PREFACE

Each year, graduate students from the region are invited to submit proposals to Queen’s Faculty of Education Graduate Student Symposium. Now named after its founder, Rosa Bruno-Jofré, the symposium is a venue for masters and doctoral students to present their research in a peer-reviewed setting. Volume 6 marks a tradition that has been in place for over a decade: the publication of selected papers from the symposium.

Thank you to the many people who have made this publication possible: the reviewers for their time and insights; Erin Wicklam for her patience and expertise with the formatting; Marlene Sayers for her assistance with distribution, and Associate Dean Rebecca Luce-Kapler for her continued guidance and support. A special thank you to Scott Hughes and Sue Forgues, whose attention to detail and willingness to work within tight timelines have been invaluable in the preparation of this edition.

Congratulations to the authors, whose work has been double-blind reviewed by doctoral students across Canada. Your papers reflect different stages of graduate student development, and highlight the diverse interests and passions that new scholars are bringing to educational research.

Marcea Ingersoll, Editor
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TOWARDS HOLISTIC ENGINEERING EDUCATION:
ENGINEERING CURRICULUM FOR THE 21st CENTURY
Richard James Aleong

ABSTRACT
The advancement of engineering education is important to ensure engineers are prepared to tackle the complex technological challenges facing society. The holistic engineering approach to curriculum design is one paradigm for educators to conceptualize how engineering education can be improved. Holistic engineering serves to bring design skills to the forefront of engineering education by providing engineers with a broad mindset to solve problems. Although it may be clear what educators can do to improve engineering education, how to achieve the desired outcomes may still be a challenge. A critical analysis of the engineering accreditation guidelines and procedures from the Canadian Engineering Accreditation Board (CEAB) raises issues in the planned engineering curriculum. These concerns pertain to subject matter management and overall perceptions of holistic engineering. To show how holistic engineering can be applied to practice, contemporary research of pedagogical strategies focusing on inductive teaching methods are discussed. Additionally, three cases from institutions that have implemented innovative engineering curriculum are used to highlight opportunities for advancement in engineering education.

* The current economy in the 21st century has positioned the field of engineering education at a significant stage of curriculum development (National Academy of Engineering, 2004, 2005, 2007). Engineering educators and practitioners are faced with the challenge of preparing future engineers with the capabilities for innovation and global competition. To understand these challenges and the issues surrounding the current engineering curriculum in Canada, this paper provides insight into the development and practice of a holistic approach to engineering curriculum.
The design of engineering education is an open-ended, ill-defined problem—any solution must be approached with a holistic perspective, considering both engineering curriculum and learning theory. Marsh and Willis (2007) defined curriculum as “an interrelated set of plans and experiences that a student undertakes under the guidance of the school” (p. 15). While it is clear that an effective curriculum plan is central to preparing an effective engineer, it is important to recognize the three aspects of curriculum at work on an engineer’s development: the planned, enacted, and experienced (Marsh & Willis, 2007). Thus, while the curriculum documents serve the planned curriculum, understanding how students learn promotes better implementation of the enacted curriculum. As well, learning theory helps explain what students actually experience in the classroom. Considerations from curriculum studies and learning theory are both necessary to advance the design of engineering education.

In this paper, I will first review the holistic approach to engineering curriculum and apply this paradigm to an exploration of the challenges and opportunities for engineering education. Next, a critical analysis of the current Canadian engineering curriculum is presented. Finally, current research and pedagogical practices to enhance engineering curriculum and student learning are explored.

MOVING TOWARDS A HOLISTIC ENGINEERING EDUCATION

To understand holistic engineering education and its impact on curriculum, the current challenges of engineering in society are discussed, beginning with a brief history of engineering education.

A Brief History

The last paradigm shift in engineering curriculum can be traced back to the post-World War II and Cold War era of the 1950s, where math and science research was seen as the way for a country to achieve technological superiority. This shift is evidenced by the “Report of the Committee on Evaluation of Engineering Education” chaired by L.E. Grinter and published in 1955 by the Journal of Engineering Education (Harris,
DeLoatch, Grogan, Peden, & Whinnery, 1994). The pressure from society at that time highly influenced the curriculum to be scientific-content driven (Dym, 2004; Harris et al., 1994). Bowden (2004) described the traditional curriculum experience in the 1960s, “where there was too much emphasis on quantitative problem solving through rote-learned algorithms in isolated contexts” (p. 39). Unfortunately, there is little evidence that much has changed in the past fifty years to keep pace with the changing demands from society (Tryggvason & Apelian, 2006). As Goldberg (2008) indicated, engineering educators must be wary of “the persistence of a Cold War curriculum in an Internet world” (p. 68). He argued that the emphasis on technical science and math knowledge may have worked before, but now the neglect of significant engineering design may be doing students a disservice (Goldberg, 2008).

The historical context of engineering education offers an understanding of how societal pressures influence engineering curriculum. With a new economy in the 21st century, engineering education is under pressure to meet the demands of today’s society.

**Current Challenges**


**Theme 1: The engineer’s role in the 21st century.**

Societal pressures still place a heavy demand on the engineering curriculum, but the skill set required by today’s engineer is vastly different than that of the Cold War era. In the past, engineering employers relied on new graduates to have current job ready technical training. However, Guthrie (2010) suggests “employers will need to embrace new employees with less
specific technical skills, but who are better prepared to collaborate with others to solve problems” (p. 96). Establishing the new role of engineers in the 21st century will undoubtedly influence engineering curriculum decisions.

**Theme 2: Educating engineers.** In the past, the engineering profession has been viewed as a highly technical field grounded in scientific analysis and mathematics. With the rapid increase in technical knowledge and changing technology, engineering curriculum may be on a dangerous path to further content overload and narrow specialization. As Wnek and Williamson (2010) acknowledged, “a common body of knowledge and competency has the risk of quickly becoming a commodity” (p. 138). These authors argue that engineering lies at the intersection of science and business, to create value for society. As such, although a strong foundation in math and science is required, these skills are not enough to fulfill the engineer’s goal of innovation, defined as “the process that turns an idea into value for the customer and results in sustainable profit for the enterprise” (Wnek & Williamson, 2010, p. 137). If Canadian engineers are to compete globally and be leaders of innovation, a differentiated and value added skill set beyond fundamental technical knowledge is required.

**THE HOLISTIC ENGINEERING APPROACH TO CURRICULUM**

Holistic engineering education calls for “an integrated, whole-system approach” to provide engineers with a balanced and broad education (Wnek & Williamson, 2010, p. 139). It is a design-oriented approach that supports diverse, liberal education, and emphasizes interdisciplinary teamwork, the design process, defining and solving problems, and lifelong learning. The holistic approach emphasizes the role of engineers as the enablers of innovation, capable of creating innovative products, services, and systems for the betterment of society (Natural Sciences and Engineering Research Council of Canada, 2012). While this idea is not new, the holistic approach serves to bring the essence of engineering as design to the forefront of engineering education.
Engineers in the 21st century must be design-oriented critical thinkers with a commitment to lifelong learning. Holistic engineering education strives to equip students with the unique skill set to define and solve problems across disciplines, spanning “technology, law, public policy, sustainability, the arts, government, and industry” (Grasso & Burkins, 2010, p. 1). As Grasso and Helble (2010) rightly pointed out, “the broader one’s education and the more ways of thinking to which one is exposed, the more creative, holistic, and expansive is the solution space” (p. 87). Though it may appear that the holistic approach extends the subject matter to include topics not typically covered in the traditional engineering program, the intention is not to add more content to the already overloaded curriculum. Instead, the holistic approach redefines the role of engineers and education with its paradigm shift towards a learner-centered, design-oriented view (Harris & Cullen, 2009; Schaefer, Panchal, Choi, & Mistree, 2008; Wise, 2010). In so doing, the emphasis on technical content is shifted to adopt broader learning objectives that meet the needs of curriculum subject matter, society, and the individual student.

Holistic engineering education is really calling for a liberal education grounded in design engineering. A liberal education serves to educate students who are “ready to pursue a complex career path and a rich post-graduate life with skills in critical thinking, analysis, and an appreciation for the complexity of the society in which [they] live” (Koshland, 2010, p. 54). Ultimately, holistic engineers will have the skills and ability to tackle complex problems in any situation by effectively working through all aspects of the design process.

THE CANADIAN ENGINEERING CURRICULUM

To understand the current state and future pathways of engineering education in Canada, it is helpful to look at the process of becoming a Professional Engineer. In Canada, successfully completing an accredited undergraduate engineering program qualifies students as having met the academic requirements for licensure as a Professional Engineer. Although students must still meet the professional experience requirement and pass the licensing exam, engineering is a unique
undergraduate program because it is one of the few professional degrees where the academic requirements can be completed in undergraduate studies. Because of this professional status, the engineering program must be accredited to ensure its quality and consistency across all engineering schools in Canada. The Canadian Engineering Accreditation Board (CEAB) is the standing committee of Engineers Canada that accredits Canadian engineering programs according to the CEAB Accreditation Criteria and Procedures (Engineers Canada, 2011). In this document, the CEAB establishes the minimum academic program requirements; however, it is not a prescriptive document for curriculum planning and implementation. The CEAB criteria intend to “provide sufficient freedom to accommodate innovation in education...and to permit the expression of institution’s individual qualities, ideals, and educational objectives” (Engineers Canada, 2011). Each engineering school is free to enact their own curriculum to fulfill the established accreditation requirements. With this freedom, it is important for institutions to develop their own curriculum documents for planning, implementation, and as supporting evidence for accreditation.

The most important components of engineering accreditation related to the academic curriculum are the accreditation units and graduate attributes. A review of these two components and their impact on holistic education is discussed in the following sections.

Accreditation units
The CEAB has defined broad categories for the technical content that must be covered in the engineering curriculum. Accreditation Units (AUs) are used to track the number of hours of instruction students receive in course content. One AU is equivalent to 1 hour of class instruction or a fifty-minute lecture and one hour of lab time or tutorial is equivalent to 0.5 AU (Engineers Canada, 2011). For the 2011 curriculum, a minimum of 1,950 AUs was required spanning the subjects of mathematics, natural sciences, engineering science, engineering design, and complementary studies (Engineers Canada, 2011).

In 2008, the minimum requirement for accreditation units was increased by 150 AUs resulting in the current criteria of
1,950 AUs. While a transition and development period has been allowed, the first assessment of the current criteria will occur in June 2015 (Engineers Canada, 2011). This increase of AU requirements raises concerns over how engineering schools will manage to fit additional course requirements into the curriculum (see also Li & Zielinski, 2010). There are many different ways individual institutions can integrate additional AUs, but there is uncertainty as to the directions institutions will take in response to the new requirements. While there is an opportunity for engineering schools to be innovative with the design of their curriculum, the curriculum could become overloaded with courses and overwhelm students. Further development and investigation of curriculum documents at the institutional level will show how individual institutions manage the additional 150 AU requirements. Most importantly, this issue highlights the challenge of designing curriculum at the institutional level to meet the CEAB’s criteria while supporting the development of holistic engineers.

The CEAB also requires instruction of a number of other topics relevant to an engineer’s education, including engineering economics, health and safety, and ethics. However, AUs are not explicitly assigned to these ‘other’ topics, leaving the degree of instruction and flexibility of curriculum design up to individual institutions. This is of interest for curriculum developers and prospective students, as it would be invaluable for both parties to see how the planned curriculum differs between engineering schools. For example, even though two schools may meet the CEAB requirements, one school may place a higher emphasis on a certain topic, whereas another school may be more flexible. Recognizing the unique qualities of each school’s planned curriculum will support the development of holistic engineering curriculum and help prospective students make informed decisions about engineering schools.

**Graduate attributes**

In 2008, the CEAB introduced the requirement for engineering schools to demonstrate that their graduates possess the twelve graduate attributes listed in Table 1. As Bowden (2004) pointed out, these attributes shift the curriculum to be “capabilities-driven”—to consider learning outcomes and to
answer the question “what should the learner be capable of doing at the end?” (p. 36).

Table 1

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Engineering knowledge base</th>
<th>Communication skills</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Problem analysis</td>
<td>Professionalism</td>
</tr>
<tr>
<td></td>
<td>Investigation</td>
<td>Engineering impact on society and the environment</td>
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<tr>
<td></td>
<td>Design</td>
<td>Ethics and equity</td>
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<td></td>
<td>Use of engineering tools</td>
<td>Economics and project management</td>
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<td></td>
<td>Individual and team work</td>
<td>Lifelong learning</td>
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The graduate attributes show that the CEAB may be moving towards a holistic approach to engineering education by recognizing the importance of skill development beyond technical content. However, one major concern with the list is that the fourth attribute—design—is actually an over-arching attribute (Strong & Fostaty Young, 2010). That is, all of the other attributes are required to perform effective engineering design. Engineering design is defined by CEAB as:

[the integration] of mathematics, natural sciences, engineering sciences, and complementary studies in order to develop elements, systems, and processes to meet specific needs. It is a creative, iterative, and open-ended process, subject to constraints which may be governed by standards or legislation to varying degrees depending upon the discipline. These constraints may also relate to economic, health, safety, environmental, societal or other interdisciplinary factors. (Engineers Canada, 2010, p. 18)

If design is seen as another attribute, rather than an over-arching characteristic, there may be confusion as to what it means to be a holistic engineer. While the interpretation and subsequent implementation of the graduate attributes remains the
responsibility of individual institutions, further research and development into the quality and extent of the attributes in students is necessary. The Engineering Graduate Attribute Development (EGAD) Project is one collaborative initiative that involves several Canadian institutions in the development of resources to assess the graduate attributes (Engineering Graduate Attribute Development Project, 2011). The EGAD Project highlights the need to support the integration of curriculum policy from the CEAB with the enacted curriculum of individual engineering schools.

From an accreditation perspective, the CEAB has increased the AU requirements and introduced the twelve graduate attributes, but the responsibility for implementing these changes lies with individual institutions. These changes present a significant opportunity for the development of holistic engineers. For the transformative process to be effective, it is important that curriculum documents and policy work together across all levels of administration including the CEAB, engineering institutions, and in the classroom.

CURRICULUM AND LEARNING THEORY

The challenge of curriculum design to improve engineering education is not one that will be solved in isolation. Much like the holistic approach to education itself, effective curriculum reform must be viewed from a holistic perspective, considering both curriculum theory and learning theory. Understanding how students learn will significantly influence curriculum development as it is related to students’ actual learning experiences.

Inductive teaching is a category of learning and curriculum theory that is highly applicable to learner-centered engineering education. It is an approach where “instead of beginning with general principles and eventually getting to applications, the instruction begins with specifics—a set of observations or experimental data to interpret, a case study to analyze, or a complex real-world problem to solve” (Prince & Felder, 2006, p.123). This approach is supported by constructivist learning theory, where students discover knowledge for themselves and build on their previous knowledge and experiences.
Furthermore, inductive teaching can be linked to the autobiographical curriculum theory practiced by curriculum theorist William Pinar (Marsh & Willis, 2007). Marsh and Willis (2007) described Pinar’s notion of currere: “the course of one’s experience, made meaningful by remembering and reflecting on one’s past and projecting one’s hopes for the future” (p. 140). In engineering, reflective practice is critical to design thinking and developing the skills for lifelong learning.

Several other pedagogical practices fall under the category of inductive teaching. These include problem/project-based learning (PBL), experiential learning, and discovery/inquiry-based learning. PBL is the primary method in engineering to utilize inductive teaching. This approach is appropriate for design education as it resembles real-world engineering practice. PBL presents open-ended problems first, and then requires students to assess and build their own knowledge. Experiential learning is another method with great potential for enhanced transformative learning through student reflection. Students have the opportunity to engage in design teams and professional internships as a form of experiential learning outside of the classroom. To embrace a holistic engineering education, it is critical that engineering educators and curriculum developers understand the impact student learning has on engineering curriculum.

DESIGN ENGINEERING IN THE CURRICULUM

Design education holds the same values and goals as the holistic engineering education approach: to teach the diverse skills to innovate and lead in a new 21st century economy. The following sections will look at the curriculum innovations of three engineering schools that incorporate holistic education. These cases show the possibilities of holistic engineering instruction and describe the practices that balance the curriculum elements of subject matter, society, and the individual.

Franklin W. Olin College of Engineering. With its first graduating class in 2006, Olin College of Engineering in Needham, Massachusetts, has built a completely new engineering curriculum that epitomizes the holistic approach to education. Although the entire school only offers three
accredited engineering programs, Olin’s educational philosophy is based on a triangle model with the three sides representing engineering, liberal arts, and entrepreneurship (Olin College, 2010). Based on Olin’s brief history, foundation, and student testimony, it is clear Olin has a deep commitment to its enacted and experienced curriculum (Mulrine, 2007).

University of Michigan. The mechanical engineering department at the University of Michigan restructured their curriculum in 2001, to place formal emphasis on hands-on experience, teamwork, technical communication, and creativity (Tryggvason, Thouless, Dutta, Ceccio, & Tilbury, 2001). As well as adding integrated courses in design, manufacturing, and laboratory experience, the new curriculum also redesigned engineering science courses to consolidate and integrate course content. By considering both planned and experienced curriculum, the University of Michigan’s program aims to meet the needs of society and individual students.

Queen’s University. Since 2005, The Faculty of Engineering and Applied Science at Queen’s University in Kingston, Ontario, has offered their Multidisciplinary Design Stream (MDS) (Strong, 2012). The MDS is a series of elective design courses available for students after the completion of their first two years of engineering. The first MDS course titled Fundamentals of Design Engineering has the objective “to provide the student with a sound background in engineering design methodology and ‘tools’, as well as related professional and project management skills, in a manner that simulates engineering practice wherever possible” (Strong, 2012). In students’ final year of the MDS, they may elect to enroll in a two-term multidisciplinary project working with industry clients. The Faculty of Engineering and Applied Science at Queen’s University implemented a “new faculty-wide design and professional practice sequence across all four years of every undergraduate engineering program” that was offered to first year students beginning in September 2010 (Strong, 2012).

The curriculum in each of these programs emphasizes inductive teaching methods, interdisciplinary studies, creativity, innovation, and holistic lifelong learning. These three cases were chosen to represent how institutional leaders faced different
scenarios around engineering curriculum reform. Olin College adopted a bottom-up approach and was successful in their program development by opening a completely new school, privately funded by a $400 million donation from the Olin Foundation (Olin College, 2010). The University of Michigan restructured and integrated their existing frameworks into new curriculum designs for their Mechanical Engineering Department. Queen’s University developed a multidisciplinary design sequence to engage engineering students in design education across all engineering disciplines. These institutions incorporated the specific values and outcomes of a holistic engineering education in their program planning and implementation.

CONCLUSION

A holistic engineering curriculum must balance the subject matter required for the engineering profession, the demands of a changing global society, and the needs of individual students. To meet these requirements, engineering education development begins with redefining the role of engineers for the 21st century and educating engineers to meet this role.

The holistic approach to engineering education serves to bring the essence of engineering design to the forefront of the curriculum. With the identification of the twelve graduate attributes, the CEAB may be shifting toward outcomes-based assessment while recognizing the importance of holistic skill development. However, it remains the responsibility of Canadian engineering institutions to manage and implement new accreditation requirements to support holistic engineering.

From a learning perspective, the influence of learning theory on curriculum development will serve to understand how students are experiencing their learning. Inductive teaching methods promote design education by reinforcing the unique and broad skill set required of the holistic engineer to solve open-ended problems. In Canada, developing holistic engineering education will require engagement and commitment from the CEAB, Engineers Canada, professional associations, university administration, engineering educators, engineering professionals, industry, and students. All of these stakeholders will play a
critical role in the future development of holistic engineering education.

REFERENCES


BEGINNING TEACHERS’ DEVELOPING TEACHER IDENTITIES IN AN ACCOUNTABILITY CONTEXT
Allison Chapman

ABSTRACT
Demands for educational accountability frequently impact teachers. The emphasis of large-scale assessments on student achievement potentially encourages ineffective teaching practices. The current accountability system in the United States has the potential to negatively impact teacher identities, particularly the identities of beginning teachers. Through an examination of the challenges faced by beginning teachers, including the increased pressure from large-scale assessments, this paper considers how specific accountability initiatives such as Race to the Top affect teacher identity development. The author argues that future empirical studies in the United States and other teaching contexts are needed to further explore the influence of accountability systems on teacher identities of beginning teachers. Research on ways for all teachers to effectively incorporate accountability systems into their classrooms is recommended.

