane discusses three major criticisms of integrated curriculum. First, he explores the purpose of the individual subject teacher. As Beane takes a more organic approach to integration (transdisciplinary), and knowledge is called forth when it is relevant rather than when it is convenient, the need for subject teachers entirely dissolves. Beane believes that this is only at a loss to the subject teachers themselves, but is a fair trade off for the benefit of student education. He argues that integrated curriculum is an entirely new form of curriculum, one where the individual disciplines are already incorporated, and not waiting on the sidelines.

The second criticism he discusses is one of the most common arguments against curriculum integration. If teachers are using a completely integrated curriculum, how can one ensure that every curriculum expectation is taught? Beane’s response is simple – they will not all be taught. Similar to the aforementioned arguments of Dewey, Whitehead, and Gardner, Beane believes that students are overloaded with information and are being fed trivia. He questions the meaningfulness of the expectations outlined in the curriculum, and likens them to a preparation for completing the *New York Times* crossword puzzle. Beane states that utilizing integrated curriculum, specifically a transdisciplinary approach to teaching, eliminates the extra, ‘stuff’, and allows the significant information to come through. As this process is more natural, he claims that students are more likely to be interested and retain knowledge.

The last criticism he discusses is the concern that integrated curriculum will destroy the integrity of the individual disciplines of knowledge. He rejects this perspective as he does not believe that young people perceive the individual disciplines to have integrity to begin with. He
furthers this thought as he questions what relevancy the individual disciplines have at all if they are not being connected to other subjects. Critics have suggested that integrated curriculum would be a good idea for a project once the individual disciplines have been taught. Beane states that this is a stark violation of what integrated curriculum means, as that methodology fails to respect its whole-to-parts, synergistic framework, especially when using a transdisciplinary model.

As this paper will be exploring the effectiveness of the Ontario Ministry of Education’s curriculum documents to explicitly state the integrated approaches of Drake and Beane, one must understand their conceptual frameworks. Drake & Reid’s (2010), *Integrated Curriculum: Increasing relevance while maintaining accountability* takes an interdisciplinary approach to integration. Beane’s (1991), *The Middle School: The natural home of integrated curriculum* echoes similar principles of Drake, but furthers her approach to integration by a taking a more transdisciplinary perspective. These two approaches will then be critically analyzed within the context of the Ontario Ministry of Education’s curriculum document for *Language* (2006).
Susan Drake

Drake & Reid’s 2010 article, *Integrated Curriculum: Increasing relevance while maintaining accountability* reads as a guideline for educators who are looking to incorporate integrated curriculum into their classrooms. The research monograph is part of a research-into-practice series entitled *What Works? Research into Practice*, published by the Literacy and Numeracy Secretariat and the Ontario Association of Deans of Education. It introduces the concept of integrated curriculum as a means to, ‘do it all’, and reduce stress by teaching multiple expectations under one major theme. It argues to make education relevant again, as the current discipline dominated nature of today’s classroom is no longer, as well as to improve student academic performance. It also suggests that teachers will find an increase in student engagement, and a decrease in attendance and behaviour problems.

The guide cites a case study used in the Bluewater District School Board that utilized Susan Drake’s model to creating an integrated unit. The approach they advise, takes a backwards design and is best achieved when worked on collaboratively with other teachers and sometimes students. In this specific case study, the integrated unit was designed collaboratively by teachers for intermediate students in the BDSB. Not all teachers used the same disciplines for their units, and some chose to integrate more disciplines than others. Some teachers chose to incorporate student input in the design process which reportedly increased student engagement.

Susan Drake’s Step-by-Step Method of Planning an Integrated Unit

1. Determine what is most important to learn in the curriculum documents from reoccurring ideas. Read across the subjects vertically, two grades below and one above, and horizontally scan expectations across subjects of the target grade. Look for main concepts
and big ideas, then cluster the expectations into chunks that describe the conceptual content (KNOW), skills (DO), and attitudes/beliefs (BE).

2. Choose an appropriate issue or theme to study.

3. Brainstorm activities for the expectations. Create a concept web if necessary to connect like ideas.

4. Finalize the KNOW, DO, BE (KDB) and use it as an umbrella for the unit.

5. Create a rich assessment task for a culminating activity that incorporates the KDB as well as curriculum expectations from multiple subject areas. Students should be able to demonstrate their learning.

6. Create 2-3 big questions and organize daily instruction around them. Use a, “zoom lens” on certain curriculum expectations that do not fit neatly into the unit and include them in daily lessons.

7. Create daily instructional activities that reflect the big questions so students can achieve the KDB. Within these daily activities, perform formative assessments (ex. checklists, observations). Ensure that daily activities all point towards the culminating task to demonstrate purpose.