Large-scale assessments (LSAs) serve a variety of purposes, including equity, standardization, accountability, gatekeeping, diagnostic, and monitoring achievement (e.g., Klinger, DeLuca, & Miller, 2008). The No Child Left Behind (NCLB) Act of 2001 increased the accountability initiatives in the United States aimed at enhancing student achievement. These initiatives included an accountability system containing LSA procedures, standards, and methods for measuring and reporting results to secure stakeholders’ confidence in the education system. Such accountability systems operate under the assumption that these procedures and methods help to raise educational standards and improve student achievement (e.g., Cizek, 2001; Klinger et al., 2008). Yet it is unclear if the resulting practices are beneficial or detrimental to students’ learning (e.g., Holme, Richards, Jimerson, & Cohen, 2010; Lane & Stone, 2002).
LSAs are typically administered by an external organization, a state, or a district’s Department of Education. The common aim of LSAs is to ensure that an educational system is equipping its students with the skills required to be successful in the workplace or in postsecondary education. LSAs used for accountability purposes impact several stakeholders, particularly teachers, students, and states. The various LSAs utilized across the United States use different classification labels, such as below basic, basic, proficient, advanced or Level 1, Level 2, Level 3, Level 4 (Burt & Stapleton, 2010). The authority given to LSAs has contributed to teachers feeling immense pressure (e.g., Herman & Golan, 1993; Valli & Buese, 2007) as LSAs have important rewards and consequences associated with them. For example, student test scores on LSAs increasingly define teacher effectiveness, as “policy makers have created the illusion that test performance is synonymous with the quality of education” (Madaus, 1985, p. 617). Further, failing classifications have been related to negative psychological effects on students (e.g., Holme et al., 2010). NCLB placed pressure on states to ensure that all students be classified as proficient by 2014 whilst allowing each state to determine their own measurable objectives of proficiency (U.S. Department of Education, 2002). Failure to meet the requirements of NCLB could result in fewer federal funds received by states (U.S. Department of Education, 2002). The consequences of having students being labeled as not proficient or not at Level 3 encouraged some states to employ minimum competency tests (U.S. Department of Education, National Center for Education Statistics, 2005). These requirements brought large-scale testing programs to the forefront of education in the United States; LSAs are administered to students in Grades 3 through to Grade 12 in the subjects of mathematics, reading, and science (U.S. Department of Education, 2002).

Research has examined the impact of these large-scale testing programs on curricula and instruction (e.g., Au, 2009; Holme et al., 2010; Koretz & Hamilton, 2006; Valli & Buese, 2007; Vogler, 2003). Au (2009) conducted a qualitative metasynthesis of the impact of high-stakes tests on curricula. He found that 75% of the studies reported changes involving
curricula restriction, and fragmented and teacher-centered instruction in the classroom. Yet, NCLB may have also positively influenced education; curricula expansions have occurred in several social science classrooms from the inclusion of literacy skills into the curriculum (Vogler, 2003; see also Cizek, 2001 for positive consequences of LSAs).

It has been documented that beginning teachers often receive the most challenging teaching assignments at the most challenging schools because those are the teaching positions that are least desired by veteran teachers (e.g., Andrews, Gilbert, & Martin, 2006; Barton & Coley, 2009; Carroll & Foster, 2010). Beginning teachers’ classes are often comprised of a high percentage of students with behavioral issues, learning disabilities, limited English exposure, low academic achievement, low socioeconomic status, or minority backgrounds. Compare this to other professional occupations, such as doctors and engineers, who do not begin their careers working on the most challenging tasks. For example, a surgeon does not start his or her practice by operating on a patient with a brain tumour. So why in education, do we so often do this? Where a teacher starts a career is important because teacher identities of beginning teachers are malleable (Beauchamp & Thomas, 2009; Flores & Day, 2006).

For the purpose of this paper, beginning teachers are defined as teachers new to the profession with less than five years’ experience. The condition of less than five years’ experience is important because these teachers have an attrition rate of over 30 percent (Carroll & Foster, 2010), and student achievement increases with teacher experience at a specific grade level (Huang & Moon, 2009). Furthermore, beginning teachers are more easily influenced by contextual factors than experienced teachers because their teaching identities are developing (Beauchamp & Thomas, 2009; Flores & Day, 2006). This paper will begin to connect the literature on LSAs and teacher identities of beginning teachers in an educational system surrounded by accountability.

Thousands of beginning teachers enter schools and start their careers teaching children every year. The purpose of this paper is to understand how beginning teachers adapt to and incorporate
the accountability system into their teaching practices since their practices have a significant impact on the educational experiences of their students. Accordingly, this paper is organized into three main sections. The first outlines the tensions introduced by large-scale testing programs and their effects on teachers. The second examines beginning teachers’ developing teacher identities and how contextual factors shape identity. The third describes the current accountability challenge confronting United States teachers—Race to the Top (U.S. Department of Education, 2009). The paper concludes with suggestions for future research.

INFLUENCE OF LARGE-SCALE TESTING PROGRAMS ON TEACHERS

In Holding schools accountable: Performance-based reform in education, Ladd (1996) asserts that “incentive programs are undesirable because they will encourage people to focus all their attention on the measurable and rewarded goal to the exclusion of other goals” (p. 12). The increasing authority given to LSAs can dictate to teachers “what is taught and how it is taught and what is learned and how it is learned” (Madaus, 1985, p. 616). The increased importance placed on LSAs has contributed to the use of ineffective teaching practices such as the narrowing of curricula, and fragmented and teacher-centered instruction, in addition to external pressures felt by teachers (e.g., Au, 2009; Herman & Golan, 1993; Holme et al., 2010; Koretz & Hamilton, 2006; Valli & Buese, 2007).

Narrowing of Curricula

Narrowing of curricula involves the exclusion of or reduced focus on certain curriculum topics or courses, as dictated by topics on LSAs (e.g., Au, 2009; Herman & Golan, 1993; Holme et al., 2010; Koretz & Hamilton, 2006; Lomax, West, Harmon, Viator, & Madaus, 1995). For example, teachers may spend an extensive amount of instructional time on concepts likely to be tested, and a reduced amount of time on concepts that most likely will not be tested. This can lead to students’ reduced exposure to resources that demand high-levels of critical thinking (Harris & Herrington, 2006; Lomax et al., 1995; Valli & Buese, 2007). Further, narrowing of curricula was found to be
the strongest in secondary education (Au, 2009); this is likely because assessments at the secondary level tend to have increased consequences surrounding their results compared to at the primary level.

**Fragmented and Teacher-Centered Instruction**

Fragmented instruction occurs when teachers reorganize the curriculum and concepts become disconnected from other concepts (Au, 2009). For example, fragmented instruction can occur if teachers feel time constraints in completing the tested material in advance of their students’ LSA (e.g., Agee, 2004; Valli & Buese, 2007). Similarly, LSAs can also result in teacher-centered instruction, including greater emphasis on lecturing and the transfer of knowledge from teacher to student (e.g., Au, 2009; Holme et al., 2010). Teacher-centered instruction becomes a problem when this is the predominant form of student learning in the classroom. For example, teacher-centered instruction may include instructional practices such as repetitive tasks and completing previous-year tests (e.g., Herman & Golan, 1993; Lomax et al., 1995; Madaus, 1985) that require lower-order skills. External pressures encourage the above-mentioned practices in classrooms, schools, and districts (Lomax et al., 1995).

**External Pressures Felt by Teachers**

Before NCLB, many teachers felt pressure from their schools or districts for their students to achieve high-test scores (Lomax et al., 1995). The intensity of this pressure depended on test score use (e.g., student promotion, teacher evaluation), the value schools or districts placed on the scores, and students’ proximity to passing (Lomax et al., 1995). Since NCLB, accountability in education has risen, mainly through the increase of LSAs (e.g., Linn, Baker, Betebenner, 2001; U.S. Department of Education, 2002). This rise in accountability has increased external pressures felt by teachers (Valli & Buese, 2007), which negatively influences teacher practices (Lomax et al., 1995). Lomax and colleagues (1995) noted that teachers tended to use more test preparation practices when pressure from the schools or districts were high. Increased pressures encourage low-level instruction, even though superior instruction methods are known (e.g., Herman & Golan, 1993; Valli & Buese, 2007).
These practices ignore students’ academic needs and the effective pedagogies teachers have been taught. The assumption made by policy makers is that increased external pressure from possible test outcomes motivates teachers (and students) to perform at a higher level, raising both teaching and learning standards. However, this assumption only holds if teachers are able to incorporate effective teaching practices as opposed to acquiescing to ineffective teaching practices (e.g., overuse of rote memorization questions). In the current accountability system, teachers need to negotiate the tensions between the demands placed on them and their beliefs.

BEGINNING TEACHERS’ DEVELOPING TEACHER IDENTITIES

Given that experienced teachers struggle with accountability pressures (e.g., Au, 2009; Herman & Golan, 1993; Koretz & Hamilton, 2006; Lomax et al., 1995; Valli & Buese, 2007) beginning teachers are even more susceptible. Beginning teachers enter the profession with an array of expertise in instruction, content, and pedagogy; however, numerous studies on these “teachers highlight the sudden and sometimes dramatic experience of the transition from student to teacher” (Flores & Day, 2006, p. 219). For example, beginning teachers may experience increased responsibility and workload, unanticipated teaching contexts, reduced support, and discrepancies between their pedagogical beliefs and school culture (Flores & Day, 2006). Beginning teachers are more easily influenced than experienced teachers by these challenges because their teaching identities are developing (Beauchamp & Thomas, 2009; Flores & Day, 2006). Flores and Day (2006) remarked that the greatest change in teacher identities occurs in the first few years of teaching.

Teacher Identities

Teacher identity is the “ongoing and dynamic process which entails the making sense and (re)interpretation of one’s own values and experiences” (Flores & Day, 2006, p. 220). Teacher identity is shaped and reshaped throughout teachers’ experiences within themselves and with others (Flores & Day, 2006; Shotter, 1989). Specifically, Sugrue (1997) found pre-service teachers’
school culture, among other influences (immediate and extended family, significant others, teaching observations, abnormal teaching situations, cultural teaching traditions, and tacit understandings) shaped their teacher identities. Teacher education programs and teaching classroom contexts have also been found to be integral parts of shaping teacher identities (e.g., Flores & Day, 2006; Samuel & Stephens, 2000).

Role of Contextual Factors in Shaping Teacher Identities

Teachers’ personal experiences (both positive and negative) and beliefs, teacher education programs, and school culture and leadership influence teacher identities (Flores & Day, 2006). Through a longitudinal study of beginning teachers and their students, Flores and Day (2006) illustrated the malleability of beginning teachers and how they can be susceptible to shifting their teaching practices, even if it goes against their prior teaching experiences, beliefs, and training. Furthermore, other researchers (e.g., Cavanagh & Prescott, 2010; Darling-Hammond; 2006) have found that beginning teachers often enter ‘survival’ mode where teachers revert to the teaching practices they experienced as students. Teachers’ beliefs determine how they conduct themselves in their classrooms (Taylor, 2003), and their beliefs may conflict with the practices they encounter in schools. Flores and Day (2006) noted “the tension [emphasis added] between (ideal) beliefs about good teaching and (real) practices” (p. 227), and indicated that the teaching methods beginning teachers used were in opposition to their initial beliefs. However, several beginning teachers felt that their teaching improved over time by becoming more flexible and responsive to their students’ needs. Many of the beginning teachers in the study emphasized “the inadequate preparation provided to them [by their teacher education program] in order to deal with the complex and demanding nature of their daily job in schools and in classrooms” (Flores & Day, 2006, p. 224), and the gap between theories learned at university and in their classroom teaching experience. The beginning teachers experienced a “mismatch between beliefs and practice” (Flores & Day, 2006, p. 225). Interestingly, some of these teachers mentioned temporarily adopting teaching practices similar to their supervisors to achieve a good teaching assessment. Lastly, the
majority of the beginning teachers tended to follow the school norm because this was easier than following their conflicting beliefs.

Research with beginning teachers illustrates the tensions between teacher identities and school culture. In a case study of a beginning African American teacher in the United States, Agee (2004) demonstrated the tension between her multicultural, constructivist teaching perspective and the traditional curriculum. As the traditional curriculum included both school imposed grade-level tests and state imposed promotion LSAs, the teacher was restricted in the content and activities she was able to implement. The beginning teacher had to negotiate between how she imagined herself as a teacher, the narrow traditional literacy curriculum, the lack of time to include multicultural literacy, and the desire for her students to do well on the LSAs. Unless beginning teachers are extremely confident in their teacher identities, these internal negotiations may result in teachers being unfaithful to their beliefs, because school culture “can be very persuasive, very demanding, and, in most cases, very restrictive” (Reynolds, 1996 as cited in Beijaard, Meijer, & Verloop, 2004, p. 113).

Accountability systems contribute to a school’s culture. Contextual factors, such as a teachers’ school culture, shape teacher identities of beginning teachers. In addition, teacher identities of beginning teachers are more susceptible to being impacted by the pressures from large-scale testing programs because their teacher identities are being developed and are evolving.

AN EXAMPLE OF THE CHALLENGES FACING BEGINNING TEACHERS: RACE TO THE TOP

This last section provides an operational example of the challenges facing beginning teachers who are working under the American accountability initiative Race to the Top (RTTT) and the impact of accountability on the development of teacher identities. RTTT is an educational initiative that was announced in July 2009 by the Obama administration as part of a large federal grant program (U.S. Department of Education, 2009). RTTT was introduced almost a decade after NCLB, but in some
ways RTTT can be considered an extension of the initial NCLB Act. It demonstrates that both the Democratic and Republican Parties believe there is need for educational reform in the United States, and was introduced as a method to motivate states to improve their educational systems. “The Race to the Top state competition is designed to reward states that are leading the way in comprehensive, coherent, statewide education reform” (U.S. Department of Education, 2010b, para. 6). The initiative focuses on four main objectives: improving standards and assessments; developing data systems to measure student growth and achievement; obtaining, retaining, rewarding, and training effective teachers and principals; and utilizing systematic efforts to improve the lowest-achieving schools (U.S. Department of Education, 2009). States submit proposals detailing their prior accomplishments (U.S. Department of Education, 2010a) and an educational reform plan (U.S. Department of Education, 2009) in an effort to demonstrate how they intend on meeting the objectives. States with reform plans deemed sufficient are then eligible to receive federal financial support. Currently, 18 states and the District of Columbia have received RTTT funding (U.S. Department of Education, 2012a). Each of these states have state and district-wide agreed upon reform plans, commitment and support from important stakeholders, leaders to accomplish the reform, and now, most importantly, the financial capability (U.S. Department of Education, 2010b). However, RTTT has been criticized by some politicians for being costly and for setting goals that are inconsistent with empirical evidence (Ravitch, 2010; The State of Texas, 2010). RTTT is particularly important to examine with respect to beginning teachers because its four stated objectives emphasize student achievement. In order to illustrate the increased impact of RTTT on teacher identities of beginning teachers compared to experienced teachers, only the objectives relating to teachers will be examined, specifically the third objective, focus on effective teachers, and the fourth objective, focus on low-achieving schools. 

**Race to the Top’s Third Objective: Retraining and Rewarding Effective Teachers**

Part of RTTT’s third objective focuses on retaining and rewarding effective teachers through the use of teacher
evaluations. Data on student achievement must be linked to teachers for use in their evaluations (U.S. Department of Education, 2009). Value-added models, which presently have numerous measurement issues and challenges (e.g., student mobility, teacher as the dominant contributor to a classroom), are being used by states to evaluate teachers (e.g., New York Department of Education, 2010; Ballou, 2012). These models are largely made up of their students’ test scores (e.g., Ballou, 2012), and therefore teacher effectiveness is judged mainly on how well their students perform on the LSAs. Thus, it is difficult to encourage teachers to utilize effective teaching practices when a considerable amount of their evaluation is based on these LSAs. Teacher evaluations are of high importance, particularly when they are used to either reward a teacher, through a salary increase, or to dismiss them. Thus, teachers’ careers are based on how well students perform on LSAs. Moreover, as noted above, LSAs commonly narrow curricula, encourage fragmented instruction and ineffective pedagogy, and increase pressure felt by teachers (e.g., Au, 2009; Herman & Golan, 1993; Holme et al., 2010; Koretz & Hamilton, 2006; Lomax et al., 1995; Valli & Buese, 2007). It is likely that this increased pressure impacts beginning teachers more than experienced teachers because teacher identities of beginning teachers are malleable, and in the process of being developed and shaped (Beauchamp & Thomas, 2009; Flores & Day, 2006). Moreover, the focus on student achievement in teachers’ evaluations may encourage more ineffective teaching practices with beginning teachers.

Race to the Top’s Fourth Objective: Improving the Lowest-Achieving Schools

The fourth objective involves turning around the lowest-achieving schools. States wanting to win RTTT funding will put pressure on their low-achieving schools to increase student achievement on LSAs. This is significant for beginner teachers because, as previously mentioned, low-achieving schools are often filled with beginning teachers (e.g., Andrews, Gilbert, & Martin, 2006; Barton & Coley, 2009; Carroll & Foster, 2010). These beginning teachers may feel pressure from administration for their students to perform better on the LSAs. This will challenge beginning teachers’ professional teaching knowledge
and beliefs, which informs their teacher identities. As a result of pressure from administration and in order to obtain better LSA results, beginning teachers may decide to replace their teaching practices that consider the needs of their students with teaching practices that are in direct response to the LSAs in the accountability system. This is because beginning teachers tend to be easily persuaded by their teaching environment (Beauchamp & Thomas, 2009; Flores & Day, 2006). Moreover, low-achieving schools likely to do not have the capacity to drastically increase student achievement without the increase in financial support from winning the RTTT initiative. Accountability initiatives need to focus on ensuring schools with the highest educational needs have the teachers and educational resources to support students.

Accountability initiatives seldom take into account the varying levels of socioeconomic status across states, districts, and schools (Agee, 2004). The RTTT scoring rubric awards more points for a state’s prior accomplishments (e.g., increases in student achievement and graduation rates, decreases in achievement gaps) compared to their educational reform plan (U.S. Department of Education, 2010a). States with the greatest number of prior accomplishments and an educational reform plan that exhibits commitment and support from stakeholders comprise the winning states of the RTTT program. However the states with the fewest number of effective teachers, high-achieving schools, and prior accomplishments arguably need the financial support offered by the RTTT program the most in order to improve their educational system. Funds could be distributed among these states according to financial need. In summary, RTTT positively contributes in the attainment of several states’ educational reform plans; however, this initiative is detrimental in that it uses student achievement results in teacher evaluations, encourages ineffective teaching practices in low-achieving schools, and places emphasis on a state’s prior accomplishments in order to determine the winning states.

CONCLUSIONS
Teachers often begin their professional careers in difficult and challenging contexts, such as low socioeconomic and low-
achieving schools. Beginning teachers are in the process of establishing their teaching identities, and can be conflicted between quickly meeting external accountability demands and following their personal teaching beliefs. While an accountability system can benefit education through standardization of policies and curricula, access to these benefits is unequal, and teachers are under increased pressure as a consequence of these accountability demands and may resort to the use of ineffective teaching practices. RTTT is an example of an accountability initiative that encourages ineffective teaching practices with beginning teachers. Beginning teachers are more influenced by the accountability focus of LSAs than experienced teachers because of their developing teacher identities.

“Those who implement [accountability] policies must recognize differences in schools’ and teachers’ capacities to meet the needs of students” (Roderick & Engel, 2001, p. 221). Programs that are intended to improve the educational system need to incorporate equity for low-achieving schools by providing increased financial support for all schools regardless of their prior academic achievements. Arguably, there is a need to closely examine the methods of accountability that are used to shape the educational landscape. Research suggests that ‘teaching to the test’ would not be detrimental if tests were of high-quality (e.g., Lomax et al., 1995; Ross, 2008). It is unlikely that the current accountability system will disappear due to the demand for educational transparency; therefore, a possible solution is to invest in the development of high-quality interactive tests. This way, LSAs would more accurately reflect effective teaching pedagogies and demand higher quality teaching practices.

More empirical studies on the impact of assessment driven curriculum on teachers are needed (Au, 2009). Further, there is a need for more research on the examination of this impact specifically on beginning teachers. Empirical studies focusing on the experience of beginning teachers will help teacher education programs learn how to best support them in their careers. This research needs to be conducted within different educational contexts, not only within the United States, but within other countries using LSAs for accountability purposes. For example,
provinces within Canada are currently increasing their educational accountability. Such an increase in accountability emphasis within the Canadian context raises important questions, such as whether the implementation of the Ontario Secondary School Literacy Test has influenced beginning teachers in their teaching practice. Further, do these Ontario teachers feel similar tensions between their teacher identity and the external accountability pressures?

Teacher education programs need to provide beginning teachers with strategies to overcome the tensions between external accountability pressures and personal teaching beliefs. One way to accomplish this is to help beginning teachers effectively incorporate LSAs into their teaching practice (Agee, 2004). Some research has shown that teacher education programs need to include teaching practicums in lower-achieving classrooms (Hampton, Peng, & Ann, 2008; Henderson-Sparks, Paredes, & Gonzalez, 2002). Hong (2010) emphasizes that it is important to bridge the gap between theory and practice because this large difference can cause pre-service and beginning teachers to feel lost and use practices that do not align with their beliefs. Training beginning teachers with methods on how to cope with tensions between meeting the requirements of an accountability system and their teaching beliefs will help beginning teachers to engage in effective teaching practices while developing their teacher identity.

With the recent introduction of the Common Core State Standards, large-scale testing programs within the United States are changing. Two consortia of states, Smarter Balanced Assessment Consortium (Smarter Balanced) and Partnership for Assessment of Readiness for College and Careers (PARCC), are in the midst of developing LSAs that align with the Common Core State Standards (U.S. Department of Education, 2012b). These two consortia will aid in the standardizing of education across the United States, as the states that have signed on with either Smarter Balanced or PARCC will utilize the same assessment system. For these LSAs to be appropriate for all students within a consortium of states, differentiated assessments, particularly at the high school level are needed for the possible paths students may take (i.e., college, workplace,
vocational) (Brown, 2012). The differentiated LSAs across academic levels will potentially improve test preparation practices, as the assessments will be more directed at a student’s cognitive ability and postsecondary path. However, the potential of these tests will only be realized if future research explores how to best support beginning teachers’ developing teacher identities in relation to accountability pressures.

REFERENCES


ABSTRACT
Test preparation has become a prevalent phenomenon in education with the increasing use of large-scale assessments (Nichols & Berliner, 2007). As test preparation sometimes has negative connotations (e.g., teaching what is tested), it is perceived as a threat to the validity of test scores. The purpose of this article is to understand test preparation from a validity perspective. This article synthesizes principles, practices and perceptions of test preparation for large-scale assessments that have been examined in empirical and theoretical studies. These syntheses are then examined from a validity perspective. The understanding of test preparation through a validity lens will help to administrate, design, implement and evaluate test preparation practices in educational contexts.

INTRODUCTION
Test preparation has been studied within the framework of validity of test scores for several decades (e.g., Cole, 1982; Haladyna & Downing, 2004; Montgomery & Lilly, 2012; Shepard, 1990). Because teachers may adjust their instruction to reflect content that is tested, test preparation sometimes is associated with measurement-driven instruction or teaching to the test (see Madaus, 1988; Popham, 2001). Some test preparation activities may increase students’ scores rather than the knowledge measured by tests; thus students’ scores cannot be valid indicators to make accurate inferences on test takers’ knowledge levels (see Shepard, 1990). The increasing use of large-scale assessments has stimulated a variety of test preparation practices inside and outside of schools (Nichols & Berliner, 2007). Thus, it is necessary to explore the different aspects of test preparation and to understand whether, and in what ways, test preparation practices can be a concern for test validity. This paper is organized around the following questions:

1) What is test preparation? Why does test preparation exist?
2) What is the relationship between test preparation and validity?
3) What are the principles, practices, effects and perceptions of test preparation?

The purpose of this literature review is to discuss these issues and to understand test preparation from a validity perspective, specifically in the context of large-scale assessment.

WHAT IS TEST PREPARATION? WHY DOES TEST PREPARATION EXIST?

Test preparation is broadly defined as a variety of activities to review assessment content and to practice test-taking skills in an attempt to improve students’ test scores or to demonstrate students’ maximum performance in assessments (Briggs, 2002; Cole, 1982; Crocker, 2005). Test preparation activities generally range from the activities integrated in the curriculum to those specifically targeting the content and format of particular tests (Crocker, 2005, 2006; Lai & Waltman, 2008; Moore, 1994; Smith, 1991), and take different forms—school-based, commercial-based, computer-based and book-based (Briggs, 2002; Montgomery & Lilly, 2012). Since its start in the late 1940s with university entrance examinations such as the Scholastic Aptitude Test (SAT) in the United States, test preparation has been observed in many countries where increasing numbers of large-scale assessments are used for accountability and admission purposes. These countries include, but are not limited to, the United States (Nichols & Berliner, 2007), Canada (Klinger, DeLuca & Miller, 2008), China, Japan, and Thailand (Ross, 2008), New Zealand (Gilmore, 2002), and England (Isaacs, 2010).

Large-scale assessments such as statewide or provincial achievement tests for elementary and secondary students in the United States and Canada have been increasingly used to examine whether students in K-12 educational systems have met curriculum objectives and to ensure educational accountability (Klinger, DeLuca & Miller, 2008; Lai & Waltman, 2008). Many curricular and extracurricular test preparation activities have been conducted to improve student performance (Moore, 1994; Volante, 2006). In addition, large-scale assessments have also
The purpose of large-scale assessments is linked to the existence of test preparation. Large-scale assessments are used to measure students’ achievement against the set standards and to provide information for educational policy, administration and instruction (Ungerleider, 2003). Therefore, test performances of large-scale assessments are related to important decision-making, such as accounting for the achievement of learning and teaching, and for evaluating students’ academic abilities prior to granting entrance into a higher level of education. The importance associated with performance on large-scale assessments drives different stakeholders (such as students, teachers, administrators, etc.) to engage in activities to improve test scores. This is how test preparation emerges and what test preparation aims for (Montgomery & Lilly, 2012).

In addition, in an article discussing measurement-driven instruction, Madaus (1988) stated that when people perceive that a phenomenon is true, their behaviours are guided by the importance attached to the phenomenon. Transferring this statement into the context of large-scale assessments can also explain why test preparation exists. Large-scale assessments are used for important decision-making (phenomenon), and stakeholders involved in large-scale assessments know the consequences of these assessments, such as the possibility of obtaining a graduation diploma, or retaining school funding.
Therefore, stakeholders pay attention to students’ test performance and conduct test preparation activities (behaviours) to help students perform better. Because of the perceived importance of large-scale assessments, the existence of test preparation for large-scale assessments has been documented and studied in a variety of educational research fields, i.e. medical education (McGaghie, Downing, & Kubilius, 2004), mathematics education (Firestone, Monfils, & Schorr, 2004), science education (Sturman, 2003), and second/foreign language education (Alderson & Hamp-Lyons, 1996; Gan, 2009; Green, 2007).

WHAT IS THE RELATIONSHIP BETWEEN TEST PREPARATION AND VALIDITY?

Validity refers to “the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores” (Messick, 1989, p. 13). If a plausible interpretation of a student’s mastery level can be derived from the test score, the validity of the test score is achieved. However, if a test score is not the actual representation of a student’s mastery level of a content domain, the interpretation and inference based on this test score cannot be accurate; therefore, the validity of this test score is threatened.

Researchers in the field of educational measurement have identified two major categories of threats to test score validity: construct underrepresentation and construct-irrelevant variance (Haladyna & Downing, 2004; Messick, 1989, 1996). Construct underrepresentation is present when the test is too narrow and the test items do not represent the construct being measured. Construct-irrelevant variance occurs when students answer test items correctly using skills and abilities irrelevant to the construct being measured, such as test-wiseness strategies. Because test preparation may increase test scores but not necessarily improve content knowledge, it has been identified as one possible source of construct-irrelevant variance (Haladyna & Downing, 2004); thus, test preparation may be a concern for the validity of test scores.

Haladyna and Downing (2004) have listed three instances of
how test preparation may threaten the validity of test scores—uniformity, extensiveness, and ethicality of test preparation. If students do not have equal access to the same test preparation to the same extent, the differences in students’ test scores may be attributed to the fact that some students have test preparation and others do not. Thus, students’ test scores contain the variances introduced by test preparation, and the evidence from such test scores cannot support appropriate inferences regarding the measurement of students’ academic abilities. If test preparation emphasizes the instruction of test-wiseness strategies, students may answer some test items correctly using test-wiseness strategies rather than their actual knowledge. In this case, students’ increased scores cannot represent the equivalent improvement of students’ knowledge. This type of test preparation is considered unethical and threatens the interpretation and use of the increased test scores (Messick, 1996).

WHAT ARE THE PRACTICES, EFFECTS, PERCEPTIONS AND PRINCIPLES OF TEST PREPARATION?

It is necessary to understand the practices and principles of test preparation when considering whether and how test preparation may threaten the validity of test scores. Therefore, this section is intended to delineate the following: (a) practices of test preparation that teachers conduct, (b) effects of test preparation practices, (c) teachers’ perceptions of test preparation practices, and (d) principles of evaluating test preparation practices.

Practices of Test Preparation that Teachers Conduct

The test preparation activities that teachers use attracted much research attention in the 1980s and 1990s (e.g., Cole, 1982; Moore, 1994; Popham, 1991; Smith, 1991); however, since the mid 1990s, attention to this topic has decreased, with only a handful of recent studies investigating teachers’ preparatory pedagogical practices (Lai & Waltman, 2008; Yu, 2012). These studies have investigated teachers’ pedagogical practices when preparing students to take large-scale assessments, and summarized these activities into a variety of categories (see Table 1).
<table>
<thead>
<tr>
<th>Forms</th>
<th>Source</th>
<th>Test(s)</th>
<th>Teachers</th>
<th>Categories of preparation activities</th>
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</table>
| School-based       | Smith (1991) | External testing programs (such as Iowa Tests of Basic Skills) administered in Arizona | Elementary teachers of one school district in Arizona                    | 1. Ordinary curriculum with no special preparation  
2. Teaching test-taking skills  
3. Exhortation  
4. Teaching content known to be covered by the test  
5. Teaching to the test in format and content  
6. Stress inoculation  
7. Practicing test or parallel test items  
8. Cheating |
|                    | Popham (1991) | N/A                                                                      | N/A                                                                      | 1. Previous-form preparation  
2. Current-form preparation  
3. Generalized test-taking preparation  
4. Same-format preparation  
5. Varied-format preparation |
5. Motivational activities  
6. Pretest intervention  
7. During test intervention  
8. Posttest intervention |
2. Instruct tested content and skills  
3. Practice previous-form tests  
4. Review content and skills in tests  
5. Use classroom tests  
6. Use practice tests prior to tests  
7. Teach test-taking skills |
2. Taking the test for practice  
3. Maximizing motivation  
4. Optimizing test anxiety  
5. Instructing test wisdom  
6. Instructing test content |
|                    | Yu (2012)   | TOEFL iBT Speaking tasks                                                | Teachers at commercial test preparation centres in China               | 1. Explaining strategies for speaking tasks and for improving overall speaking proficiency  
2. Evaluating and correcting  
3. Explaining rating scales  
4. Studying test-taking experience |
One method of grouping these activities is based on the delivery forms—school-based and commercial-based test preparation activities. The examination of these categories shows that teachers tend to employ common preparation activities across grade levels, delivery forms and subject areas. These common activities are instructing test-taking strategies, teaching test content, familiarizing students with test questions and conducting practice tests. What distinguishes school-based test preparation activities from commercial-based ones are the intervention activities that teachers may use when they are test proctors, such as giving students more time to finish tests or giving students a hint or clue to help them better understand how to answer questions (Moore, 1994). These intervention activities have been identified as teachers’ preparation activities because they may improve students’ test performance, which is the key component of how test preparation is defined. Some of these intervention activities have also been reported in a recent study on Ontario elementary teachers’ experiences of being test proctors (Childs & Umezawa, 2009). Unlike classroom teachers who can integrate test preparation activities in regular classroom instruction, teachers at commercial test preparation/coaching schools may not be involved in the test administration process; therefore, the activities of commercial-based test preparation are centered around the content and skills students need to demonstrate on the test (e.g., Cole, 1982; Yu, 2012).

Another way of grouping these preparation activities is based on the activity content: teaching specific content covered by tests, teaching overall content domains sampled by tests, and teaching test-taking strategies. These content-wise preparation activities have been concerns to the validity of test scores because of the possibility of producing inflated scores without increasing students’ achievement (Shepard, 1990). These content-wise preparation activities are also referred as “teaching to the test.” Popham (2008) identifies two distinct meanings of the term “teaching to the test.” In the first definition, the term refers to the curriculum taught. Teachers direct their instruction towards the knowledge, skills, content or affective domains represented by the test; that is, teachers build their instruction around the curriculum objectives sampled by the test. Second,
“teaching to the test” means item teaching: teachers’ instruction is specifically guided by the actual items on tests. The interpretations of “teaching to the test” blur the line between these two kinds of preparation practices. Teacher preparation practices that follow the different interpretations of “teaching to the test” have been clearly documented and investigated in the following two empirical studies.

Alderson and Hamp-Lyons (1996) investigated the impact of testing on teaching and learning in the context of Test of English as Foreign Language (TOEFL) preparation courses. Using data collected from classroom observations and interviews with TOEFL preparation teachers, Alderson and Hamp-Lyons found that most of the teachers held negative attitudes towards teaching TOEFL. Teachers thought their teaching was fragmented by explaining the test-like items to students. They also felt that the mechanical pattern of more time on practice tests and less time on interactions with and among students rendered teaching TOEFL decontextualized and non-communicative. This focus on individual test items, rather than the overall communicative English language proficiency which TOEFL intends to measure, is typical of item teaching.

Firestone, Monfils and Schorr (2004) examined teachers’ preparation practices and how teachers changed their teaching in response to statewide mathematics and science testing of Grade 3 students in New Jersey. The findings were based on data collected from surveys, interviews and classroom observations and showed that teachers employed two approaches in their test preparation: “didactic instruction” involved extensive drills on test items and a variety of activities aimed at improving test performance (item teaching) and “inquiry-oriented instruction” encouraged students to think more deeply about the subjects in the curriculum (curriculum teaching). When teachers felt more pressure, they focused more on short-term didactic instructional strategies. When they knew more about state and national standards and had the opportunity to learn more and got more support, they were inclined to use more inquiry-oriented approaches and integrated test preparation with regular instruction.

All of these test preparation activities (such as item- and
curriculum-teaching) have the same aim—to prepare students for tests and enhance their performance. To know whether these test preparation activities become a threat to the validity of test scores, it is necessary to examine whether, and in what ways, these preparation activities change students’ test scores.

**Effects of Test Preparation Practices**

Empirical studies investigating how test preparation affects test-takers’ test performance have produced different conclusions, ranging from no change on test scores (Gan, 2009; Green, 2007), slight increase (Brown, 1998; Elder & O’Loughlin, 2003; Robb & Ercanbrack, 1999), and reduction in scores (Wenglinsky, 2004). McGaghie et al. (2004) conducted a meta-analysis of studies addressing the impact of commercial test preparation courses on standardized, undergraduate medical examinations. The study found that medical commercial test preparations could not produce measurable educational impact on test-takers’ scores. Studies by Gan (2009) and Green (2007), examining the effects of preparation courses for the IELTS, found no significant difference in the test scores of students who had taken preparation courses and those who had not. Some empirical studies reported a slight increase in test scores as an effect of test preparation courses. Robb and Ercanbrack’s experimental study (1999) indicated that the usage of preparatory materials for the Test of English for International Communication (TOEIC, a test measuring the ability of non-English-speaking examinees to use English in everyday workplace activities) led to a statistically significant gain only on post-test scores for the non-English major students’ reading component. Brown (1998) and Elder and O’Loughlin (2003) revealed that the IELTS preparation course was successful in preparing students for actual IELTS test performance, especially at the lower end of the IELTS rating scale. A study on the impact of test preparation on students’ SAT scores found that test-preparation courses might have had an impact on their scores, and suggested both an increase in scores on the math section and a decrease in scores on the verbal section (Zehr, 2001). The effect of reduction in test scores was also found as an impact of test preparation in other studies. Wenglinsky (2004) analyzed the impact of instruction on the performance of 13,000 fourth
graders taking the National Assessment of Educational Progress (NAEP) mathematics assessment in 2000. The study found that putting students in frequent practice tests actually reduced students’ scores. Although test preparation was not the focus of his study, Wenglinsky noted that frequent practice tests are one common test preparation practice conducted by teachers.

The complexity of the effects of test preparation on test performance is clearly revealed in these empirical studies. However, what remains unclear are students’ characteristics, such as the academic achievement levels of students who receive test preparation and who do not, students’ motivations for seeking test preparation, etc. These characteristics have been recognized as factors that influence students’ test scores (Kunnan, 1995). These characteristics may be confounded with test preparation effects on students’ test scores and contribute to the complexity of the test preparation effects documented in these studies. In addition, it is difficult to generalize the effect of increasing test scores in every context where test preparation is used because of the difference in the contexts of these test preparation activities and the variety in teacher-led instruction. To further understand the effects of test preparation activities that teachers implement, and in turn to contribute to the understanding of how these teacher-led preparation activities influence the validity of test scores, it is necessary to probe how teachers perceive and justify perceptions of their preparation activities.

**Teachers’ Perceptions of Test Preparation Practices**

Popham (2001) suggested that the majority of teachers have never considered the appropriateness of their test preparation practices, but this topic has been investigated empirically. In Moore’s study (1994) exploring the perceptions of appropriateness of some commonly used test preparation activities, different views were found between classroom teachers and test specialists (i.e. test developers and researchers in educational measurement). Teachers and test specialists were asked to examine eight categories of test preparation practices and determine how appropriate and inappropriate they were in the context of Iowa Tests of Basic Skills (ITBS). Items covered the pre-, during and post-test periods and included activities
geared to specific content and skills. Results showed that while teachers rated practices such as giving additional examples during testing to be appropriate, the same practices of test intervention were deemed highly inappropriate by test specialists. Lai and Waltman (2008) also probed teachers’ perceptions of the appropriateness of some commonly used test preparation activities, such as instructing content and skills that are measured on tests, providing practice on test questions of previous year, teaching test-taking skills, etc. Findings showed that elementary teachers were more likely to use these activities than secondary school teachers. Although it is difficult to reach congruency on what teachers’ preparation activities should be judged as appropriate from these two studies, the factors that influence teachers’ consideration of the appropriateness of particular activities may illuminate teachers’ perceptions. Results of Lai and Waltman’s study (2008) revealed that teachers might consider several aspects, such as score meaning, learning, etc., when they judge whether a preparation activity is appropriate or not. For example, if teachers believe a certain preparation activity can result in students’ real learning, and in turn students’ real learning can contribute to better test scores, they would claim this activity to be appropriate.

Although teachers frequently deliver preparatory instructions, teacher perceptions of the appropriateness of their instructions have been examined by a limited number of empirical studies (Lai & Waltman, 2008). Moore (1994) and Lai and Waltman’s (2008) findings indicate that teachers might have reviewed and reflected on their instructions for high-stake tests, including test preparation; however, teachers might not have standards or guidelines available for judging the appropriateness of these instructions. One possible method for equipping teachers with standards or guidelines could be a set of principles for classroom teachers to self-check whether their test preparation practices are appropriate, and to examine whether their test preparation practices influence the validity of students’ test scores.

**Principles of Test Preparation Practices**

Popham (2001) suggests the establishment of a procedure to examine the appropriateness of teachers’ test preparation
practices. Theoretical principles for evaluating the appropriateness of test preparation have been proposed by many researchers (see Table 2). Generally, two types of conceptualizations are synthesized: a) a continuum of test preparation activities ranging from ethical to unethical behaviour (Mehrens & Kaminski, 1989) and b) sets of specific standards evaluating the appropriateness of these activities, such as professional ethics (Popham, 1991) and educational value (Crocker, 2006). Although some activities were anchored on both ends of the ethical-unethical continuum, many of the teacher preparation practices were unclear in terms of location along the continuum (Mehrens & Kaminski, 1989). Even though specific standards were provided to evaluate the appropriateness of preparation practice, classroom teachers still found them too general to judge their every single preparation activity (Popham, 1991). Therefore, some researchers have proposed practical principles of evaluating test preparation practices (see Table 2). These practical principles may help teachers to focus their test preparation on curriculum instruction rather than item testing.

It can be seen from Table 2 that the theoretical-based principles have been developed to include concrete dimensions to evaluate test preparation activities, such as Crocker’s five criteria (2006). Crocker’s first criteria, validity, requires that test preparation improve the validity of test score interpretation; academic ethics requires test preparation activities to be consistent with ethical standards of the educational profession; fairness means all test takers should have equal access to preparation opportunities; educational value means test preparation should improve both test takers’ scores and their content knowledge; transferability requires test preparation to teach test takers skills that can be used in different examination situations. Similarly, the conceptualizations of the practice-based principles are closely related to test preparation activities teachers commonly use.