Results from the BDSB showed that students had tackled big ideas such as fair trade and social justice issues. An increase in critical thinking skills was demonstrated, as well a decrease in student behaviour issues. Students appeared to be more engaged as the information was relevant to them, thus positively impacting retention. Teachers reported improved collaboration as new ideas and ways of teaching were encouraged. Teachers also found that integrative teaching allowed them to better differentiate their lessons. While some teachers found integrating the
specifics of the mathematics curriculum with other disciplines difficult, others reported that they had covered the smaller concepts by conveying bigger ideas instead.

Susan Drake has published a variety of books and articles detailing the positive implications of integrated teaching, as well the different ways educators can incorporate such teaching into their classrooms. Drake and Reid’s (2010) article was selected to represent Drake’s theories on integrated curriculum as it was published by the Ontario Ministry of Education. It was published the same year as the *Growing Success* (2010) document but was featured as an optional monograph. Furthermore, the concepts within Drake and Reid’s article were not detailed within the *Growing Success* (2010) document, despite it representing an updated version on the Ontario Ministry of Education’s perspective on authentic assessment. Drake and Reid’s article is the most recent known document sponsored by the Ontario Ministry of Education that details their perspectives regarding integrated curriculum.
James Beane

Drake’s approach to integrated curriculum represents the interdisciplinary approach. While still recognizing the individuality of the disciplines, her model urges educators to find commonalities amongst them. James Beane’s 1991 article, *The Middle School: The natural home of integrated curriculum* takes a student centered, transdisciplinary approach to curriculum construction. It is written as a strong suggestion and call for educators to shift the way in which they teach and think about teaching. The document mainly focuses on the intermediate age group, which Beane refers to as the middle school. In this article he questions the purpose of the individual disciplines. He begs the reader to question why information in education is fragmented, when real world problems do not require such separation. He argues that this fragmentation prevents students from making personal connections to the information and compromises their ability to retain knowledge. He urges educators to use student curiosity to guide units and leave individual disciplines and curriculum expectations behind.

Beane’s (1991) approach to curriculum integration rests on two underlying assumptions. The first being that, “integration implies wholeness and unity rather than separation and fragmentation” (p. 9). Secondly, he believes that real curriculum integration, “occurs when young people confront personally meaningful questions and engage in experiences related to those questions” (p. 9). He states, “When we seek to integrate the curriculum, we need to inquire questions and meanings that young people create rather than contrive connections across academically constructed subject boundaries” (p. 9). Beane separates his framework from that of Drakes, as he urges educators to allow students to determine what they want to learn based on their interests. He criticizes attempts of interdisciplinary programs that acknowledge the existence of separate subjects. He asserts that any approach that acknowledges the existence of
separate disciplines is more multidisciplinary than interdisciplinary, and is certainly not integrative.

Beane argues that educators must shift their perception of student outcomes at the intermediate level. He believes the sole purpose of intermediate education is to provide general information to students, to serve students, and to perceive students as young adults. With these three concepts in mind, Beane believes we can truly begin to offer authentic curriculum integration. Beane’s model for integrated curriculum eradicates the existence of individual subjects and views the teacher as a human bestowing information on their students as it naturally emerges. Beane’s approach to integrative curriculum can be summarized in the following steps:

1) Students individually generate a list of questions about themselves, and then work in groups to identify commonalities.

2) Students individually generate a list of questions about the world, and then work in groups to identify commonalities.

3) Students work together to identify an overarching theme that links both the personal and worldly questions.

4) Students plan the unit with the teacher and various activities they would like to complete to explore their overarching theme as well as accompanying assessment tools.

In this model, information is provided when necessary and relevant to the discussion. Beane argues that if units are planned carefully, they will draw heavily on a variety of disciplines. For example, if students are working with surveys and must complete a graph or chart to represent their data, the teacher will instruct this knowledge. Information is only taught when necessary, thus allowing for a more organic learning process.
The following example illustrates Beane’s approach to integrated curriculum: Students identify the physical changes they are currently experiencing and have questions in regards to their self-image. They also have questions in regards to living in a changing world where issues of war, poverty, racism, and the environment are becoming more relevant. Together, the students and teacher work to create a unit on identities, and develop activities that examine how self-image is formed, how culture can influence that self-image, and the impact of cultural diversity on politics. As today’s Ontario teacher is so accustomed to thinking in terms of individual disciplines and curriculum expectations, Beane’s approach may be difficult to grasp. Despite his approach representing a new way of thinking about the curriculum, it is not difficult to see from this example that many disciplines can still be drawn upon.

While Beane’s approach to integrated curriculum has come under scrutiny for being too idealistic, he asserts it is the most effective way to transmit knowledge and make learning relevant and retainable. As students are directing their own learning, they become more responsible and engaged. Beane’s approach rejects anti-intellect and superficial learning as it forces students to link the self and the social, thus producing personal meaning for concepts such as democracy, human dignity, and diversity, resulting in culturally responsible global citizens.

Beane was selected to explore the Ontario curriculum document for *Language* (2006) due to his creative and borderless ways of thinking. He perceives education in the classroom identically to education within a real world context. As a result, he does not limit himself to individual disciplines or typical classroom phenomenon. He is a visionary with a true passion for authentic learning.

Drake and Beane have different approaches to curriculum integration. Drake takes an interdisciplinary approach to integration that recognizes the existence of the individual
disciplines, is more teacher directed in nature, and heavily relies on the curriculum expectations. Beane’s approach, would perceive Drake’s model as multidisciplinary at best. His approach to curriculum represents a transdisciplinary model, specifically that of negotiating the curriculum. It refutes the existence of the individual disciplines and curriculum expectations, and is heavily directed by student interest. Beane’s model asserts that when executed correctly, the relevant information is exposed and forces trivial expectations to become eliminated. While vastly different, both approaches promise student engagement, the retention of knowledge, and the development of the whole person. Is the interdisciplinary approach represented by Susan Drake, and the transdisciplinary approach represented by James Beane, explicitly stated in the Ontario Ministry of Education’s 2006 curriculum document for Language (Revised)?
Chapter Three: Methodology

Introduction

The following document analysis takes a qualitative research methodology approach. It will examine the public record, *Language* (2006), a curriculum document published by the Ontario Ministry of Education. The document will be analyzed using a mixed model coding method by reading the document for predetermined codes, while also allowing for emerging codes to present themselves. The existing codes that have been foreshadowed by the research question are: multidisciplinary, interdisciplinary, and transdisciplinary. Utilizing inductive analysis, the larger themes will then be discussed in reference to the contextual frameworks of integrated curriculum as presented by Susan Drake and James Beane.

Document Analysis

Document analysis is a technique used to examine documents and what they contain. They hone in on a specific theme, and for the purposes of this study will be examining the usage of integrated curriculum. Document analyses examine manifest content as well as latent content. They identify what is explicitly stated, what is absent, and what is left to interpretation. By itself, a document has no true meaning. It comes to life based on the historical context of when it was written, and more importantly how it is interpreted by the reader (Denzin & Lincoln, 2000). It can be argued that *Language* (2006) is a product of the current cultural, economic, political and social climate of our time. It is also subject to how a teacher interprets the text and brings meaning to it in the classroom. As educators have the freedom to present the information within the curriculum documents however they choose, it is possible for the frameworks of Drake and
Beane to be utilized without explicit instruction. The purpose of this document analysis is to explore if and how these frameworks are explicitly stated.

The benefit to using a document analysis research methodology is that the documents are typically accessible, objective, and unobtrusive as they do not rely on interacting with people directly. The limitations of a document analysis are that they must still be interpreted by a human, therefore researcher bias must be acknowledged (Merriam, 2009). Denzin and Lincoln (2000) suggest that an inherent writer bias also exists within documents. They encourage readers to question power relations and who is given a position of authority within a text. The curriculum documents are specifically written for teachers and utilize teacher language, therefore limiting who is able to interpret it. This critique may be furthered by questioning who determines what information enters a curriculum document, and who is put in a position of power as a result.

The document to be examined was not developed with the intention of being researched, therefore it may not be entirely representative of the Ontario Ministry of Education’s perspective on integrated curriculum. This research recognizes that there may be additional documents published by the Ontario Ministry of Education that furthers their perspective on integrated curriculum, and that their existing views may fall outside of the frameworks presented by Drake and Beane.
Ontario Ministry of Education. (2006) *The Ontario Curriculum grades 1-8: Language (Revised)*

The document to be analyzed is the 2006 revised *Language* curriculum document, published by the Ontario Ministry of Education. It is a document of public record and represents the standard that teachers must uphold when educating their students. A public record document is defined as a material produced for official purposes by a social institution (Esterberg, 2002). Ontario students are assessed by their ability to perform the outlined curriculum expectations. Their performance is evaluated on a rubric style achievement chart, which is contained within the document. This curriculum document is a primary and authentic resource that is available on the Ontario Ministry of Education website and can be accessed by the public. It has been written by policy developers and has not been revised since 2006. This research will specifically examine pages 1 to 31 which contain the Introduction, The Program in Language Education, Assessment and Evaluation of Student Achievement, and Some Considerations for Program Planning. It will also examine pages 123 to 149 that detail the specific curriculum expectations for Language for the intermediate grades seven and eight. This research will not analyze the specific Language curriculum expectations for grades one through six, as the frameworks that will later be explored focus on the intermediate age group.