The conceptualizations of both theoretical-based and practice-based principles are based on validity, that is, test preparation activities should help students demonstrate their learning from curriculum, thus test scores can be used to make accurate inferences of students’ mastery of content domains.
Therefore, these principles conform to the *Standards for Educational and Psychological Testing (Standards)* (American Psychological Association [APA], American Educational Research Association [AERA], & National Council on Measurement in Education [NCME], 1999).

Table 2  
*Principles of evaluating test preparation practices synthesized in literature*

<table>
<thead>
<tr>
<th>Category</th>
<th>Source</th>
<th>Principles</th>
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<tbody>
<tr>
<td>Theoretical-based</td>
<td>Mehrens &amp; Kaminski (1989)</td>
<td>• A continuum from ethical to unethical behaviours</td>
</tr>
<tr>
<td></td>
<td>Popham (1991)</td>
<td>• Professional ethics</td>
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<tr>
<td></td>
<td></td>
<td>• Educational defensibility</td>
</tr>
<tr>
<td></td>
<td>Crocker (2006)</td>
<td>• Validity</td>
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<td></td>
<td></td>
<td>• Academic ethics</td>
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<td></td>
<td></td>
<td>• Fairness</td>
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<td>• Educational value</td>
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<tr>
<td></td>
<td></td>
<td>• Transferability</td>
</tr>
<tr>
<td>Practice-based</td>
<td>Miyasaka (2000)</td>
<td>• Including curriculum objectives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Familiarizing students with various assessment approaches</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Instructing test-taking and test-wiseness strategies unrelated to test item content</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Managing time of test preparation throughout year</td>
</tr>
<tr>
<td></td>
<td>Turner (2009)</td>
<td>• Integrating test content into curriculum</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Integrating assessment approaches and item format</td>
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<tr>
<td></td>
<td></td>
<td>• Reviewing test-taking strategies</td>
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<tr>
<td></td>
<td></td>
<td>• Judicious timing of test preparation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Engaging student motivation</td>
</tr>
</tbody>
</table>

For example, integrating test content into curriculum may ensure that students increase knowledge mastery and test performance at the same time, thus this preparation practice “will not
adversely affect the validity of test score inferences” (APA, AERA, & NCME, 1999, p. 148). Similarly, teaching test-taking strategies such as skipping time-consuming items, and guessing are permitted by the Standards because these strategies may facilitate test-takers’ performance.

CONCLUSION

Students’ test scores on large-scale assessments have been used for accountability and admission purposes (Klinger, DeLuca & Miller, 2008; Nichols & Berliner, 2007), and a variety of test preparation activities aim to increase students’ scores on these types of assessment. Because test preparation activities may not improve students’ test scores and their knowledge mastery simultaneously, test preparation may become a concern for the validity of test score interpretations and uses. This literature review synthesizes a variety of test preparation practices according to different delivery modes, different effects test preparation practices can produce on students’ test scores, teachers’ perceptions of judging the appropriateness of their preparation activities, and principles that classroom teachers may refer to for evaluating their preparation activities. The key to understanding these aspects of test preparation is whether and how each aspect is related to the validity of test scores. When test preparation practices target students’ improvement in knowledge learning, and teachers use appropriate principles to regulate their preparation activities, it is likely that increases in students’ test scores represent corresponding enhancement in their learning.

It is clear to see from the above synthesis of the practices, effects, perceptions, and principles of test preparation, that test preparation is complex. It is necessary to consider all of these aspects as a whole to reach an understanding of test preparation from a validity perspective. To understand whether test preparation can become a threat to the validity of test scores requires examining this complexity, including what specific preparation activities have been conducted, and how teachers perceive these activities. The evidence from such examinations will provide further understanding of the effects of preparation activities on students’ test scores. The principles of evaluating
test preparation are also necessary for examining specific preparation activities and can be used as cross-reference evidence to interpret how changes in students’ test scores are caused by test preparation activities. Examining test preparation from this central question—whether test preparation simultaneously improves students’ test scores and knowledge—will contribute to a thorough understanding of whether and how specific test preparation activities become a threat to test validity.

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THAT'S NOT FUNNY: STUDENT MOTIVATION IN THE USE OF INAPPROPRIATE HUMOUR
Trevor Strong

ABSTRACT
Inappropriate humour in schools can be disruptive, even dangerous: a high school student can be expelled for posting a humorous YouTube video of a class project, a university marching band can be suspended because of a book of songs with offensive lyrics, and humorous teasing can be part of a pattern of bullying that can lead to a student’s suicide. Given the repercussions, it is important to consider what motivates students to use inappropriate humour. By examining the preceding examples through self-determination theory, the anthropological construct of the joking culture (Fine & DeSoucey, 2005) and theories of humour, this paper proposes that most students who use inappropriate humour do so for a reason. Knowing what this reason is can determine an appropriate response to the behaviour. This paper also supports Mills and Carwile’s (2009) argument that some form of humour education could be useful in helping students and teachers develop the knowledge and vocabulary needed to tell the difference between humour that is merely inappropriate, and humour that is truly hurtful.

* There are many ways in which humour can be a positive force in education. It can increase retention and understanding of course materials (Garner, 2006), it can create a sense of belonging in the classroom (Gorham & Christophel, 1990), and it can be used to lessen the blow of criticism (Banas, Dunbar, Rodriguez, & Liu, 2011). Humour can also be disruptive, even dangerous. A high school student can be expelled for posting a humorous YouTube video of a class project (McKnight, 2011), a university marching band can be suspended because of a book of songs with offensive lyrics (Fernandez-Blance, 2011), and humorous teasing can be part of a pattern of bullying that can contribute to a student’s suicide (Pearson, 2011). Given the
repercussions, it is important to consider what motivates students to use inappropriate humour. This paper looks at three possible motivators (humour as power, humour to shock, and humour as culture) and suggests that teaching students about humour and why it is used might help them develop a better understanding of what constitutes its appropriate use.

Any discussion of humour must first contend with the slippery nature of its subject. Humour exists in all cultures and is used and enjoyed by almost everyone (Apte, 1985), but it is a very complicated construct. Humour can be many things (a personality trait, a form of communication, an art form, a part of a social relationship) and be used for many purposes (a way to cope with stress, a motivational tool, a form of punishment). A common-sense definition of humour is the ability to laugh or feel amused, but this is incomplete. You can have humour without laughter, and if you are the target of a joke, you may feel upset instead of amused. There seem to be as many different theories of humour (psychoanalytical, superiority/disparagement, cognitive, incongruity) as there are of motivation. As this paper focuses on the motivations for using humour in a social context, the following definition will be used: humour is an interaction in which an actor intends to elicit amusement from an audience (Robinson & Smith-Lovin, 2001).

Before considering what motivates students to use inappropriate humour, it is important to define what inappropriate humour is. Inappropriate, as defined by the Current Oxford Dictionary (2012), is something that is “not suitable or proper in the circumstances.” Therefore inappropriate humour is humour that is not suitable in a particular context. The difficulty for students, however, is that they often participate in multiple contexts simultaneously. For example, a sarcastic comment a student makes to a friend might be considered perfectly appropriate according to their peer relationship, be deemed slightly inappropriate (but tolerated) by the teacher who knows the students, and be considered completely inappropriate under the official policies of the institution. When this paper refers to inappropriate behavior it is referring to what is inappropriate according to the educational institution involved in each example. It is important to remember, however, that
students can be more highly motivated to conform to peer expectations than to expectations from authority. Without this understanding, students’ use of inappropriate humour is hard to explain. A joke needs an audience, and those who make jokes that fail will soon stop making them (Martin, 2007). Although the motivations for students using inappropriate humour are many, this paper focuses on three broad motivations: power, shock, and culture.

HUMOUR AS POWER

Humour has often been associated with power and aggression (Martin, 2007). The superiority/disparagement theory of humour advocated by Gruner (1997) considers power and aggression to be the basis of all humour, although many view this as an overstatement (Martin, 2007). Humour is often used to benefit one person or group at the expense of another; this is particularly apparent in the jokes and taunts that accompany bullying. Recently, Jamie Hubley, a high school student in Ottawa, killed himself at least partly due to bullying that included aggressive jokes (Pearson, 2011). The teasing started in middle school when other students discovered that he enjoyed figure skating instead of ice hockey.

One reason students might be inclined to use aggressive humour is because of the maladaptive schemas for processing information they have developed. Dozios, Martin, and Bieling (2008) examined the relationship between self-schemas (perceptual sets that form the basis of core beliefs) and styles of humour used by undergraduate students. They discovered that aggressive humour “correlates negatively with relationship variables such as relationship satisfaction, interpersonal competence, agreeableness, and conscientiousness, and positively with hostility and neuroticism” (p. 587). This suggests that students who have formed a maladaptive schema in their development (possibly due to childhood social conditions such as parental over-permissiveness and lack of discipline) are more prone to use aggressive humour because they lack the ability to set goals and control themselves and are unlikely to be discouraged by external forces and punishments.
Self-determination theory can also be used to explain why some students are more likely to use aggressive humour than others. Weinstein, Hodgins, and Ostvik-White (2011) conducted a series of four experiments based on self-determination theory (SDT). In SDT, autonomy motivation is defined as behaving according to one’s interests and experiencing a sense of choice in one’s behaviour, while control motivation is defined as acting with a sense of external pressure (Deci & Ryan, 2000). In these experiments university students were primed into either a control or autonomy state and then viewed either hostile or non-hostile video clips or read either hostile or non-hostile jokes. Tests were given to measure the subjects’ level of control/autonomy and responses to the humour. The results showed that even an incidental activation of control motivation can cause subjects to participate in the aggressive behaviour of laughing at someone else’s problems (Weinstein et al., 2011, p.1046), suggesting that students who are control motivated, or put in a control motivated state, might use aggressive humour to dominate others. The authors speculate that because it is possible to say negative things but still maintain a positive image by using humour, it might be an appealing way for control motivated individuals to express their aggression without repercussions. They also discovered that even without priming, students with a higher control motivation responded more to aggressive humour.

Of further interest is how hurtful humour often becomes the norm in a group of students. The target of bullying is sometimes an individual against whom others have a prejudice (Bloom, 2008) through such factors as race, weight/obesity, religion, class, gender, or sexual orientation (Jamie Hubley was the only “out” student in his high school). It has been shown that a person who holds different beliefs than the target of aggressive humour is more likely to enjoy that humour (Zillman, 1974), which can lead to a self-perpetuation cycle. If the initiator of the humour gets a positive response due to tacit agreement from others through laughter, then he or she will be more motivated to target that same person again due to positive social re-enforcement. Others, who share the initiator’s prejudice, might also feel inclined to participate as it becomes apparent that they will receive only positive feedback from their peers. This creates a
prejudiced norm, (Ford and Ferguson, 2004), in which the enjoyment of hostile jokes reflects agreement with their underlying message, and it is possible that such a prejudiced norm was a factor in the bullying of Jamie Hubley.

HUMOUR TO SHOCK

Most anti-bullying policies state that sexist and racist jokes are unacceptable. However many people use these kinds of humour, not to necessarily to hurt, but to shock and gain attention.

In May, 2011, grade 12 student Jack Christie posted several animated videos he had made for his classes on YouTube (McKnight, 2011). These videos focussed on the absurdity of school assignments, featured amateurish stick figures, and made references to drug use and rape. One character (the cartoon version of Christie) even promised to “kill all black people.” Christie received good grades for these videos and stated that he was “trying to be funny” in a style similar to South Park or The Family Guy. When Christie posted his videos on the internet, however, the school board asked him to remove them due to their offensive nature. When Christie refused, he was suspended and banned from the prom. The school board also asked the police to investigate—the police viewed the videos and declined to go further. Many of Christie’s fellow students stated that they found the videos funny and the president of the student council created a petition to have Christie pardoned.

Christie seems to have had many possible motivations for creating his videos. The first is intrinsic. He states that he is a fan of humour and, as such, would have been highly motivated to use humour in his assignments. Why he chose to use such shocking humour, however, is more complicated. A sense of humour has been shown to be an important part of being liked by other adolescents (Semrud-Clikeman & Glass, 2010), and perhaps he felt that by using more shocking subject matter his sense of humour would be more obvious. The use of shock in these videos seemed to be acceptable in the classroom environment, at least by the teacher who gave Christie good grades and actively participated in one of the videos with a cameo vocal role (McKnight, 2011).
Many teachers engage in sarcastic humour with their students to create a sense of immediacy even if they know it is risky (Fovet, 2009). Likewise, Meeus and Mahieu (2009) discovered that students who made fun of their teachers often did so to create a positive playful atmosphere instead of trying to insult the teacher. The caption Christie inserted at the beginning of one of his videos says: “Made this film as taboo and unrelated to the project as possible. Enjoy, you short-fused bastard” (Christie, 2011a). The use of this caption demonstrates that Christie and his teacher used sarcasm to communicate with each other as it seems unlikely that Christie’s teacher would lend his voice to the project of a student who called him a “bastard” and meant it. This sarcasm is returned by the teacher who, in his cameo in another video (as a stick figure), chastises Christie for his shoddy work (Christie, 2011b). The stick figure Christie then vaporizes the stick figure teacher. All of this suggests that Christie was encouraged in his classroom environment and that he had both external and internal motivations in using his shocking humour.

It is clear that Christie’s humour was deemed acceptable at the level of most his peers (who later protested his punishment) and of his teacher, but unacceptable to the school board. Explaining the board’s decision to suspend Christie a spokesperson said, “If a student produces or submits work that encourages the destruction of an entire racial group, we’re going to report it. We have moral and professional obligations” (McKnight, 2011, para. 4). In the context of the video it is apparent that the statement to “kill all blacks” was made satirically, as an example of absurd of political promises. Christie’s motivation to amuse through shocking humour, however, did not enter into the board’s decisions. The spokesperson also stated that “There was some discussion with him and it all came to a point last week when he grabbed a microphone at an assembly and encouraged everyone to go see his videos” (McKnight, 2011, para. 7). If one of Christie’s motivations to use shocking humour was because he liked being the centre of attention then the school board’s actions only reinforced his tendencies through the publicity caused by his suspension. In a video Christie posted after the suspension
called, “Jack Christie Addresses the Board,” the stick figure Christie says, “So I guess it must be horrible to be responsible for billions upon billions of young impressionable children watching my films and proceeding to do drugs, commit homicide, and rape one another” (Christie, 2011c).

One issue that was not addressed in the formal statement from the school board was how Christie’s shocking humour could be found acceptable (and even encouraged) at the classroom level, but was considered grounds for expulsion outside of it. The class Christie was in had developed boundaries of appropriateness that were different than those of the school board.

HUMOUR AS CULTURE

The previous example shows what can happen when humour is deemed appropriate at one level of an educational institution but not at another. A similar problem can arise when a sub-group develops their own joking culture in an educational institution. Fine and De Soucey (2005) state that joking cultures are joking relationships within a group that, over time, define the group to its members and eventually serve to identify the group itself. An important characteristic of joking cultures is that humorous material becomes historicized with jokes and stories becoming a part of the group’s traditions and rituals. It is this shared history of humour that separates a joking culture from the humour of a newly-formed group. Over-the-top and offensive humour are often used in joking cultures. One sociologist describes why:

The art of making fun without raising anger, by means of ritual mockery or insults which are neutralized by their very excess and which, presupposing a great familiarity, both in the knowledge they use and the freedom with which they use it, are in fact tokens of affection, ways of building up while seeming to run down, of accepting while seeming to condemn—although they may also be used to test out those who show signs of stand-offishness. (Bourdieu, 1984, p. 183)

Joking cultures develop in almost all groups of any duration who consider themselves different (Fine & De Soucey, 2005) so school clubs and teams are a likely place to find them. These
cultures often use offensive humour as part of their identity, so students who are a part of a joking culture can be highly motivated to use inappropriate humour. If the humour considered appropriate in the joking subculture is different from what is considered appropriate in the larger culture of the educational setting, this can lead to a difficult situation as demonstrated by the following example.

In November, 2011, the Queen’s Bands were suspended after controversial material was brought to university administrators in the form of pamphlets and a songbook. The pamphlets contained such phrases as, “I will rape you with a lamp” (Fernandez-Blance, 2011, para. 3), and the songbook contained songs with such lyrics as, “chew me, screw me, suck me, fuck me, yaaay Queen’s” (para. 8). One Queen’s official said, “It was material that included very offensive language, degrading and demeaning language” (para.13).

Members of the Queen’s Bands were aware of the inappropriate nature of their humour and were warned by senior members of the group to keep the pamphlet private. Also, the header on one pamphlet stated: “We poke fun at people who we think can take it” (Fernandez-Blance, 2011, para. 6). The sexist nature of the humour is interesting given that the Queen’s Bands are half female, and that women are well-represented in the structure of the organization. One possible explanation for the existence of sexist material is that it was part of the group’s historicized humour. These were songs that, for the most part, were created in a time of different social norms. These songs became forgotten in the broader context of the university but survived as part of the cultural history of the Queen’s Bands. When the songs resurfaced, they were deemed highly offensive and potentially harmful by a large portion of the Queen’s community.

An unfortunate addendum to the Queens’ Bands story is that several members of the Queen’s Bands became victims of harassment. One Queen’s Band executive member stated, “A number of members have been verbally assaulted both on and off campus…intimidation has come from students, employers, professors and community members” (Clancy & Edmiston, 2011, para. 7). The use of inappropriate humour led to a situation
where some members of the greater Queen’s community let their feelings be known in a manner some Queen’s Bands members found intimidating.

WHY MOTIVATION MATTERS

I have presented these three broad motivation categories of inappropriate humour as if they are separate; however, the purposes and functions of humour blend seamlessly into one another, and the motivations behind using humour do as well. This does not mean that motivation is not important—motivation is central in understanding humour in social situations. The importance of motivation in humour is made clear by Mulkay (1988) who proposed that there are two basic modes of communication: serious and humorous. In the serious state people attempt to think logically and consistently, but this mode becomes inadequate when encountering people with different interpretations of events. It is humour that allows people to accept contradictions and negotiate interpersonal situations. In the humorous state words and actions can have more than one meaning. This allows the creator of the humour to claim different motivations for what they do or say. In these situations the target’s perception of the motivation behind the humour is as important as the actor’s true motivation. An actor might use humour with the intent to hurt, but say, “It was only a joke,” to avoid repercussions. Conversely an actor might use humour for more positive reasons, such as establishing a sense of immediacy, but may be accused by the target of intending to do harm.

In educational institutions there is a temptation to control inappropriate humour by banning any humour that could be interpreted as offensive. Not everyone agrees with this. Mills and Carwile (2009) make a case for finding a distinction between teasing and bullying, two concepts that are often considered the same thing by the media. The two concepts, however, are not the same, although they do overlap; bullying often involves teasing, but teasing can exist outside of bullying and can be used in positive ways (Mills & Carwile, 2009). Teasing has a dual nature which has been described as follows:
To be sure, some teasing is designed with the sole purpose of hurting, humiliating, or harassing the target of the tease. But often individuals tease to flirt, socialize, play, enhance social bonds, teach, entertain (themselves, the target, or an audience), or to express affiliation, affection, or even love. (Gordon, Kruger, & Kuban, 2006)

Mills and Carwile (2009) state that intention is the key difference between teasing and bullying; in positive teasing the target is invited to play, but in teasing used as part of bullying the target is not. Schools, they add, should discipline those students who tease with the intent to bully, and ignore the rest. Unfortunately, this is very difficult to do as “we cannot see intentionality; we can only see the verbal and nonverbal cues that enable us to make judgements about the nature of an interaction” (Mills & Carwile, 2009, p. 283). Research has also shown that human beings are highly inaccurate at assessing the motivation of others (Pronin, Gilovich, & Ross, 2004). This is not just a problem for teachers and administrators—students can also misinterpret the intentions of a tease due to a lack of awareness of the motives of the teaser. Interpretation can be especially problematic for students with exceptionalities such as Asperger’s syndrome, as difficulty in recognizing social cues presents challenges for using reciprocity in humour (Lyons & Fitzgerald, 2004).

Accurately assessing the intentions of others is difficult, so it is easy to understand why administrators would be drawn to black and white policies regarding humour. However, these simple policies can lead to negative consequences. In the case of Christie, a good portion of an entire school became dis-engaged from the administration and Christie’s inappropriate material became more widespread. In the case of the Queen’s Bands, exposing their joking culture in a public way made some members of the group feel intimidated by members of the larger Queen’s community. Perhaps these risks are acceptable if these policies reduce bullying and save lives. But it is possible these policies will lead to a lessening of trust between the students, teachers, and administration (as they did in the Christie case)
which could make changing student behaviour even more difficult.