The Language curriculum document was selected for examination as it is one of the major disciplines. It can be argued that this particular discipline has the most flexibility for integration. The achievement charts presented in the Language curriculum document are identical to those presented in the other disciplines. Achievement charts require teachers to evaluate a student’s Knowledge and Understanding, Thinking, Communication, and Application according to the specific discipline.
Inductive Analysis

The research questioned if the Ontario curriculum document for Language explicitly stated concepts of integrated curriculum as presented by Drake and Beane. It did not hypothesize the outcome of the research question (deductive analysis), rather it allowed the findings to emerge on their own. This process is referred to as inductive analysis. The purpose for using inductive analysis is to condense raw data into a brief summary, to draw findings between the research question and the summary findings, and to develop a framework of the underlying structures evidenced from the data. This approach provides a systematic set of procedures to analyze qualitative data that can produce reliable and valid results. Inductive analysis is a common approach in several types of qualitative analyses, particularly grounded theory (Thomas, 2006). While this research is similar to grounded theory as it utilizes document analysis, it cannot be considered grounded theory as it does not incorporate all aspects of ethnography – observation and interview. This methodology can be considered for future extensions of this research.

I will begin by coding the document utilizing a mixed model of coding. This approach is a combination of closed model coding and open model coding. Closed model coding requires that all codes must be determined prior to exploring the data. Conversely, open model coding allows for the codes to emerge from the data itself (Coffey & Atkinson, 2009). A mixed model approach was selected for this research to ensure that the results were concentrated, but not constricted. The existing codes that will be applied are, “multidisciplinary”, “interdisciplinary”, and “transdisciplinary”. The remaining codes will reveal themselves as the document is analyzed. This process will be referred to as Level 1 coding, otherwise known as initial or substantive coding. It is descriptive, and will be written in the margin of the document. The
emerging codes will be precise and not exceed more than one or two words. The document will then be recoded for common themes. This will be referred to as Level 2 coding, or axial coding. The Level 1 codes will be grouped together and renamed into larger categories. Before moving on to the final stage of coding, the researcher will reanalyze the document until nothing new can be found. This process is known as theoretical saturation. Lastly, the researcher will complete Level 3 coding whereby theoretical constructions will take place (Coffey & Atkinson, 2009). The common themes located within the axial coding will be critically analyzed against Susan Drake and James Beane’s conceptual frameworks.
Chapter Four: Results

Introduction

The research question sought to answer if the Ontario Ministry of Education’s curriculum document, *Language* (2006) explicitly stated themes of integrated curriculum as presented by Susan Drake and James Beane. To analyze the document in an organized manner, it was broken down into 5 subsections as originally indicated by the table of contents: 1) Introduction 2) The Program in Language Education 3) Assessment and Evaluation of Student Achievement 4) Some Considerations for Program Planning, and 5) Curriculum Expectations. The Curriculum Expectations section was then separated by grade (7/8).

Substantive and Axial Codes

The document was analyzed as a complete whole with coding taking place continuously from beginning to end. At the end of each subsection, summative notes were taken to describe the overall purpose. At the end of the Level 1 coding, there were 16 individual codes (see Illustration 1.1). The predetermined code, transdisciplinary, was not identified in the text, and was therefore not reported. The 16 codes represented the most commonly discussed themes within the document. The Level 1 codes were then grouped by likeness and analyzed for commonality. Four Level 2 codes emerged from the initial 16: The Individual, Multiculturalism, Integrated Curriculum, and Miscellaneous (see Illustration 1.2). The document was scanned again to ensure theoretical saturation. No new information was identified.
The Individual, Multiculturalism, and Integrated Curriculum, will now be discussed in relation to the frameworks of Drake’s interdisciplinary approach and Beane’s transdisciplinary approach. The Miscellaneous code will not be discussed as it is not pertinent to the research.
Theoretical Constructions

The Language (2006) document failed to explicitly name any of the pre-existing codes: multidisciplinary, interdisciplinary, and transdisciplinary, although many of their core frameworks were exemplified implicitly. The term cross-curricular was utilized, likening principles from each of the 3 aforementioned approaches.