CONCLUSION

Most students who use inappropriate humour do so for a reason, whether ridiculing others to increase their own status, pushing the limits of good taste to get attention or to feel a part of a special community, or simply trying to amuse themselves and others. Mills and Carwile (2009) advocate teaching students the difference between good and bad teasing but understand that “this means adults must be able to discern for themselves the difference between negative teasing/bullying behaviors and pro-social teasing before they can teach children the difference” (p. 296). It is interesting that although there is a great emphasis on literacy and communication in our schools, students are not taught about humour, its uses, and its dangers.

In this way, humour is like sex. Most people do it, and want to be good at it, but it’s often hard to find someone to tell you how to do it better. Students are going to use inappropriate humour, just as students are going to have sex. Sex education helps students behave responsibly in an activity administrators do not necessarily condone. In a similar way some form of humour education could be useful in helping students understand the difference between harmful and affiliative teasing, know the importance of context when using humour, and think about how their use of humour can affect and be interpreted by others. By giving students a knowledge and vocabulary about humour, they may be able to tell the difference between humour that is merely inappropriate, and humour that is truly hurtful.

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GENDER DIFFERENCES IN PERCEPTIONS OF CYBERBULLYING: A PROPOSAL FOR THE NEXT STEP IN QUALITATIVE RESEARCH WITH ADOLESCENTS
Jeremy Doucette

ABSTRACT
This article reviews the literature on the new and destructive phenomena of cyberbullying, and the significant role gender plays in how cyberbullying is perceived and experienced by adolescents. Cyberbullying often occurs beyond the school property, and its consistent presence can lead to many harmful consequences which impact youth mentally, physically, socially, and academically. Cyberbullying is frequently targeted at youth who do not meet stereotypical gender expectations. However, specific cyberbullying behaviours which target these youth are not well understood. It is imperative that researchers allow youth to share their perceptions and experiences as thoroughly as they feel comfortable if adults are to better understand and aid in the cessation of cyberbullying. Recommendations are made for how qualitative methodologies can play an important role in cyberbullying research.

AN INTRODUCTION TO CYBERBULLYING
Cyberbullying is a very recent phenomenon. Many parents and teachers may struggle with understanding and aiding youth in cyberbullying prevention because the ways in which many young people are bullied are distinctive from how adults were bullied when they were young. Ang and Goh (2010) suggest that in order for a behaviour to be considered bullying, it must be intentional, repeated over time, and targeted at a specific person or group of people. Tokunaga (2010) agrees the behaviour must be intentional and repeated over time, but his third criteria is bullying must involve psychological torment. It is also understood that bullying involves some form of power imbalance between perpetrators and victims (Grigg, 2010). Bullying becomes cyberbullying when it is implemented through communication technology. These mediums include, but are not limited to mobile telephones, online video gaming networks, and
social networking sites such as Facebook, Twitter, and MySpace. Cyberbullying can consist of many harmful behaviours, including harassment, stalking, put-downs, exclusion, death threats, and the outing of another’s sexual orientation (Li, 2006).

In 2012, an estimated 98% of Canadian youth access the Internet and other forms of communication technology on a daily basis, and in the United States, an estimated 75% of youth own mobile telephones (Mishna, Khoury-Kassabri, Gadalla, & Daciuk, 2012). Evidently, technology plays a fundamental role in the majority of North American youth’s daily activities. Technology can be utilized to learn, socialize, and have fun. However, research in the area of cyberbullying has revealed that technology can also be used to hurt. With so many young people accessing technology on a daily basis, cyberbullying continuously threatens the well-being of adolescents throughout North America and the rest of the world (Cassidy, 2009; Gradinger, Strohmeier, & Spiel, 2009; Li, 2006; Tokunaga, 2010).

Consistent access to technology allows cyberbullying to occur continuously throughout the day. Because of this, cyberbullying has received the classification of “non-stop bullying” (Mishna, Saini, & Solomon, 2009). Tokunaga (2010) reveals that 85% of students who are victimized electronically are also victimized at school. For example, a 16-year-old female high school student who is labeled a “slut” by her ex-boyfriend over Facebook one evening may return to school the following day to find people gossiping about her in the school hallways. In the past, it may have been easier for youth to escape bullying once the school day was over, but with bullying following victims into their homes through technology, the pain can seem impossible to escape. Cyberbullying has the power to become a truly devastating force in the lives of youth who are victimized.

Victims of cyberbullying may suffer from feelings of depression, anxiety, distress, hopelessness, anger, and detachment. Many victims internalize these feelings and do not know where to go for help, leaving them with a reduced level of self-esteem and feelings of self-worthlessness (Tokunaga, 2010). News reports have revealed the potential impact of cyberbullying at its most tragic, as far too many young victims take their own
lives as the torment becomes too painful to endure. Whether cyberbullying takes place at school, home, or both, all of these negative outcomes can influence how youth perceive their schools, and how youth perceive their schools can substantially influence the likelihood of academic related success or failure. Being cyberbullied can lead to the belief that school is a dangerous place. When school is viewed as unsafe, healthy academic and social learning is likely to be impeded. Victims of cyberbullying may skip class, experience a drop in academic success, and exhibit various forms of delinquency. Some students even bring weapons to school because they feel so threatened (Ang & Goh, 2010; Gradinger et al., 2009; Mishna et al., 2009; Tokunaga, 2010).

In Li’s (2006) study of three Canadian middle schools, 17% of participants reported being bullied through technology in the past. In 2010, Tokunaga published a meta-synthesis on cyberbullying. In this comprehensive review of the peer-reviewed literature, Tokunaga revealed that American youth reported a victimization rate of 20% to 40%. Cyberbullying can happen at any age, but research suggests that adolescents are at the greatest risk of being victimized (Tokunaga, 2010; Williams & Guerra, 2007). Greater autonomy plays an important role in adolescents’ increased opportunities for cyberbullying. Many adolescents may be given freedom by their parents to use technology privately, and the ability to earn money through part-time employment may also aid youth in purchasing various technological devices. Many young people face a great deal of pressure to gain acceptance within certain social groups. Entering high school may amplify this pressure, and bullying may take place in an effort to solidify group membership. Cyberbullying peers who are different in some way may allow the adolescents who are bullying to feel superior and more qualified to be part of certain groups because they better fit the socially constructed mold of what an adolescent male or female should be (Brooks, 2011).
GENDER DIFFERENCES IN THE PERCEPTION AND EXPERIENCE OF CYBERBULLYING

When investigating rates of, and experiences with cyberbullying, researchers commonly ask, “what differences can be accounted for based on gender?” (Ang, 2010; Erdur-Baker, 2010; Gradinger et al., 2009; Li, 2006; Tokunaga, 2010). Li (2006) discusses how past research has assumed girls prefer to cyberbully over boys because it is less direct than traditional forms of bullying. Boys may be more likely than girls to bully in person, and resort to physical violence when engaged in conflict with one another. However, Li reveals that in a study with 264 students, males reported a cyberbullying perpetration rate of 22% while girls reported a perpetration rate of only 12%. Rates of victimization were not significantly different at 25% for males and 25.6% for females. In a study by Gradinger et al. (2009) eight percent of boys and only three percent of girls reported ever sending mean text messages, e-mails, videos, or photographs. In two middle schools and two high schools in the US, female students were slightly more likely than male students to indicate that cyberbullying was a problem at their school (Agatston & Kowalski, 2007). Although these results should be carefully considered, Tokunaga’s (2010) metasynthesis acknowledges that the majority of studies have determined that gender does not play a role in rates of cyberbullying.

It may initially seem that since assessing for gender differences yields insignificant differences in rates of perpetration and victimization, gender differences need not to be earnestly assessed in the study of cyberbullying. A deeper evaluation of the literature suggests this is not so. Rates of cyberbullying alone may not adequately inform researchers of the impact cyberbullying has on males and females respectively. Students who complete surveys or questionnaires on cyberbullying might be asked to indicate if they have been exposed to mean text messages, e-mails, videos, or photographs, or if they believe cyberbullying is a problem at their school. However, researchers might fail to appreciate the role gender plays in how youth respond to these types of questions. How does a boy or girl determine if a text message, e-mail, video, or photograph is mean? How does a boy or girl determine if
cyberbullying is a problem? It cannot be taken for granted that boys and girls will respond to these key words in the same way. How boys and girls perceive these words and how they relate to cyberbullying behaviours must be explored in future research.

SOCIAL LEARNING, GENDER, AND VIOLENCE

Past research has outlined the importance of investigating the role gender can play in how individuals perceive not only cyberbullying but also aggression in general (Owens, Shute, & Slee, 2005; Shute, Owens, & Slee, 2008). Although boys and girls might read the same word on a survey, such as power, what the word power actually means to individuals can be quite different. If a group of boys encompasses hegemonic masculine beliefs, aggressive behaviour may be promoted, and girls may be seen as less valuable than boys (Valls, Puigvert, & Duque, 2008). Many studies indicate that boys are socialized to be the dominant sex. If this is the case, bullying girls may be viewed as acceptable because boys are behaving from a power position (Shute et al. 2008).

Social learning theory may also play a role in determining what is appropriate or inappropriate behaviour based on one’s gender. Adolescence is a time when the differences between boys and girls become even more apparent, and stereotypical gender roles become reinforced by the same sex peer group (Terrance, Logan, & Peters, 2004). Boys and girls can differ in what they perceive to be funny, acceptable, and even violent. Boys may tease girls while with their male peers because, even though girls view teasing as hurtful, boys view it as a form of entertainment (Owens et al., 2005).

Owens et al. (2005) documented that boys reported there “wasn’t much” verbal aggression perpetrated by boys against girls, and if it did happen it was “only joking” and girls took it too seriously. Many behaviours girls appropriately define as harassment, bullying, or teasing, may be defined by boys as harmless fun (Shute et al, 2008). Boys and girls generally agree that serious offenses such as sexual bribery, coercion, and assault are sexually abusive and entirely unacceptable, but boys and girls tend to disagree on the acceptability of behaviours such as
sexual remarks and sexist jokes (Foulis & McCabe, 1997; Ryan & Kanjorski, 1998).

What might this mean to the assertion that acts of cyberbullying must be characterized by the intent to harm (Ang & Goh, 2010)? If boys and girls view harm differently, it may be incorrect to conceptualize a mandatory condition of cyberbullying as being the intent of one to harm another. Adolescents who cyberbully are able to reach a large audience through access to social media websites, such as Facebook. This audience is often larger than that within a setting where traditional bullying occurs, and a larger audience may elicit greater feelings of power within the perpetrator. It may be possible that boys perform bullying behaviours for the sake of a laugh, and that these laughs reinforce boys’ feelings of power and control (Law, Shapka, Hymel, Olson, & Waterhouse, 2012).

In a qualitative study by Mishna et al. (2009), girls reported hearing stories of coercion where boys would threaten to spread rumours about girls if they did not flash their breasts on webcam when asked. Although some boys may suffer through similar forms of coercion, it seems girls are much more likely to be victimized through this form of bullying. Owens et al. (2005) recognized the gravity of spreading rumours against girls in regards to their sexual reputations through labels such as “slut” and “whore.” While these labels can be used by both boys and girls, their use against girls is especially negative and shaming. Female sexuality can also be degraded through taunts towards weight and breast size.

An Australian qualitative study conducted with both grade nine students and their school’s teachers and counsellors revealed that both adults and youth are aware of bullying by boys towards girls. A female counsellor within the study suggested that harassment was “usually sexually oriented, so it might be slut or it might be something to do with their body shape—fat or big tits or no tits or something like that” (Owens et al., 2005, p. 145). Also within this study, an adolescent girl stated, “they [male peers] pay you out if you’re not the picture perfect long blonde hair, big boobs, long legs” (Owens et al., 2005, p. 145). Some teachers and girls suggested that the abusive behaviour was related to the supposed power that males are to
have over females. Some teachers and boys felt that bullying sometimes occurs in retaliation because the girls were mean to the boys first, and some teachers believed the students’ backgrounds played a role in their abusive behaviours (Owens et al., 2005).

When discussing gender in relation to cyberbullying, the topic of sexual orientation and identity must be raised. Youth who identify as lesbian, gay, bisexual, transgendered, or questioning (LGBTQ) are often seen as different by their peers. Many consider not being heterosexual to be deviant; this perception of deviance may act as a basis for the perpetration of cyberbullying. Youth who are not heterosexual are at an increased risk of being bullied, and the impacts of these violent acts can be especially devastating when LGBTQ youth are rejected by friends, family members, and others within their community. A study of 1,598 high school students within eastern Canada revealed that sexual minority youth are more likely than sexual majority youth to suffer from emotional and behavioral difficulties, such as depression. Gender expectations and stereotyping are central to this form of bullying (Williams, Connolly, Pepler, & Craig, 2005).

Even if youth do not come out as being gay, many are still bullied. It is estimated that 1.6 million public school students with the US are bullied whether they are out as gay or just perceived by others to be gay (Rivers, Duncan, and Besag, 2007). Swearer, Turner, Givens, and Pollack (2008) explored the experiences of students in an all-male college preparatory school in a Midwestern American city found that boys who are bullied by being called “gay,” as opposed to being bullied in other ways, were more likely to negatively perceive school climate, suffer from higher degrees of anxiety and depression, and display a stronger external locus of control than boys who were not bullied by being called “gay.” It should also be acknowledged that boys who were adversely called “gay” were at an increased risk of being bullied physically. Friedman Koeske, Silvestre, Korr, and Sites (2006) reported that middle school students who reported higher levels of femininity also reported higher levels of suicidal thought. Male youth who present as more feminine than what is
deemed normal may be at an increased risk of being viewed as gay and consequently bullied by peers (Friedman et al., 2006).

Empathy for a victim’s pain may be necessary if one is to refrain from bullying others. This may be more difficult for boys than girls as boys are generally socialized differently in regards to emotions. Boys are more likely than girls to be promoted for their aggressive behaviour. Caring and nurturing behaviours are often seen as feminine, and embodying these traits as a male may lead to ridicule from male peers. Boys especially may struggle in empathizing with girls because boys do not experience many of the same types of harassment as girls. For example, boys are unlikely to be bullied because their breasts are seen as “too small.” However, it is not only being of a different gender which may impede empathetic concern between youth. For example, a straight youth may fail to grasp how it feels to be called a “faggot” because he or she may not have received this same form of malicious abuse (Karniol, Gabay, Ochion, & Harari, 1998; Owens et al., 2005).

Addressing cyberbullying can become more complicated when youth are both victims and perpetrators of hurtful behaviours. Although little is known about gender differences in relation to this dynamic, girls may be more likely than boys to be both perpetrators and victims in cases where gossip is spread through text messages (Gerson & Rappaport, 2011). A recent study conducted within Canada revealed that many high school guidance counsellors are becoming more aware and concerned with the cyberbullying that occurs between adolescent girls, often through the sending of cruel messages to one another (Sokal, 2012). These findings may relate to Slonje’s (2011) finding that girls are significantly more likely than boys to be cyberbullied through text messages. However, it is not clear if other girls, boys, or both sent these messages.

QUALITATIVE RESEARCH AS A VALUABLE MEANS OF EXPLORATION

Cyberbullying among youth is a new and complicated issue. In order for adult researchers to comprehend and appreciate what youth are experiencing, researchers must be able to ask multifaceted questions, and youth must be able to elaborate on
their answers, potentially allowing researchers to consider new
and previously unconsidered aspects of this phenomena. Qualitative methodologies, particularly focus groups, may be an especially beneficial approach in the pursuit of learning more about adolescents’ perceptions and experiences regarding cyberbullying. Although some qualitative studies have been cited in this report, most cyberbullying research has been quantitative in design. It is common for cyberbullying researchers to distribute surveys to children and youth, either online or within schools. However, Smith (2010) urges researchers within the area of cyberbullying to conduct more qualitative research. Qualitative research often involves approaches such as individual interviews, focus groups, or the analysis of personal writing. Sometimes researchers may add a simplified component of qualitative research to their quantitative studies by leaving space on surveys for students to write freely and elaborate on their answers (Willig, 2008). Smith questions whether or not simply requesting students answer survey questions truly allows their voices to be heard.

Qualitative methodologies allow participants to comprehensively express what it is they wish to express in regards to a topic. Researchers have the opportunity to clarify what it is participants intend to convey, and qualitative designs also allow researchers to capitalize on exploring new concepts revealed by participants, which may not have been acknowledged prior to interacting with participants (Willig, 2008).

Youth must have the space and opportunity to elaborate on their experiences, especially when the issue in question is cyberbullying and the researchers are adults. The language youth use is constantly changing, and expecting youth to conform to adult language when addressing this topic may be entirely inappropriate. For example, a term which is seemingly non-existent within peer-reviewed cyberbullying literature, is chirp. The website ChattingWords.com indicates, “the term chirp, which means insult, is commonly used on Facebook, Skype, and MSN Messenger.” It seems researchers are not asking youth about their chirping behaviours when they design and administer cyberbullying questionnaires. Perhaps youth do chirp, and
perhaps they would be willing to share with researchers what this concept means to them. Opening up the conversation to youth will allow new terms and concepts to be introduced to the scientific community (ChattingWords.com, 2013).

Quantitative research might not always be able to provide scholars with a comprehensive understanding of what various cyberbullying behaviours consist of, and the complex effects they can have on an individual youth. In 2010, Ang and Goh presented a nine-item cyberbullying questionnaire to youth. Two of the questions featured on the survey included, “I made fun of someone by sending/posting stories, jokes or pictures about him/her” and “I purposefully left someone out from an online group.” What is the content of these hypothetical stories, jokes, and pictures? Why is it that someone would leave another out of an online group? What could be the individual’s justification for doing so? Potentially valuable insight could be gained by exploring these questions further through qualitative discussion.

As previously addressed, girls and boys often differ in what they perceive to be mean, hurtful, inappropriate, and even funny. Girls and boys must be given the opportunity to elaborate on what these, and other assumedly basic terms mean to them. Although there are many different qualitative methodologies, Willig (2008) suggests that focus groups are becoming the standard technique used within qualitative research with young people (Mishna, Cook, Gadlassa, Dacuik, & Solomon, 2010; Owens et al., 2005; Shute et al., 2008).

Focus groups can allow researchers the opportunity to observe how youth interact with each other while discussing the very social issue of cyberbullying (Krueger & Casey, 2009). Researchers might be able to document if and how boys and girls agree on different concepts, if there is a mutual understanding between boys and girls regarding the inappropriateness of particular behaviours, or if boys persuade other boys, or if girls persuade other girls to adopt their stance on particular cyberbullying-related issues. Perhaps most interestingly, researchers can observe how boys and girls address this issue when they are together. Perhaps one gender might speak over the other, or a clear distinction between how boys feel about one issue versus how girls feel about another will be revealed.
However, researchers must remain constantly aware that cyberbullying may occur among participants within the focus group. Researchers must appreciate that cyberbullying is a very sensitive topic for many, and some students may not feel comfortable sharing. Researchers must be mindful that groups are not so large that some participants might feel unable to share their thoughts, but not so small that uncomfortable participants might feel pressured to speak (Willig, 2008).

Cyberbullying is a social phenomenon, so it is appropriate youth address it within a social setting. Qualitative research allows researchers to better understand the greater implications of cyberbullying behaviours. Generally, there is a great need for further cyberbullying research. In order to comprehensively understand how cyberbullying is perceived by adolescents, and how their gender influences their perceptions, further qualitative research must be conducted with young people (Mishna et al., 2009; Vandebosch & Van Cleemput, 2008).

CONCLUSION

The fundamental role that technology plays in the lives of youth allows many of them consistent access to various forms of communication technology. This allows youth to bully, and be bullied, not only at school but continuously throughout the day. Gender plays a major role in youths’ experiences with cyberbullying. Boys who are not stereotypically masculine, and girls who are not stereotypically feminine, are at risk of being cyberbullied by their peers. Boys and girls may also struggle in empathizing with one another as perceptions can vary depending on one’s gender identification. Cyberbullying victimization is a struggle, one which has been experienced by many youth but not by many adults. This realization indicates that it is profoundly important that youth are able have their voices heard by researchers, parents, teachers, and other adults within their communities. Youths’ experiences may not be comprehensively understood through the common use of surveys and other quantitative measures. Qualitative research allows youth to further explore and expand upon their experiences and perceptions, which will allow researchers to better understand the impact cyberbullying play in young people’s lives. Focus
groups may be especially valuable, and researchers can observe how youth interact when discussing the interactive behaviors associated with cyberbullying. As researchers come to better understand cyberbullying through youths’ own words, adults can become better prepared to aid in addressing the harmful existence of cyberbullying.