The Language (2006) document repeatedly discussed the development of The Individual. It asserted that the goal of education was not to forward content, but to create productive members of society on a global scale. It stated that as language was embedded throughout the various disciplines of the curriculum, it most easily developed the whole person. Through the vehicle of language, students would be exposed to a variety of cultures and interactions, thus developing their critical thinking skills, and growing as individuals. This theory matches similar frameworks presented by Susan Drake (Drake & Reid, 2010). While not explicitly naming interdisciplinary integration, the document is discussing the same approach. Both the document and Drake acknowledge the existence of individual disciplines, and recognize the transferable learning that takes place when common expectations are linked together. The difference between the two is that Drake names this process interdisciplinary integration, while the document argues this transfer of knowledge takes place inherently due to the nature of language itself. Drake asserts that interdisciplinary learning can take place amongst any of the individual disciplines, while the Ministry of Education’s perspective on other subjects is not formally stated. Furthermore, the document states that it’s overall desired outcome for students is to become world citizens, while Drake’s reported student outcomes surround improvements in classroom behaviour and management.
The document often referred to the development of the whole person, and the making of world citizens. James Beane’s (1991) foundational values push for the development of various life skills and connecting to the real world. The two share the most in common for student outcomes, yet represent opposing sides in approach. Beane asserts that by utilizing student interest as the vehicle for learning, knowledge becomes transferable and is more likely to be retained. He rejects the individual disciplines as represented by the sole existence of a Language document in and of itself, but believes if planned correctly a variety of subjects can still be drawn upon. The document made no reference to an elimination of individual disciplines. Without explicitly naming either framework, the *Language* (2006) document’s approach to integrated curriculum is closer aligned to Drake, while its end goal for student outcome coincides with principles put forth by Beane.

Beane likens education to learning outside of the classroom. He asserts that learning should be natural and appeal to one’s contextual frame of reference. By using student interest to guide lessons, students become more engaged. As a result, they are more likely to retain and apply their knowledge. Beane argues that the application of knowledge is the most important factor within education. When students apply their knowledge, they can contribute to an equitable and diverse society, thus becoming global citizens. The *Language* (2006) document explicitly states that it too aims for students to become global citizens. Together, they both aspire for students to reach the same end goal, although their routes to achieve such goal are vastly different.

Susan Drake’s end goal for students differs from that of Beane’s and the Ontario Ministry of Education. In her monograph written alongside Reid (2010), she does not mention the creation of a global citizen. Instead, she purports the usage of integrated curriculum to assist teachers with
classroom management. It is Drake’s methodology specifically that aligns the closest with the
document does not make explicit mention of Susan Drake or interdisciplinary integration, it
implicitly instructs teachers to use the same methodology. Both Drake and Reid’s article (2010)
commonalities amongst the curriculum expectations from a variety of disciplines, and teach like
ones together. Their methodologies align implicitly and are almost identical in approach and
execution.

An emerging theme throughout the document that was not previously considered is
Multiculturalism. Devoid of any ties to theories put forth by Drake and Beane, the Ministry of
Education makes clear that their priority is creating learners that thrive in a society of culture and
diversity. Where Drake and Beane would argue that their approaches to curriculum integration
consistently reiterates that their focus is on, “creating a responsible, contributing member of
society, who appreciates diversity, while thinking of global impact” (The Ontario Ministry of
Education, 2006, p. 5). Where Drake and Beane would argue that integrated curriculum allows
for increased student interest, knowledge retention, and learning transference, the Ministry of
Education emphasizes that multiculturalism is the vehicle to do so. Throughout the document,
teachers are advised to consistently ensure they are using materials from a wide variety of
cultures to ensure that students see themselves in the text. They state that when students can
identify themselves in the literature, they are more likely to engage in the material, recall the
material, and think critically about it.
This theory assumes the principles put forth by Beane. By assuming that students connect to their culture, they are incorporating what Beane refers to as “student-directed learning” (Beane, 1991, p. 10). The Ministry stresses that students will relate to the literature and engage as a result. This differs from Beane as multiculturalism is considered content, and is perceived as one area of student interest rather than an overarching, navigational tool.

The notion of multiculturalism being a driving force within the curriculum document is significant for a variety of reasons. Firstly, it represents the social context of our time. Educators must be reminded to ensure they are promoting diversity in their classrooms. This implies that some classrooms are not, and speaks to the relevance of issues surrounding equity and diversity of our time. Secondly, despite multiculturalism not originally being a sought out theme within the research, it must be mentioned as it takes precedence over themes relating to integrated curriculum. One must consider the fact that the Ontario Ministry of Education cannot yet implore a variety of concepts relating to authentic learning because they must first focus on ensuring that students are all starting on an equal playing field. Lastly, multiculturalism must be noted as it is presented as a theme, but more importantly as an approach to engaging students to make learning more authentic and transferable. It seeks the same result as integrated curriculum, but assumes diversity as an area of student interest, rather than letting students decide this on their own.

Integrated Curriculum also developed into one of the themes of the document as there were many references to cross-curricular approaches to teaching. As previously mentioned, the document never explicitly mentioned multidisciplinary, interdisciplinary, or transdisciplinary approaches to learning, but many of their theories on cross-curricular learning incorporated these theories. Integrated learning was introduced in the document as a ‘consideration’ for teachers. It
was presented as a suggestion, particularly when compared to the major theme of the document – multiculturalism.

Under the section, “Some Considerations for Program Planning”, cross-curricular teaching is introduced as a means to promote authentic learning. It suggests that incorporating language into the other subjects will demonstrate its value, as students will see its necessity amongst a variety of disciplines. The document states, “In cross-curricular learning, students are provided with opportunities to learn and use related content and/or skills in two or more subjects” (The Ontario Ministry of Education, 2006, p. 23). This approach to teaching resembles Drake’s theories on interdisciplinary education. They recommend finding a common link amongst the subject material and teaching it together for the promotion of authentic learning, without ever explicitly naming it as interdisciplinary work. In this section there is no mention of student-directed learning or any theory that would resemble that of Beane’s approach to transdisciplinary integration. When discussing cross-curricular integration, the document solely utilizes approaches that are multidisciplinary and interdisciplinary in nature.

The notion of cross-curricular teaching is significant because it is interdisciplinary work in nature. The fact that the document renames this concept demonstrates that while the Ministry of Education values these principles, they would like to curate them in such a way that they become their own theory. In doing so, they can manipulate the ideas and not have to ascribe to the teachings of any particular person.

Under the subheading, “Assessment and Evaluation of Student Achievement” (p. 15) teachers are presented with 4 categories to assess students – Knowledge and Understanding, Thinking, Communication, and Application. These 4 categories must be represented on every assessment and are the foundation for grading students in Ontario (see Diagram 2.1). Knowledge
and Understanding primarily deals with subject-specific content, Thinking with critical/creative thinking skills, Communication with how students convey meaning, and Application with how students make connections, “within and between” various contexts (p. 17). Beane argues that student-interest should lead the classroom as it reflects their personal frame of reference, and therefore makes learning authentic. The Application section demonstrates this approach to learning, although fails to explicitly state how this learning should be modelled.

The *Language* (2006) document recommends that teachers remain updated about the best teaching practices through current research. It lists 9 documents that teachers may find, ‘helpful’. Of the 9 documents listed, 2 refer to cross-curricular approaches. It is unknown if these documents explicitly discuss integration models as presented by Drake and Beane.

The final subheading of the document covering the specific curriculum expectations demonstrated no indication of curriculum integration. It did not make explicit reference to integrated approaches as put forth by Drake and Beane. Some of the curriculum expectations required higher order thinking skills that align with Beane’s proposal to utilize student interest, although the majority of explicitly stated content referred to themes of multiculturalism and diversity.

**Conclusion**

The Ontario Ministry of Education’s *Language* (2006) revised curriculum document does not explicitly state the interdisciplinary and transdisciplinary approaches put forth by Susan Drake and James Beane. The document makes implicit reference to principles related to both authors’ concepts, particularly in reference to methodology and desired student outcomes.
The Language (2006) document’s approach to cross-curricular education mimics the same methodology put forth by Drake as both rely on pairing like curriculum expectations and teaching through a linking theme. Both still acknowledge the existence of the individual disciplines and recognize the authentic learning that takes place when subjects are integrated.

<table>
<thead>
<tr>
<th>ACHIEVEMENT CHART – LANGUAGE, GRDES 1–8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Categories</strong></td>
</tr>
<tr>
<td>Knowledge and Understanding – Subject-specific content acquired in each grade (knowledge), and the comprehension of its meaning and significance (understanding)</td>
</tr>
<tr>
<td>The student:</td>
</tr>
<tr>
<td>Knowledge of content (e.g., forms of text; strategies associated with reading, writing, speaking, and listening; elements of style; terminology; conventions)</td>
</tr>
<tr>
<td>demonstrates limited knowledge of content</td>
</tr>
<tr>
<td>Understanding of content (e.g., concepts; ideas; opinions; relationships among facts; ideas; concepts; themes)</td>
</tr>
<tr>
<td>demonstrates limited understanding of content</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Thinking – The use of critical and creative thinking skills and/or processes</strong></td>
</tr>
<tr>
<td>The student:</td>
</tr>
<tr>
<td>Use of planning skills (e.g., generating ideas, gathering information, focusing research, organizing information)</td>
</tr>
<tr>
<td>uses planning skills with limited effectiveness</td>
</tr>
<tr>
<td>Use of processing skills (e.g., making inferences, interpreting, analysing, detecting bias; synthesizing, evaluating, forming conclusions)</td>
</tr>
<tr>
<td>uses processing skills with limited effectiveness</td>
</tr>
<tr>
<td>Use of critical/creative thinking processes (e.g., reading process, writing process, oral discourse, research, critical/creative analysis, critical literacy, metacognition, invention)</td>
</tr>
<tr>
<td>uses critical/creative thinking processes with limited effectiveness</td>
</tr>
</tbody>
</table>
Diagram 2.1: Achievement Chart – Language, Grades 1-8 (The Ontario Ministry of Education, 2006, p. 20)