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ABSTRACT
In an age of increasingly sophisticated computing and analytical software, educational researchers are afforded novel and creative ways of working with research data. The capability of data visualization—a graphical technique that renders data visually, often with the aid of computer software—is expanding with the latest developments in technology. Growing types of data visualization are already popular among various academic disciplines and the popular media; however, substantial uptake within educational research is slow to occur. In an effort to spur discussions on data visualization within the educational research community, considerations of what data visualization techniques could offer educational research are examined. This paper first presents a synthesis of the scholarship on data visualization by discussing the relevance and potential of data visualization in educational research. Subsequently, this paper presents a qualitative self-study where data visualization was used to represent provincial student achievement data to an audience of school-board administrators. Findings from this study highlight the importance of implementation issues concerning the fidelity and accuracy of visualizing educational data when interpreted by lay-audiences of data visualization. Concerns around data storage and privacy are also highlighted.

* Ever-increasing computing power, along with fast-evolving web technologies, facilitate data collection and analysis in ways not available to previous generations of researchers. Research data, especially large-scale population-size data sets, can be easily captured, stored, accessed, manipulated, and analyzed using sophisticated quantitative and qualitative data analysis software (e.g., R, SPSS, SAS, ATLAS.ti, and NVivo). Resource intensive calculations and procedures, such as analyzing student achievement data from standardized testing, can now be...
performed on modest consumer-grade computers. The recent Open Data social movement is a prime example of how computer technology has again transformed the face of scientific research (e.g., Organization for Economic Co-operation and Development, 2007). Participating governmental, academic, and commercial institutions are increasingly making data readily available for public use\(^1\). This movement is rooted in a philosophical stance towards democratizing knowledge and it represents an open invitation to all researchers, regardless of formal credentials or positional authority, to work with available data to generate interpretations and make informed decisions. Hence, contemporary researchers are afforded more opportunities to engage in research because of the computing and technological possibilities made available to them; however, what remains unclear is how researchers are employing and utilizing such advances.

With technical barriers diminishing, the conceptual challenge around working with open source or large-scale research data is highlighted. This is especially true when the focus of a study involves a high number of interacting variables and where the interpretations are context-dependent. To cope with increasing analytical complexity, researchers are looking to computer-generated graphical tools both to aid in the exploration and representation of data through graphical and visual means—this technique is known as data visualization (Czernicki, 2010). A recent high-profile example includes an epidemiological study that rendered social network data visually to explore the transitivity of depression among peer groups (Rosenquist, Fowler, & Christakis, 2011). Popularity around data visualization is not limited to the academic circle. The New York Times recently established a data visualization lab that routinely renders data visualization graphics for public and popular use to illustrate key concepts to supplement feature stories (Frons, 2008). Program evaluators are also using data visualization techniques to better communicate findings and promote

collaborative dialogue amongst various stakeholders (Porter, Koch, & Henderson, 2010). Unfortunately, educational researchers are slow to embrace data visualization as an analytical tool within the mainstream educational research discourse (Romeno & Ventura, 2006). The central focus of this paper is to explore the question of what data visualization techniques can offer to educational research.

We contend that there are many aspects of data visualization that are unfamiliar to those conducting educational research as much of the theoretical and research literature on data visualization currently resides mostly in the human-computer interaction domain. Emergent applications are observed in areas of gene expression, pharmaceuticals, intelligence, knowledge management, and medical imaging research (see Freedman, 2006; Van Sint Jan et al., 2006). Researchers across various disciplines are motivated to view phenomena and relationships in novel and different ways (Friendly, 2008). Data visualization techniques are now used to inject novel perspectives into understanding and exploring a new phenomenon.

In conceptualizing the application of data visualization to education, we contend that an area in educational research in which data visualization stands to make a strong impact is in educational assessment. Large-scale assessment data have primarily been used to promote accountability and to improve instructional practices in most educational jurisdictions across Canada and abroad (Klinger, DeLuca, & Miller, 2008). Educational systems place a high premium on these assessments because of the inherent belief that large-scale data are valuable in making system-level improvements (Campbell & Levin, 2009). Critical to that end is that data be interpreted accurately by those relying on this information to guide decision-making in policy and in practice. Data visualization stands to contribute to this task. For instance, Harris and Brown (2008) studied the conceptions of teachers with five to ten years of experience on reporting assessment data to the school board and parents based on standardized achievement tests. The authors reported two concerns: little involvement of teachers in the interpretation of the assessment data and the belief from teachers that data will be misused given the recent focus on accountability. The findings of
this study also addressed teachers’ expectations to mitigate the sometimes-misconstrued notions of what would be considered valuable data, such as the emphasis on quantitative reporting over qualitative feedback. Unless such assessment results are transformed, presented, and articulated to stakeholders in a meaningful way, it can be difficult to make accurate and informed conclusions from the data results.

Shepard (1980), in her discussion on reporting statewide assessment results, drew attention to this very issue. She argued for the exploration of using media other than written documents when reporting assessment data. Implicit in her argument is a case for communicating assessment data in a way that is relevant and meaningful for stakeholders within a particular context. Data visualization techniques, used in conjunction with advanced computer technologies, could offer education stakeholders—teachers, administrators, board-level officers, and researchers—new ways of interpreting assessment data (Bolch, 2009). When data visualization is used in combination with existing reporting and communicating conventions, it creates narratives that yield insights into individual and system performance (Czernicki, 2010).

The purpose of this paper is to consider the application of data visualization to educational research, and in particular, to the field of educational assessment. This paper begins by describing the scope and foundational concepts of data visualization by way of an historical overview of the development of data visualization over the centuries. An argument is made for educational researchers to consider incorporating data visualization for analysis and interpretation. Building on these arguments, the paper presents a self-study that reflects on the authors’ experience of using data visualization to communicate with key educational administrators about the nature of their educational assessment data. Given that educational researchers have a responsibility to present data results in a way that allows individuals (e.g., administrators) to draw accurate and informed conclusions, it is necessary to develop an understanding of how educational researchers are employing and utilizing data visualization techniques to achieve this goal.
UNDERSTANDING DATA VISUALIZATION: THE EVOLUTION OF DATA VISUALIZATION

There has yet to be a single accepted definition of data visualization in the extant literature. Czernicki (2010) describes data visualization as “a means of surfacing information from data using graphical techniques” (p.129). According to Unwin, Chen, and Härdle (2008), data visualization ranges in complexity with the simplest forms being charts and graphs (i.e., visual representation of data of only two dimensions) to the more complex forms of animated visualizations, which allow the user to interact with the underlying data visually (e.g., Tableau). Freedman (2006) argues for four key components that help define data visualization: (a) the dynamic graphical representation of data integrated within a data source, (b) the representation of outcomes from data analysis, (c) the ability to work with both quantitative and qualitative data, and (d) the presentation of data in a way that allows for enhanced data comprehension and interpretation. What appears to be at the core of these definitions is a proposition that data visualization is concerned with the representation of data visually for the purpose of promoting understanding and use.

Although the advent of personal computers has ushered in a new evolution in data visualization into the public discourse, the concept of data visualization has been traced back to the early 10th century to an anonymous multiple time-series graph of planetary movements (Funkhouser, 1936 as cited in Friendly, 2008). The 1700s saw the introduction of the concept of a coordinate system for the purpose of measuring time, distance, and space used in astronomy, map-making, and navigation (Friendly, 2008). The early 1800s saw the emergence of line graphs, bar charts, pie charts, and circle graphs by William Playfair (Friendly, 2008). Applications of data visualization to social science emerged around the same time when André-Michel Guerry used data about crime, literacy, suicide, and other various “moral” variables “to produce a seminal work on the moral statistics of France” (Friendly, 2008, p. 26). It was not until the 1880s that statisticians began to use graphs, as opposed to tables, to present their data (Maas & Morgan, 2002). This
transition occurred because graphs typically do not allow for the precise presentation of values, and statistics was viewed as the presentation of numerical facts not the formation of generalizations and interpretations (Maas & Morgan, 2002). Nevertheless, as time passed, the standards for graphing became established by the Joint Committee on Standards for Graphic Presentation in 1914 (Friendly, 2008).

The mid-1900s brought about three significant contributions: (a) data analysis came to be recognized as an important area of statistics (Tukey, 1962 as cited in Friendly, 2008), (b) graphs were organized according to the key features and relations in the data (Bertin, 1967; as cited in Friendly, 2008), and (c) the first advanced computer programming language, FORTRAN (Friendly, 2008). The late 1900s brought rapid developments to data visualization due to the advancement of computer technology; such developments include “highly interactive statistical computing systems,” “new paradigms of direct manipulation for visual data analysis,” “new methods for visualizing high-dimensional data,” and “graphical techniques for discrete and categorical data” (Friendly, 2008, pp. 40–41).

EXPLORING DATA VISUALIZATION

As alluded to already, one of the primary purposes of employing data visualization is to engender data comprehension of sometimes large amounts of complicated or multidimensional data in a visual medium (Huang, 2009). Data visualization enables users to explore the data visually through various operations such as zooming, rotating, or shifting (Pastizzo, Erbacher, & Feldman, 2002). These kinds of transformations can be used \textit{a priori} to discover emergent findings to generate insights (Woods, 2010) or \textit{a posteriori} to describe and communicate insights (Pastizzo, Erbacher, & Feldman, 2010). When data visualizations are crafted in ways that respect general principles of visual comprehension (such as those articulated by Tufte, 1983, 1990; or Bertrin, 1983), data visualization can provide clarity and help facilitate communication of data to end-users through the use of visual metaphors (Huang, 2009).

An important facet of data visualization is its ability to use a visual medium to facilitate cognitive processing. Freedman
(2006) argued that data visualization emerged as a popular way to represent data because it taps into the innate visual processing capacities of end-users, thus leading to enhanced data comprehension. This perspective has been asserted strongly, but we do not find further support of this claim in empirical studies that we have reviewed in this article. Tuft, a recognized authority on data visualization and statistical visualization, believes that the visual processes of the mind can understand analytical tasks such as causal relationships, multiple dimensions, and comparisons using data visualization (Zarchry & Thralls, 2004). To that end, Tuft argues that it is important to present data visually and to design the visual display in accordance with the intended message to be communicated. A core challenge of data visualization is how to align the design principles of visual display with the principles of analytical thinking; therefore, providing a foundation for identifying the design principles that support the cognitive tasks is pertinent for facilitating understanding of data visualization presentations.

Modern day data visualization offers a robust means to representing data. According to Iliinsky and Steele (2011), there are four ways to categorize visualizations. The first way to classify visualizations is based on the level of their complexity, according to the number of data dimensions it represents. The second way is to differentiate infographics from data visualizations. Both infographics and data visualizations are visual representations of information. Infographics are usually sketched manually with the aid of drawing software and are more aesthetically rich, but any change or update of information in an infographic is not easy as it is drawn manually; data visualizations are designed algorithmically by using graphing, charting, or diagramming software, which makes it possible for dynamic updates of information. The third way is to categorize visualizations as either exploratory or explanatory. Exploratory data visualization is involved in the data analysis phase, while explanatory data visualization is involved in the data presentation phase. Fourth, data visualization can be categorized based on the relationships between elements in the designer-reader-data trinity. An informative visualization deals with the relationship between the reader and the data as a neutral means
to educating the reader about the facts. A persuasive visualization primarily deals with the relationship between the designer and the reader, aiming to convince the reader of something. Finally, the visual art primarily deals with the relationship between the designer and the data. Its purpose is for sheer appreciation rather than extracting anything from it.

Some researchers in educational assessment have made efforts to investigate the use of data visualization. A recent conference presentation by Conley, Anisef, Brown, and Maldonado (2012) illustrated the use of data visualization in explaining research findings of a school board. In an attempt to join these researchers’ endeavors and to understand the potential contributions of data visualization empirically within the context of assessment and educational research, the next section describes a self-study outlining the use of data visualization with provincial student achievement test results for a specific southern Ontario school board district. In the next three sections, we highlight the relevant contextual details, discuss the protocol used to elicit the reflections on this experience, and report the findings of our study.

THE CONTEXTUAL EXPERIENCE OF PRESENTING DATA VISUALIZATION

All of the authors worked together as a research team to explore some of the possibilities surrounding visualizing educational assessment data. A special interest group from a particular school board, curious about data visualization techniques, contacted us and invited two of the authors to make a presentation about some of the different data visualization methods we have been using to analyze assessment data. This group was primarily concerned with making assessment results accessible, functional, and interpretable across different groups of educational stakeholders.

The research team used publicly available Educational Quality and Accountability Office (EQAO) data from schools of this particular school board for the data visualization presentation. The team spent several days retrieving this school board’s data off the public EQAO website, inputting, sorting, and organizing the data into appropriate tables in Microsoft
Excel, and creating Google Motion Charts. The presentation, which took place in December 2011, was delivered to teachers, principals, administrators, researchers, psychology associates, and social workers. The presentation consisted of an overview of data visualization (including a basic definition and examples), an introduction to the data source, and a demonstration of two software programs that can be used to visually represent data—Microsoft Excel and Google Motion Charts. Microsoft Excel was specifically chosen to illustrate data visualization techniques because it is the predominant software employed by practitioners; whereas Google Motion Charts was chosen because of its ability to visualize data with five attributes across time and its public availability.

METHOD

McMillan & Schumacher (2009) argue that interviews are useful for elucidating perceptions of thoughts and feelings. A semi-structured retrospective qualitative interview was conducted with two members of the research team to solicit and consolidate their experience of using data visualization to present educational assessment data with a particular Ontario school district. These two members (presenters afterwards) were specifically chosen because they delivered the data visualization presentation to the school district board. The rationale of employing a retrospective interview was to lend an empirical basis to this exploration around data visualization use and to enhance the validity of the self-study. Ericsson and Simon (1993) argue that when individuals answer interview questions based on recall of some specific past experience, their responses are more concrete and reliable. Three other members of the research team, who did not present to the school district board, designed and conducted an interview in March 2012, approximately three months after the data visualization presentation. The interview focused on the two presenters’ experience of presenting visualized data, their perceptions on the utilization, and the benefits and challenges associated with using data visualization in education. The two presenters were provided with the interview questions beforehand to promote self-reflection of their data visualization experience. The
interview was audio recorded and notes were taken throughout the interview process.

Another two members of the research team involved in this project employed an inductive and comparative approach to analyzing the interview data, which was transcribed from the audio file and interview notes. This process allowed them to generate codes and categorize those related codes into broader themes. The themes were created inductively in order to ensure the authenticity of what was expressed by the presenters during the interview. A cross-checking method, consisting of a discussion and consensual agreement between the two coders of the research team, was used. To enhance overall trustworthiness, the two coders conducted member checking with the two presenters to ensure coding consistency. When there was a discrepancy in the analysis of the data, agreement was reached through discussions about the meaning of such codes and/or through clarification with the presenters with what they meant by a particular statement.

RESULTS

Five themes emerged from analyzing the data: audience, interest in data visualization, context, benefits of data visualization, and concerns about data visualization. Each theme is described below.

Audience

Who is your audience? Those were the words that the two presenters emphasized throughout the interview about their experience with data visualization. From the initial preparation of the presentation to the actual presentation, the notion of identifying the intended audience was an important factor. The presenters believed that the intended audience exerted a certain level of influence on the design and communication of data visualization. When they prepared this data visualization presentation, they noted the importance of being mindful of whom their audience would be. One presenter said, “We more imagined we were doing it [the presentation] for academic conferences,” which suggested that they made an effort to build every section of the presentation in a clear and logical fashion by first introducing the concept and the data set used. Throughout
the presentation, they noted having paid specific attention to the communication and interpretation of the audience members. The presenters found themselves answering specific questions about the movement of visualized data. When thinking about reaching a broader range of educational stakeholders (e.g., principals, teachers, or parents), the presenters mentioned likely having to tailor the data visualization to accommodate for the variation of such audiences. They noted, “We would not present the same way we present to the principals if we present to parents.”

**Interest in data visualization**

The presenters noted the interest level of the audience that observed the visualized data presentation. Although the audience was very familiar with the assessment data at their own specific level (i.e., school-level, school district board-level), they showed immediate interest when the presenters used Google Motion Charts to present the data. “As soon as we introduced Google Motion Charts, they wanted to play with the data and became quite excited. I noticed a change in the atmosphere.” Data represented in motion appeared to enhance the audience’s understanding of the data given that it appealed to the visual sense of individuals. “They were quite amazed by the way it looked and began discussions about the performance of some schools. They liked our Google Motion Charts very much and thought it was an easier way to understand the data instead of columns of numbers.” For the audience, data visualizations with built-in movements were a novel idea about which they wanted to know more.

**Context**

Context was a prominent theme frequently addressed by the two presenters. Context refers to various factors (e.g., background and application) of the derived assessment data used in visual representations. The two presenters highlighted the value of knowing the context because knowing such information can enhance the effectiveness of data visualization. “They gave us suggestions on how to interpret the data in Google Motion Charts and explain to the audience, for example integrating information about influence of policy/interventions on school performance.” The importance of context is pinpointed in two aspects. First, the context helps one to understand and more
readily interpret what is seen in the visualized data. An example illustrating the importance of context is recalled by one of the presenters, “[when the audience] wanted us to explain the sudden change in performance...We couldn’t give them too much information because of our lack of background knowledge about this school district.” Second, knowing the context allows for more accurately informed generalizations and decisions. The presenters recalled the audience asking for data over a larger time span to ensure that the trends observed in the data representations were consistent and did not “make wrong generalizations and false conclusions.”

**Benefits of data visualization**

The presenters discussed several benefits of using data visualization as a means of displaying the results from data analysis. First, the researchers found the particular data visualization software used in this study had a user-friendly interface; “it is easy to use and no need to write syntax.” Secondly, data visualization is more broadly understood by educational stakeholders, “data visualization is easy to understand because it is visual and most people are visual learners.” Finally, visualized data can help audiences see trends in the data over time, which is often difficult to represent in traditional static graphs.

**Concerns about data visualization**

The presenters also commented on some of the concerns of data visualization from both the researcher and audience perspectives. The concerns appeared to fall into three categories: access and control functions of some data visualization software programs, misinterpretation, and technical issues. Given some of the limitations of Google Motion Charts, the audience expressed great concern about the confidentiality and privacy aspects, especially considering that information could be easily changed when access is granted to the public. In addition, the potential to misrepresent data increases when it is displayed in a visual format. For example, the data presented with Google Motion Charts looked continuous when it was actually discrete. Finally, technical issues were also a potential concern, especially in situations where the users are solely engaging with data visualization as there are limited supports available to help with
troubleshooting aspects. The presenters expressed other concerns related to whether the audience was adequately prepared to absorb the content of data visualization. The premise behind using data visualizations is that it makes data analysis and dissemination of the results easier for individuals to understand. However, without sufficient preparation to fully comprehend such information, data visualizations are essentially ineffective.

DISCUSSION

This case explored one of the primary propositions of data visualization—the graphical representation of data to engender comprehension. By visualizing student achievement data by schools on a provincial exam, educational administrators at an Ontario school board were afforded opportunities to observe trends and patterns concerning school performances through graphical means.

As the educational research community begins to explore the potential of data visualization, not only do technical merits and affordances become delineated, but effective applications also become understood and shared among researchers. This self-study on the experience of using data visualization provides empirical grounding for understanding the benefits and concerns of presenting data through visual means. The central theme that appears to weave through the findings is one of attending to the communication needs of stakeholders. Data visualization is inherently use-agnostic; charts, graphs, or tables are only means of re-presenting data. Meaning is given through its intended presentation to an audience. Our findings of attending and tailoring the message to the audience, contextualizing the visualization, and promoting data visualization literacy all highlight the need to carefully address this issue.

This study also revealed the technical merits and consideration of using data visualization within a context of educational research. Indeed, like any good study, the findings raised more questions than they answered. This study highlighted the further need to uncover how stakeholders, as inexperienced participants of data visualization, make use of these growing graphical techniques and address some concerns around data storage and privacy if data visualizations are to serve
and be seen as rigorous techniques rather than novelty illustrations. More empirical studies are needed to clarify these concerns for the true potential of data visualization to be realized. These inquiries are most effective if conducted in tandem with the software development community.

CONCLUSION

This paper outlines the long history of data visualization as a technique as well as recent developments in both popular and academic literature. Data visualization appears promising for engendering a greater comprehension of data for researchers and in further developing positive collaborations between educational researchers and stakeholders. Additionally, the self-study illustrated the importance of having researchers consider their audience and the context of the data when using and interpreting data visualizations. Furthermore, the high-level of interest in this area indicates that data visualization can have a promising future in educational research as long as some of the benefits and concerns of data visualization for users (i.e., researcher and audience) are adequately addressed.