The document’s end goal for students to produce an individual who is a contributing member of a global society aligns with Beane’s overall goal for students. While both strive to achieve the same
goal, the *Language* (2006) document fails to mention an elimination of individual disciplines, or learning based solely off of student interest alone. Despite these frameworks not being explicitly named, the *Language* (2006) document implicitly demonstrates theories from Drake and Beane.
Chapter Five: Discussion

The research found that the Ontario Ministry of Education’s 2006 *Language* (Revised) document did not explicitly state the interdisciplinary and transdisciplinary approaches as presented by Drake and Beane. The document implicitly referred to integrated curriculum under the framework of cross-curricular education. The Ministry of Education’s approach to cross-curricular education represented an interdisciplinary framework, as it acknowledged the existence of separate disciplines, but encouraged educators to link similar curriculum expectations together. Their desired goal for students aligned with Beane, as both aspired to develop students to become critical thinkers and global citizens.

The pre-existing codes were coined by Drake and it is possible that the Ministry of Education avoided using these specific terms to refrain from aligning with one individual perspective. The omission could have also represented a distancing from Drake’s theories in order to make cross-curricular education more palatable for educators and parents. By reworking her theories to suit the needs of their platform they control what information is available to the general public, and furthermore break any unwanted association with the author. While James Beane’s approach to integration seems too idealistic for the Ontario Ministry of Education, Drake’s notions of interdisciplinary integration seem appropriate. It appears that the Ministry of Education recognizes the benefits of interdisciplinary education, and are in the process of bringing this teaching methodology to the forefront of education. As the document was published in 2006 we must put it into context. As it utilizes multiculturalism as a teaching methodology more so than integrated curriculum, it reveals the needs of the 21st century classroom.

The document utilizes multiculturalism where Drake and Beane would argue to use integrated curriculum. It is presented as the quintessential methodology to student engagement.
The Ministry of Education asserts that when lessons are connected to a student’s culture, they become more engaged, resulting in knowledge retention and transference. What becomes problematic is that not all students connect to their culture, or a culture at all. Furthermore, who identifies the existing cultures in a classroom? The Ministry of Education seems to agree that students engage more when they are genuinely interested in the material, although constrains this learning by offering multiculturalism as the vehicle instead of a stop along the way. This is not to downplay the importance of educating students about respect for diversity, it just should not be the driver of authentic learning. *Language* (2006) does not solely present multiculturalism as a theme or topic of discussion. Instead it asks teachers to use it as a methodology, or hook, to stimulate student engagement.

What remains unclear is if the section on cross-curricular education is presented in other subject’s curriculum documents. The backbone of curriculum integration in the *Language* (2006) document is the fact that language is naturally a necessity for the majority of the other disciplines. If this is the selling feature of using integrated curriculum, the other disciplines are being sold short. What about the subjects that are not easily integrated? More importantly, are students truly gaining the benefits from integrated learning if this is how it is presented? What is even more interesting is that students are required to demonstrate this type of cognitive processing as per the Ministry of Education’s assessment tool, but teachers are not explicitly required to teach this way. How can we expect students to make connections to contexts within and outside of the classroom, if educators are not being shown how to do so? Teachers are advised to remain updated on current best practices and are provided with a link to 2 external documents regarding cross-curricular integration. While this is a benefit to those who are looking for more information, it is not direct and remains a nothing more than a suggestion. The concept
of integrated curriculum is consistently referred to as a means of making learning authentic and knowledge transferable, yet barely scratches the surface of importance in this document. The problem that remains is that students are still required to think in a way that promotes integration, yet teachers are not. The Ontario Ministry of Education must take more responsibility to teach educators how to integrate the individual disciplines and make connections to contexts within and outside of the classroom. Documenting a formal methodology for teachers to utilize is the first step to making integrated curriculum a success for all teachers in the classroom. Once educators can make these connections, they can effectively model them for their students. This begins the transference of knowledge from teacher to student.

The findings of this study are reflective of the research in the field. The majority of previous studies exemplified demonstrate an individual teacher taking the initiative to utilize integrated curriculum in their classroom. It is clear that as it is not a requirement of educators, that this must be a personal decision to take on extra responsibility for the benefit of the classroom. As purported by Gerber (2004), it is possible that the teachers choosing to take on this work already feel predisposed to working holistically, and only those who feel this inclination should continue to do so. The findings were also consistent with the work of Bruner (as cited in Drake, 1993) in that the education system within Ontario still recognizes and perpetuates the existence of individual disciplines. While Bruner advocated for subject-based classrooms to facilitate access to the storage and retrieval of knowledge, the psychological function garnered by the Ministry of Education is not defined. Despite the success of the transdisciplinary approach in eliminating the individual disciplines (Beane, 1991; Brown, 2002), it is quite clear that this aspect of education will not changing. It is not clear if the existing research demonstrates more examples of interdisciplinary integration over transdisciplinary integration due to mandated
individual subjects, but remains successful by engaging students (Chronaki, 2000), improving real world connections (Sorel, 2005; Arslan & Saka, 2010), and positively impacting student interpersonal skills (Russell & Burton, 2000; Drake & Reid, 2010). Interdisciplinary integration makes the most sense for today’s Ontario curriculum as it respects the individual disciplines while incorporating updated research regarding authentic learning. For these reasons, Susan Drake’s theories champion over Beanes in the Language (2006) document as they are more practical for our time.