This paper endeavored to begin incorporating the latest sophisticated data visualization software into the field of educational assessment. Future empirical studies into the utility of data visualization in the field of education are needed from the audience’s perspective in order to ensure that data visualization can be embraced, with as little difficulty as possible, by the educational research community.

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A CASE STUDY OF A COMMUNITY-BASED TUTORING AND MENTORING PROGRAM
Christina Kwiczala

ABSTRACT
This case study examines the impact of a community-based tutoring and mentoring program, Ready, Set, Learn. The program was designed to address the high early school leaving rates and low rates of enrolment in post-secondary institutions faced by Portuguese-Canadians. While much of the existing research on Portuguese-Canadians focuses on educational disadvantages, this study fills a gap in the literature by examining the work community members have undertaken to combat these issues. Stakeholders' perceptions of the program's impact are explored through a discussion of family life, experiences in school, and involvement in the Ready, Set, Learn program. The findings associate involvement in the program with improvements in academic achievement, self-esteem, language acquisition, knowledge of and attitudes to the schooling system.

Although a high quality education is guaranteed to all ethnocultural groups living in Canada, certain groups have faced disadvantages in the education system—among them, Portuguese-Canadians (Abada, Hou, & Ram, 2008; Ornstein, 2006). These disadvantages stem from negative schooling experiences and manifest in high rates of early school leaving and low rates of enrolment in post-secondary institutions (Fonseca, 2010; Noivo, 1997; Nunes, 1999, 2003; Santos, 2006). Because many Portuguese-Canadian youth are neither pursuing an education nor acquiring marketable skills, scholars argue that this community is becoming increasingly ill-prepared for the economic challenges of the future (Noivo, 1997; Nunes, 1999). The Portuguese-Canadian community of Toronto has reacted to the studies documenting their disadvantaged status by creating Ready, Set, Learn [pseudonym]. This is a non-profit tutoring and mentoring program geared towards students in the community.
who need encouragement and support to complete high school and achieve their post-secondary goals.

The significance of this study lies in its solutions-oriented philosophy: it examines the specific work that members of the Portuguese-Canadian community are doing to combat educational disadvantages. The Ready, Set, Learn tutoring and mentoring program is an example of a community-based educational organization with the goal of combating the structural oppression and discrimination that has led Portuguese-Canadians to experience educational disadvantages. To provide context and an introduction to the theories that frame this study, an overview of the existing research on Portuguese-Canadians will be presented. Theories of culture and social class will be explored to show how much of the existing research on Portuguese-Canadians has been problem-focused.

The hope among many immigrant families, Portuguese-Canadian and otherwise, is that they and their children can successfully adapt both culturally and economically into the mainstream society (Fernandez-Kelly & Portes, 2008). Despite their efforts however, Portuguese-Canadians have often faced disadvantages in the Canadian education system and society in general. Cultural models, lack of cultural capital, child rearing strategies, and experiences with social reproduction will be outlined to provide an explanation for these educational disadvantages.

CULTURAL MODELS, CULTURAL CAPITAL, AND SOCIAL REPRODUCTION

The cultural model of each immigrant group exists to provide its members with a framework for interpreting educational experiences which subsequently guide their behaviour in the schooling context. Ogbu (1991) argues that the cultural model of a particular group is therefore connected to the degree of relative academic success or failure among its members. For example, in many cultures, there is a somewhat rigid social boundary separating the realm of school from the realm of home. This could contribute to a flawed perception of a lack of parental involvement in schooling among educators. This can result in further difficulties for immigrant groups in
adjusting to a school system which emphasizes physical involvement. In addition, the lack of English among many immigrant groups further contributes to their difficulties navigating the school system (Suárez-Orozco & Suárez-Orozco, 2002). Ogbu (1991) concludes that more academically successful cultural groups are those that have knowledge of the dominant language, and an understanding of the workings of the larger society and its institutions, particularly schools. They also have a keen sense of their place in the working order of society and are able to modify their interactions accordingly to fit the overarching structure (Ogbu, 1991).

Bourdieu and Passerson (1977) referred to this 'sense of place' as cultural capital and argued that groups that possess it have greater chances of succeeding academically and socially. Cultural capital is transmitted from parents to their children by different child-rearing activities and is highly dependent on socio-economic status. In a study conducted by Lareau (2003), it was found that the middle-class families were characterized by ample discussion between parents and children and a wide array of organized activities for children selected by their parents. By making sure their children had these experiences, middle-class parents engaged in a process Lareau termed concerted cultivation. These children learned to question adults and address them as relative equals, shift interactions to suit their preferences, and negotiate institutional experiences. They essentially were trained in the 'rules of the game' and knew how to make these rules work in their favour. However, relations among working-class family members in Lareau’s study tended to be characterized by little discussion. Children in these families experienced long stretches of leisure time, child-initiated play, and clear boundaries between the adult and child world. This child-rearing strategy is known as the accomplishment of natural growth and Lareau argued that it appeared to be out of synch with the standards of North American institutions. As a result, this child-rearing strategy can manifest in negative schooling experiences for these students, particularly feelings of disengagement and academic underachievement (Lareau, 2003). These experiences can repeat throughout generations, since the transmission or absence of cultural capital results in social
reproduction: the process by which each generation fulfills their inherited social, educational, and economic traditions, leaving the group essentially unchanged (Bourdieu & Passerson, 1977).

THE EDUCATIONAL DISADVANTAGES OF PORTUGUESE-CANADIANS

Although Portuguese-Canadians hold high educational and economic aspirations, many studies show Portuguese-Canadians to be lacking in cultural capital. They have substantially lower education and average income levels compared to other immigrant groups and this has resulted in Portuguese-Canadians adopting a working-class identity, and subsequently becoming marginalized in society (Abada, Hou,, & Ram, 2008; Ornstein, 2000, 2006). Furthermore, evidence of adherence to the child-rearing strategy of the accomplishment of natural growth has resulted in social reproduction, in which a disproportionate number of youth head into the same marginalized socioeconomic roles as their parents (Giles, 2002; Lareau, 2003; Nunes, 2003). It also has manifested in an insufficient knowledge of the benefits of education, resulting in a lack of enrollment in post-secondary institutions, and early school leaving (Noivo, 1997; Santos, 2006).

Early school leaving is the result of challenges students face with the schooling system, particularly irrelevant curriculum, disaffection, and disengagement in the classroom (Fonseca, 2010). In regards to Portuguese-Canadian students, McLaren (1986) attributed their academic underachievement to the practice of streaming and negative teacher attitudes which victimized immigrant students by reinforcing the perception among educators that these students were 'dysfunctional' and 'culturally deprived'. Furthermore, teachers unwittingly subscribed to a dominant cultural capital in their classrooms that actively silenced the working-class immigrant students who didn't share its ideology (McLaren, 1986). This resulted in the culture and life experiences of Portuguese-Canadian students being devalued and not reflected in the curriculum. Furthermore, culturally-biased assessment procedures, low teacher expectations, and the concentration of inferior vocational schools and programmes in working-class areas further contributed to the
disadvantages faced by Portuguese-Canadians in the educational system (Nunes, 2003). Scholars conclude that the educational system has largely been unable to bridge the chasm of opportunity between the social classes and continues to be discriminatory toward Portuguese-Canadians (McLaren, 1986; Nunes, 2003). This is resulting in this group's marginalization and exclusion from the various social, political, cultural, economic, and educational expressions of Canadian society (Nunes, 1999).

In addition to calls for school reform, more inclusive curriculum, and interventions for disadvantaged and disengaged students, recommendations to these educational challenges have also been in the form of targeted programs such as community infrastructure and tutoring programs working with not-for-profit organizations to provide services to the Portuguese-Canadian community (Santos, 2006). Furthermore, the impact of successful Portuguese-Canadians acting as role models and offering educational support for younger community members experiencing academic difficulties has been shown to be critical. Fonseca (2010) argues that these role models transmit cultural capital to younger community members by illustrating how to aspire to educational and vocational goals. Community-based programs and school-community partnerships are therefore necessary to facilitate this transmission.

THE ROLE OF COMMUNITY-BASED EDUCATION

An emphasis on the community and its role in the education of its members is of the utmost importance, as the success of any education program depends on a dialogical search for solutions with the people to whom it pertains (Freire, 1970). This is emphasized in various philosophies of community-based education, an initiative which seeks to heighten the role that surrounding communities play in the education of their members. At the core of this approach is the belief that students learn best when they are integrated and interactive within society. Essentially, by using communities as learning sites and by engaging more partners in the task of preparing children for adulthood, the resources brought to bear on students' development can be significantly enhanced, strengthening both
the students themselves and the communities which will eventually depend on them (Smith & Sobel, 2010).

The most effective organizations have a view of students that differs from the common institutional conception. These organizations see students as resources to be developed instead of problems to be managed. This generates activities that respect the views and abilities which students bring with them, that are attuned to their developmental needs and cultural differences, and provide academic support. Heath and McLaughlin (1991) discuss homework sessions and tutoring programs as forms of community-based educational organizations. They view these programs as being open and accommodating to students, letting them talk freely about problems and successes in school and encouraging them to stay in school, keep up attendance, and motivate them to successfully complete schoolwork.

Community-based education programs can also be viewed as a partnership between students, schools, and their communities, as they engage youth in authentic experiences within the public domain. This results in meaningful learning experiences for students and a product or service for the community (Tompkins, 2005). This view of school-community partnerships has also been expressed by the Ontario Ministry of Education, which has recognized that ethnocultural communities in particular represent resources that schools could draw on to assist students and to enrich the school's cultural environment. Educators are encouraged to foster community ownership of schools, and community groups are identified as being able to contribute resources for use in schools, such as interpreters to assist in communicating with parents. Overall, the Ontario Ministry of Education adheres to the philosophy of community-based education and contends that connecting schools to their surrounding communities and encouraging partnerships creates a richer learning environment for all students and benefits society as a whole (Ontario Ministry of Education, 2007).

Communities and the resources they provide are necessary for students to navigate the complex and often constraining schooling institution. James (2005) explored this in an analysis of the support that community networks and resources provided to visible minority students from working-class, immigrant
backgrounds. The assumption that these students lacked the experience, aspirations, and social and cultural capital needed to pursue postsecondary education was challenged. Instead, with the support of their parents, mentors, and communities, these students developed the incentive, knowledge, determination, and commitment that made high educational and occupational goals possible (James & Haig-Brown, 2001; James, 2005). Essentially, when an ethnic group was constrained by structural disadvantages, effective community organizing mobilized resources to counter the negative effects members faced in mainstream society. Moreover, community-based organizations furnished a protective social environment and a cultural core which prevented an ethnic enclave from ghettoization (Zhou, 2005).

Community-based organizations also help to instill cultural capital in regards to education. Many immigrant parents lack the knowledge necessary to give their children specific directions in regards to their educational and career plans. Zhou (2005) argues that this can leave a gap between high expectations and realistically feasible means of meeting these expectations. She argued that community-based organizations can fill this gap by helping young people become more aware of their choices and helping them find realistic means of moving up socioeconomically into mainstream society. After-school programs, tutor services, and test preparation centres were examples of organizations which facilitated this (Zhou, 2005).

Community involvement can also play a significant role in how students reflect on their educational and occupational aspirations. For the most part, the support of community networks and resources allowed students to cultivate attitudes, values, and behaviours that helped them to break through barriers, resulting in upward social mobility (James, 2005). These experiences had the potential to influence the extent and manner in which students would participate in their communities as adults (Tompkins, 2005). In particular, involvement in community-based programs equipped students with the resources to 'give back' to their communities, thereby enhancing the opportunities of its younger members (James, 2005).
METHOD

A qualitative case study approach structured this research. The Ready, Set, Learn tutoring and mentoring program was examined in depth in order to gain a better understanding of its nature, functions, and mandates, and showcase the experiences and perceived impacts on the students it serves. An appreciative inquiry methodology also informed this research, as it focused on the root causes of success within this organization through the art and practice of asking positive-focused questions (Cooperrider, Whitney, & Stavros, 2008).

As case studies involve in-depth examination, the perceived impacts of Ready, Set, Learn were uncovered through collecting and analyzing data from the stakeholders directly involved in the program. Therefore, the study was comprised of document analysis and a participant-oriented investigation (McMillan & Schumacher, 2010). As many appreciative inquiry studies make use of contextual information, data collection began with an investigation of documents which pertained to the Ready, Set, Learn program (Reed, 2007). The documents examined were diverse and wide ranging and included the following: agendas and minutes from administrative meetings; registration and information forms; media outreach; student and tutor evaluation forms, surveys, registration packages, and orientation guides; program evaluations; fundraising and donation materials; program budgets; yearly enrolment statistics and summaries; and data on participating schools and collaboration with other institutions.

*Ready, Set, Learn* services over 250 students, and recruits over 160 tutors. There are two program coordinators who are responsible for the program’s operation, as well as countless parents and guardians who volunteer. The following people participated in the study (all names are pseudonyms): one program coordinator, who had been with Ready, Set, Learn since its inception; three tutors, Beth, Manuel, and Kevin, who reflected on their experiences in the program; two parents, Sylvia and Conceição, who both had daughters who had been involved in Ready, Set, Learn; and five students, Marco, Tatiana, Jessie, Celia, and Bella, who ranged from grades six to eight. These participants were each involved in semi-structured, audio-
recorded, one-on-one interviews which were later transcribed (Berg, 2009). Participants were information-rich cases, knowledgeable and informative about the program, and studied in depth (McMillan & Schumacher, 2010).

A systematic process of coding, categorizing, and interpretation provided information and explanations of this case study (McMillan & Schumacher, 2010). With the purpose of examining each participant's schooling experiences, home experiences, and perceptions of the impacts of Ready, Set, Learn, the units of analysis included participants' answers to the interview questions in addition to themes that came up in the document analysis. The themes that arose in the interviews spoke to the perceptions of how the tutoring and mentoring program had impacted its stakeholders. Interview transcripts and documents were compared so as to find patterns within the data sets. This allowed for discovery of the connections between various aspects of people's situations, mental processes, beliefs, and actions (McMillan & Schumacher, 2010).

RESULTS

The findings are organized to report on the home and schooling experiences of the participants as well as their involvement with Ready, Set, Learn. First, a brief description of the program is provided, outlining its purposes, goals, and functions. This provides context for the next section, which reports on the results from the interviews and document analysis. The participants speak to their experiences in their home lives, encounters in the schooling system, and their participation in the Ready, Set, Learn program. The impacts of these experiences are also explored.

Program Description

Ready, Set, Learn provides free tutoring and mentoring services to the Portuguese-Canadian community. It serves students from grades one through twelve who are at lower levels of academic achievement. This includes elementary school students who are lagging behind in literacy and numeracy standards as well as students at the secondary level who are at risk of dropping out. Through its extensive partnerships with two school boards, the program operates six days a week, after
school in the afternoons and on Saturday mornings, at various community schools. Students receive help with their homework or participate in educational activities to address their areas of difficulty. *Ready, Set, Learn* provides ample resources to help tutors teach their students as effectively as possible. In addition, tutors also act as mentors and role-models to their students, offering them support and advice. They are also encouraged to foster a love of learning and motivate their students to have high academic and vocational goals.

*Ready, Set, Learn* also offers additional services for its students and parents through hosting a variety of events. For example, every year Portuguese-Canadian high school students from within and outside of *Ready, Set, Learn* have the opportunity to shadow a university student for the day, thereby gaining knowledge and receiving additional mentoring support. In addition, *Ready, Set, Learn* also holds workshops for the parents and students who participate in the program. Information about all aspects of the high school and the post-secondary schooling structure are provided as well as advice on particular areas such as selecting high school courses or financing post-secondary education. This format encourages parents and students to bring their questions and concerns and connects them to educators, professionals, and other parents who can help guide them.

**Child-rearing Practices and Family Structure**

Participants spoke to various experiences regarding their family structure, and relations among family members. Both parent participants spoke to having regular discussions with their children about their performance in school and their participation in *Ready, Set, Learn*. Conceição recalled regularly inquiring into her daughter's school experiences and frequently discussing post-secondary options. She emphasized that there was regular communication between her and her daughter and how her daughter felt comfortable expressing her needs and concerns regarding school. Sylvia also spoke to a regular dialogue between her and her daughter, Tatiana, but expressed concern at her daughter's shyness. Tatiana appeared to have trouble engaging in conversations and did not feel comfortable talking to her teacher. This led Sylvia to worry about Tatiana's transition.
into high school and she enrolled Tatiana in a variety of extra-curricular activities in an attempt to make her more outgoing and comfortable around new people. Sylvia also spoke to her experiences of being a single mother and the sole provider for her two children. She discussed her need to work long hours and lamented she couldn’t be more physically involved in Tatiana’s school life, although she did make an effort to attend parent-teacher interviews.

Student participants also discussed their home life with only some speaking to ample communication between themselves and their parents in regards to their school performance and their experiences attending *Ready, Set, Learn*. Celia in particular spoke to how her parents were very involved in her education, and took the time to discuss career plans and go over lessons and homework with her. Bella also spoke to her parents’ involvement in her education, particularly how they encouraged her talents by enrolling her in extra-curricular art classes. Conversely, Marco and Jessie discussed how there was little communication between themselves and their parents in regards to their schooling, and academic and career aspirations. They did speak to some conversations regarding the *Ready, Set, Learn* program however. Marco and Jessie were also the only student participants that were not involved in organized, extra-curricular activities. They discussed how they tended to spend their leisure time watching television, going on the computer, or playing video games. Most student participants came from stable two-parent families and all of them had siblings. One student, Jessie, had a single-parent mother who was currently not working and no relationship with another parent. Manuel, a tutor, also spoke to the family structures of his students and expressed concern that many of them did not have a father-figure. This made him keenly aware of his responsibility to be a positive male role model to these students, particularly because of his own experiences growing up in a single-parent family.

**The Schooling Institution**

The program coordinator indicated that some Portuguese-Canadian parents often expressed to her that they did not want to initiate dialogue with their child's teacher because they were afraid of the ramifications of doing so. There appeared to be a
fear of going against the teacher, even if the parents didn't agree with something the teacher did or said. Conceição, a parent who immigrated to Canada ten years ago, recalled initially being hesitant about approaching a teacher to discuss her daughter's experiences with bullying, because her family were not yet landed immigrants. Sylvia discussed how although she went to parent-teacher interviews and made a point to introduce herself to her daughter's teachers, she got a sense that the schooling community wasn't very welcoming and didn't make the effort to get to know her as a parent. Furthermore, these parents spoke to how they felt unsupported by schools when they did get involved. For example, Conceição recalled how a complaint about her daughter's teacher was completely ignored by the administration, and Sylvia discussed how Tatiana's school was unnecessarily delaying the review process to get her on an Individual Education Plan.

Manuel also spoke to his own negative schooling experiences that stemmed from teachers he perceived to be uncaring and how he felt disengaged in his classes. He discussed how he dropped out of high school but sought an alternative route through a transition program. This allowed him to obtain his Ontario Secondary School Diploma as well as college credits; however, he lamented this process being long and difficult. He recalled discussing these experiences with his students as a way of encouraging them to complete school the traditional way.

Some student participants expressed similar sentiments of disengagement in regards to their schooling experiences, and many student participants spoke to how they felt school was boring. Marco discussed how he was not interested in any of his school subjects except for music and gym. Jessie used to like school, but as the subjects became more difficult and the workload heavier, began to hate it. Tatiana seemed ambivalent toward school and expressed frustration at the fact that it wasn't very interesting. Echoing this, the documents discussing stakeholder experiences outline stories of disengagement and speak to experiences of students who had suffered from a lack of interest in school. This led to them having negative perceptions of their intelligence, acting out their frustration in class, and
considering dropping out of school. Furthermore, all student participants had an overwhelming lack of knowledge regarding high school, university, and their career options. While most students had a general sense of their vocational aspirations, they spoke to how their teachers had yet to discuss the particular academic paths required to achieve those aspirations.

**Impacts of Program Participation**

*Ready, Set, Learn* attempted to encourage parents to become more involved with and physically present in their children's schools. Both parent participants spoke to how the program coordinators were extremely helpful in answering questions, addressing concerns, and offering advice. Conceição felt that she was empowered through her discussions with the staff at *Ready, Set, Learn* and made aware of her rights and the educational rights of her daughter because of her involvement in the program. This eventually gave her the confidence and courage to speak up to teachers, administration, and even the school board when she had any concerns. She eventually became a very active member of her school community, citing regular examples of participation in anti-bullying campaigns, in addition to ensuring the academic success of her daughter. The documents also discussed the role of the tutor as being vital in facilitating physical parental involvement. Having knowledge of English as well as an understanding of the workings of the schooling institution and larger society, tutors acted as resources to parents and helped to facilitate their involvement in their children's education. The program coordinator provided examples of how tutors often accompanied parents and children to parent-teacher interviews and school meetings to act as a translator and helped parents voice their concerns.