Until integrated curriculum becomes a more mainstream framework for teachers across Ontario, we can continue to expect limited demonstrations in the classroom for both interdisciplinary and transdisciplinary approaches. It is possible that the private sector may dominate this realm of education as individual schools can implement methodologies of their choice (ex. Reggio Emilia, Montesorri, Waldorf). The results from this study may present the beginning of a paradigm shift away from a model of multiculturalism and a move towards interdisciplinary integration. Teachers may begin to recognize the gaps within the curriculum documents and take initiative to utilize integrated curriculum methods. Furthermore, the Ontario Ministry of Education may begin to notice a change in enrollment numbers away from the public school system and more towards holistically based private schools. This potential shift in numbers may motivate them to reframe the way their curriculum is presented.

The research findings do deviate away from what the literature described as a, “ground covering fetish” (Engle, 1960, p. 302). Both Drake (Drake & Reid, 2010) and Language (2006) assert that interdisciplinary/cross-curricular learning increases knowledge retention. But as today’s teacher in Ontario is required to teach every curriculum expectation it is possible that quality is being sacrificed for quantity. Wineburg (2001) found that teaching more information
lead to a decrease in knowledge retention. When students are forced to learn a variety of information that fails to become applicable to their contextual frame of reference, it becomes rote and is forgotten once applied to the task (Perkins, 1993; Case, 2008; Osborne, 2004, Dewey as cited in Hare, 1994). While the goal of Drake and the Ministry of Education is to deliver information to students that will be retained, it seems that the vast amount of curriculum expectations that teachers are required to facilitate hinder this objective. Beane seeks to eliminate this saturation of knowledge by blurring the lines between subjects until merely ideas remain (1991). A common criticism of his transdisciplinary approach states that this ruins the individual integrity of the subjects, although Beane believes the subjects fail to have integrity at all if they cannot relate to one another.

Jacobs (as cited in Boss, 2011) echoes the principles at the heart of transdisciplinary integration. She does not believe that learning can be truly authentic unless it is reflective of the world outside of the classroom. Life outside of the classroom is not fragmented into neat subject areas, and yet our education system is.

The research was limited as it only examined the Language (2006) document. It was selected as language can easily be integrated into a variety of disciplines. This was problematic as it demonstrated a limited way of thinking about curriculum integration. It failed to identify how the Ontario Ministry of Education perceives integrated curriculum within the remaining disciplines. This effected the interpretation of the results as a complete perspective could not be reached without examining the remaining documents. In addition, as the researcher comes from a background in holistic education a bias exists when determining which teaching methodology is more beneficial for student engagement – integrated curriculum, or multiculturalism
It is possible that the Ontario Ministry of Education values the benefits of integrated curriculum and is currently seeking how to implement a consistent methodology for teachers in the classroom. From the *Language* (2006) document it is apparent that the value is recognized, but is presented at a surface level. Teachers are not yet informed on how to implement an integrated classroom and must still seek this information out on their own. As the concept of integrated curriculum is slowly making its way into mainstream education, the Ontario Ministry of Education may be choosing to slowly incorporate it into the curriculum documents to make it palatable for the general public.

The implications of this research are important as they reiterate the benefits of integrated curriculum. While James Beane’s theories on transdisciplinary remain idealistic, the interdisciplinary work of Susan Drake aligns with the current research on integrated curriculum, as well as information released in the *Language* (2006) curriculum document. Both advocate for the existence of individual disciplines, but linking similar expectations to facilitate authentic learning and knowledge transference. This research also reveals the hesitation of the Ontario Ministry of Education to mandate integrated curriculum as a suggested teaching methodology. This hesitation may stem from a need to remain focused on larger issues effecting the classroom such as equity and diversity. It may also be due to the fact that integrated learning is not yet widely known to the general public and needs to be handled delicately. This research benefits teachers and the Ontario Ministry of Education alike, as the former may be inspired to utilize these methods in their classroom, and the later be encouraged to update their curriculum documents. As the *Growing Success* (2010) document intentionally omitted an update regarding achievement charts and the application of integrated learning, steps should now be taken to further research in this field. Future research on this topic should examine the remaining Ontario
curriculum documents, as well as the recommended resources presented within them to gain a larger perspective on the Ontario Ministry of Education’s outlook on integrated curriculum.
References