*Ready, Set, Learn* provided parents and students with ample information regarding the school system and aimed to educate them about their academic and career choices as early as possible. This was accomplished primarily in the workshops as well as the opportunities to shadow university mentors. Sylvia spoke to how her daughter Tatiana had a better understanding of the transition process from elementary to secondary school as a result of attending the workshop. Furthermore, she learned which courses she would need to take in high school to get into the
college program of her choice. Similar sentiments were echoed by student participants in feedback documents outlining their experiences shadowing a university mentor. They learned of the programs and supports provided by particular universities, information on financing post-secondary education, as well as the vocational opportunities that resulted from having a university degree. Students were able to connect with mentors who were also of Portuguese-Canadian heritage and bond through discussing similar upbringings and challenges they had faced. Essentially, this experience not only encouraged these students to pursue postsecondary studies, but gave them confidence in their abilities to do so.

Students also spoke to the academic impacts of *Ready, Set, Learn*. They discussed how their grades had increased and how they had progressed in the areas they were struggling with. For example, Marco, a recent immigrant from Portugal and an English language learner, spoke to achieving A's and A+'s in his subjects as a result of his involvement in the program. Celia and Bella discussed how their math marks had significantly improved. Celia attributed this to the interesting and engaging ways her tutor taught her difficult concepts. The program coordinator also recalled incidents where students found they no longer needed their Individual Education Plan or were able to move from the Applied to Academic stream as a result of the continued support they received from their tutors. As a result of their overall positive experiences, many student participants spoke of recommending this program to friends and peers.

The tutors also spoke to how they attempted to positively impact their students, mainly through helping them acquire proficiency in English and by providing them with information about the schooling system and the workings of larger society. Beth spoke to the theme of language acquisition when she recalled one of the students she had tutored, who was struggling with English. She outlined how she used reading aloud and drama techniques to allow her students to work figuratively with the English language to discover how it worked. This not only helped the student improve his spoken English, but also instilled in him an interest in drama. Manuel and Kevin also discussed the importance of learning English as being important to student
success, and also focused on issues of parental language acquisition. Kevin emphasized that the main focus of his tutoring sessions revolved around building vocabulary, grammar, and spelling. His students were younger and had parents who had difficulties with the English language – he said that it was his responsibility to ensure that they acquired this vital skill. Manuel discussed how many of his students' parents did not speak English as a first language and how he encouraged them to improve their own language skills so that they could further support their children.

Manuel also recalled frequently discussing academic and career aspirations with his students and gave them advice in regards to how to achieve them, often citing his own experiences and encouraging his students to learn from his mistakes. Despite the focus being on the students, Ready, Set, Learn seemed to have positively impacted the tutors as well. Kevin spoke to how his involvement in the program helped him realize that he wanted to be an elementary teacher and was giving him the experience working with children necessary to be accepted into teachers’ college. Overall, all tutors spoke to how they were able to make meaningful connections with their students, give back to their communities by volunteering in this program, and facilitate the attainment of their own goals.

DISCUSSION

Ready, Set, Learn as Community-Based Education

Both the structure and the impacts of Ready, Set, Learn adhere to the literature on community-based education. The purposes and goals of Ready, Set, Learn are in line with Heath and McLaughlin's (1991) effectiveness framework of community-based educational organizations. Due to the one-on-one structure of the tutoring sessions, students received academic support that was specifically tuned to their developmental needs. This was achieved by ample communication between the child's tutor, teacher, and parents, as well as the freedom and flexibility given to tutors in regards to structuring their sessions. All tutors spoke about letting their students talk freely about any difficulties they were experiencing, and acted as positive role models by encouraging them to stay in school and work towards
achieving their academic and vocational goals (Heath & McLaughlin, 1991).

Experiences in the Home, School, and Ready, Set, Learn.

Participants appeared to come from both working- and middle-class families and discussed experiences which were reflective of the child-rearing strategies discussed by Lareau (2003). Both the ample communication between Conceição and her daughter regarding academic and career goals, as well as Conceição's regular physical involvement in her daughters' school and the Ready, Set, Learn program adhere to the child-rearing strategy of concerted cultivation (Lareau, 2003). Conceição furthered her education upon immigrating to Canada and was able to secure a well-paying professional job to provide her family with a comfortable life. As a result, she realized the value of education and instilled this form of cultural capital in her daughter, motivating her to achieve high academic and vocational goals (Bourdieu & Passerson, 1977; Lareau, 2003).

Sylvia and Tatiana appeared to comprise a working-class family, due to the single-parent family structure of having only one source of income, as well as Sylvia's lack of post-secondary education (Ermisch & Francesconi, 2001). Sylvia's experiences of working long hours and feeling as though she did not have enough time to be regularly physically involved in Tatiana's school life is reflective of Zhou's (2005) discussion of the experiences of working-class parents. However, Sylvia also appeared to adhere to the concerted cultivation method of child-rearing. As a result, her experiences seemed to be inconsistent with both Lareau's (2003) and Santos' (2006) findings. By encouraging communication between herself and Tatiana, and by proactively enrolling her in a variety of extra-curricular activities, including Ready, Set, Learn, Sylvia was attempting to give her daughter exposure to cultural capital (Lareau, 2003).

In regards to the student participants, Bella, Tatiana, and Celia appeared to be exposed to the child-rearing strategy of concerted cultivation. These participants discussed their own involvement in many forms of extracurricular activities. They also spoke to ample discussions with their parents regarding their academic and career aspirations, receiving homework help from their parents, and parental involvement in their schools and
Ready, Set, Learn. Marco and Jessie however appeared to have been raised using the strategy of the accomplishment of natural growth. Neither of them was involved in any form of extracurricular activity outside of Ready, Set, Learn. Furthermore, they did not have regular discussions with their parents, and appeared to have more control over their leisure time (Lareau, 2003).

The participant's experiences in schools, particularly the program coordinators’ discussion of hesitancy on the part of some parents to approach teachers, is reflective of Ogbu's (1991) discussion of immigrants’ feelings of exclusion and tolerance of it. Specifically, Conceição’s initial hesitancy to voice her concerns due the fact that she was not a landed immigrant echoes Suárez-Orozco and Suárez-Orozco's (2002) discussion of immigrants feeling like social outsiders and therefore being hesitant in raising concerns to school personnel. Sylvia’s discussion of her experiences with uncaring teachers, lack of support from the school, lack of resources, and lack of knowledge of the schooling structure are in line with Nunes’ discussion of educational disadvantages faced by Portuguese students and their parents (Nunes, 2003). Despite these negative experiences, and perhaps because of them, these parents were deeply concerned about their children's education and took the proactive step of placing them in Ready, Set, Learn.

In terms of the educational disadvantages prevalent among Portuguese-Canadians, participants spoke to their experiences in varying depth. Manuel had negative educational experiences which led to his becoming an early school leaver. His disengagement from learning was a contributing factor to his decision to leave high school. The student participants also discussed feelings of disengagement and their perception of school being boring, thereby echoing the experiences of the participants in Fonseca's (2010) study. Furthermore, Marco discussed his experiences with bullying and how despite his attempts to get teachers and administration involved to address it, the bullying continued. This is reflective of students' experiences of lack of school support and uncaring teachers, explored by Nunes (2003) and McLaren (1986). These negative experiences further emphasized the need for students to have a
'safe space' in which they are supported and encouraged to achieve academically, socially, and vocationally.

**Program Impacts**

*Ready, Set, Learn* attempted to address these negative experiences and acted as a transmitter of cultural capital. Manuel recalled frequently referencing his own experiences with school to give his students advice. By sharing his personal struggles with the school system, Manuel was encouraging his students to persevere and to learn from his mistakes. He was also attempting to pass on his knowledge of the schooling system and the workings of larger society to his students (Bourdieu & Passeron, 1977). Sylvia's story adhered to Zhou's discussion of the role of community-based organizations in facilitating parents' knowledge of and involvement in schools (Zhou, 2005). Despite her attempts to be physically involved in her daughter’s schooling, Sylvia found that she lacked information regarding her daughter's educational and career choices. She spoke to how the workshops hosted by *Ready, Set, Learn* were incredibly beneficial in providing this information and led to her daughter gaining an understanding of the requirements for her educational and career paths.

Participants spoke to how involvement in the program led to an increase in student's grades, self-esteem, attitude toward school, and acquisition of the English language. This was a result of both the weekly interactions with mentors and role-models in the form of tutors, as well as activities such as shadowing university students and attending workshops. This led to the students becoming empowered and motivated through their exposure to these resources. According to Smith and Sobel (2010) this could eventually strengthen the community as a whole. For example, one student discussed how his participation in *Ready, Set, Learn* made him want to become a teacher so that he could help students the way that his tutor helped him. Kevin was also inspired by his role as a tutor in the program and aspired to become an educator who would positively contribute to the growth and development of his community. This was in line with similar findings by James and Haig-Brown (2001) in their analysis of the impacts of community-based programs for visible minority youth. Overall, there is evidence that *Ready, Set,
Learn has benefitted Portuguese-Canadian students, as well as equipped them, their parents, and their tutors, with the resources to give back to their community. This will ultimately enhance opportunities for future generations and contribute to reversing the trends of educational disadvantages (James, 2005).

CONCLUSION AND IMPLICATIONS

Ready, Set, Learn is a concrete example of how Portuguese-Canadians have attempted to combat the educational disadvantages and negative schooling experiences their community has faced. By exploring the family life and school experiences of participants in the program, it is clear that there is a need for this program. Students experience academic improvements, an increase in confidence, positive perceptions of education and information regarding their post-secondary plans. Ready, Set, Learn has also positively impacted these students' parents, as the availability of information and support has facilitated their active role in their children's education. It essentially helped to instill cultural capital to students and parents through the provision of information and access to role-models who helped them advocate for their educational rights. Furthermore, the program also impacted tutors by allowing them the opportunity to give back to their communities and connect with students in a meaningful way, thereby furthering their own goals of becoming educators.

The findings of this study have implications for both theory and practice. This case study presents findings that contradict the idea that the cultural models, child-rearing strategies, and a perceived lack of cultural capital will keep Portuguese-Canadians stuck in a perpetual cycle of educational disadvantage. Portuguese-Canadians are deeply concerned about educational issues and this is fostered and enhanced through their participation in community-based educational organizations. As the case of Ready, Set, Learn has shown, involvement in these organizations provide a forum for parents, often frustrated with the school system, to share their concerns, ask questions, and gain knowledge and access to resources. While this study was limited to a small number of participants from one ethnic background, this study has wider implications.
for all immigrant students considered to be at-risk, and can provide a means for further research to investigate how other ethno-cultural groups who experience educational disadvantage can address these issues through effective community organizing.

Therefore, it is vital that programs such as *Ready, Set, Learn* continue despite calls to cut budgets for education and limit funding for non-profit organizations. Local schools should continue to work closely with community-based educational programs as they are an extension of education and an addition to the learning experience which contributes to student success. At the Ministry and Board Level, funding should continue to be provided for community-based educational organizations as it is a way that the schools can attempt to improve the educational experiences of its students and contribute to their success. Furthermore, programs like *Ready, Set, Learn* can fill the gaps which lead to educational disadvantages; the continuation of these programs is ultimately in schools' best interests. Overall, *Ready, Set, Learn* is working toward combating negative schooling experiences as well as the larger social issues of high drop-out rates and low rates of involvement in post-secondary education that Portuguese-Canadians have previously experienced. It has largely been successful in this endeavour and its efforts should continue to be encouraged.

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ABSTRACT

Children transform spaces into special places by interacting with the physical and social environment and attributing meaning to them. Although researchers recognize that learning environments have the potential to enhance learning by the presence of specific design elements, little is known about what constitutes learning spaces that elementary students characterize as 'special'. The purpose of this study was to investigate special places at school: for what purposes students used these places and in what ways the places were significant. This study used photo elicitation interviews, walking tours, and focus groups to explore eleven Grade 2 students’ special places in two Ontario learning environments: a privately funded not-for-profit Montessori school and a publicly funded school. Results demonstrated that Grade 2 students in both schools described indoor and outdoor special places for developing a sense of place, for engaging in types of play, for fostering and engaging in friendships, and for creating solitude and tranquility. The data from this study suggests that young students become attached to places in which they are permitted to act independently and interdependently.

INTRODUCTION

We are, for better or for worse, different people in different places. (De Botton, 2006, p. 13)

The design of schools has the potential to influence how students feel, behave, perform and develop (Ontario Ministry of Education, 2004; Upitis, 2010). The school, which generally includes classrooms, hallways, libraries, cafeterias, gymnasiums, washrooms, and playgrounds, plays an integral role in students’ learning as the “third teacher” (OWP/P Architects, VS Furniture, Bruce Mau Design, 2010; Strong-Wilson & Ellis, 2007). In other words, students’ experiences at school are shaped by the spaces and places in the learning environment (Dudek, 2000, 2002; Upitis, 2007, 2010). Due to the significance of schools in students’ daily lives (Rasmussen, 2004), researchers have
investigated students’ academic performance (Lopata, Wallace, & Finn, 2005), emotional and social development (Moore, 1986), and health and wellbeing (Maxwell, 2006). Although it is widely accepted that schools are significant places within childhood (Holloway & Valentine, 2000; Rasmussen, 2004), few studies describe them, indoors and outdoors, from young students’ perspectives.

In this study, I explored young students’ special places at school by using qualitative research methods. The purpose of the study was to elicit students’ perspectives of their relationships with place in different learning environments. Specifically, I investigated where Grade 2 students created their special places in a Montessori learning environment and a public learning environment, what defined these special places and how they were used.

In the context of the study, space is an area free from meaning whereas place is an area that is attributed meaning (Tuan, 1977/2008). Special places are places that are associated with significant meaning (Chawla, 1992, 2000; Sobel, 1993/2002). Although these definitions come largely from social geographers, space and place are topics of many studies from different disciplines, including medicine (Epstein, Stevens, McKeever, & Baruchel, 2006; LaRocque, 2008), ecology (Benson, 2009; Cobb, 1977; Hutchison, 1998), architecture (Brosterman, 2002; Dudek, 2000, 2002; Upitis, 2007, 2010), sociology (McGregor, 2004; O’Donohue, 2007) and education (Doppelt & Schunn, 2008; Einarsdottir, 2005; Fraser, 1998; Hart, 1979; Tupper, Carson, Johnson, & Mangat, 2008; Sobel, 1993/2002). These studies sought to understand children and adolescents by describing significant spaces and places, including learning environments and recreational centres, within their daily lives. They document the potential of the learning environment to shape students’ experiences, both academically and developmentally.

**Space and Place Influence Academics**

Increased academic performance is attributed to specific design elements, including the size and use of windows, type of flooring and arrangement of furniture within school spaces (Bell & Dyment, 2006; Heshong, 1999; Maxwell, 2006; Tanner &
A large study (Heschong, 1999, 2002), which took place in 2,000 classrooms across three American school districts (San Juan Capistrano, California; Seattle, Washington; and Fort Collins, Colorado) with between 8,000 to 9,000 students, found that students in classrooms with more daylight and large, operable windows achieved 7–26% higher scores on State math and language tests.

Researchers have isolated flooring as a variable in reducing noise in classrooms—which in turn reduces distraction, frustration and absenteeism due to health issues (Maxwell, 2006). Tanner and Langford (2003) investigated the effect of classroom flooring on student achievement. They measured reverberation times to determine noise levels in 100 public elementary schools in Georgia with carpeted and non-carpeted, hard surfaces (linoleum or wood flooring). Noise levels (high or low reverberation times) in carpeted classrooms were significantly lower than in hard surfaced classrooms. Results demonstrated that students in classrooms with carpeting achieved on average 2.2 points higher on their standardized math and language tests than students in classrooms with hard surfaces.

Seating arrangement also influenced students’ academic achievement. Wannarka and Ruhl (2008) analyzed eight studies about seating arrangement and determined that students achieved higher test scores and participated more when the seating arrangement matched the task. For example, students in rows achieved higher math test scores than those in semi-circles or clusters but they did not ask as many questions in brainstorming activities.

School playground designs fostered different types of behaviour. For example, Bell and Dyment (2006) found that natural design elements such as trees, trails, ponds and food gardens appealed to more elementary students than grass fields and asphalt, and encouraged more creative activity, which included shelter building. Additionally, the experience of planting and caring for a food garden encouraged students to try different vegetables and recognize them on nutrition tests (Morris, Neustadter, Zidenberg-Cherr, 2001).

It is evident from the research literature that the learning
environment has the potential to impact academic performance. It is less evident, however, how young students perceive their learning environments or what they perceive as the social, emotional, physical and intellectual impact of their learning environments. In educational research, students’ perceptions and experiences of space and place at school are described as the act of place-making, or finding and creating special places (Dudek, 2011; Einarsdottir, 2005; Leverett, 2011). Special places are specific locations in which students like to spend time. They may be found or constructed, in open, public spaces or in closed, private spaces (Ellis, 2004; Hart, 1979; Kylin, 2003; Sobel, 1993/2002). “Special places,” as educational researcher Benson (2009) noted in her study with 82 elementary students in North Carolina about favourite neighbourhood places, “are what teach children to care enough—about themselves, each other, and the earth” (p. 37).

**Special Places at School**

Special place studies largely explore preschoolers and adolescents’ perspectives of their schools. Educational researchers (Cappello, 2005; Clark, 2004, Dudek, 2011, Einarsdottir, 2005, Leverett, 2011; Peterson, 2009) generally conducted visual methods, including photo elicitation interviews, drawing activities, walking tours and focus group interviews. They noted that visuals, which the participating students created, empowered them to guide the interviews according to their own interests and engage in meaningful ways (without being intimidated or overwhelmed) to produce rich data. For example, Clark-Ibanez (2004) admitted her own tendency to take photographs for photo elicitation interviews of situations that she found “beautiful or unique . . . but [which] lacked meaning for the children in [her ethnographic] study” (p. 1509) with elementary students from two different schools in Los Angeles. Following this realization, she provided disposable cameras and encouraged the students to take their own photographs. In addition to determining the content of the interviews, young students were eager to participate when they were conducting a visual task or participating in an activity. As Einarsdottir (2005) stated, “children like taking pictures” (p. 525).

Cele (2006) compared four methods for understanding
primary students’ experiences of place, including focus groups, drawings, student-made photographs and discussions, and group walking experiences. Results showed that drawing and taking photographs enabled students to guide the discussion and include places that were not bounded by routes or walking distance in the way that the group walking tours were place-bound. Cele noted that the group walking experience provided students with an opportunity for taking an active role in the research and equalized the traditional adult-child power imbalance that was more evident in the focus groups.

The use of visual methods has led to significant contributions in researchers’ understanding of students’ special places at school. Special place studies have suggested that “spaces and places outside of the classroom” (O’Donoghue, 2007, p. 62) including hallways, atriums, libraries and courtyards are important. Upitis (2004) expressed the significance of hallways and courtyards as one of the components of complexity theory. She noted that people and ideas need to ‘bump’ into each other: “In order for complex systems to thrive it is critical that the agents in the system come into contact with one another” (p. 30). Hallways, according to Tupper, et al. (2008), “served dual purposes: as routes between classrooms and as spaces where students negotiated identities through social relationships” (p.1071–1072). Tupper, et al. conducted a research project, which included high school student surveys of out-of-class school spaces, students’ photographs, and one-on-one interviews with students and school staff. He concluded that students were defining their roles as responsible, independent citizens within school spaces. For example, students recognized specific areas as “their” space rather than “our” space. They also expressed preferences for specific spaces. The courtyard was the least preferred space due to the crowding and designation for smoking. The most preferred space in the school was the library due to the natural light and spacious feeling. The aesthetics, Tupper, et al. (2008) concluded, impacted their relationships to school spaces and in turn, their developing roles as citizens.

Peterson concluded that, “[i]mportant school spaces are more likely to become meaningful places when there is balance and harmony between the design of educational facilities and
students’ experience” (p. 119). Her conclusion recognized that “design features worked in one space and not in another” (pp. 119–120) and for one student and not for another. She noted from a variety of photographs that “learning occurs in all kinds of spaces” (p. 122). The harmony of place and the experience of learning may also shape the student. Schools are recognized as “sustain[ing] dominance, hierarchy, surveillance and segregation” (O’Donoghue, 2007, p. 69) over students, which limits how students interact with each other and the connections they make with the learning environment.

Behaviour in schools may be influenced by students’ engagement with special places. Educational researchers noted that behaviours including exploring, creating, problem-solving and pretending only occur when children reported feeling safe and secure in their environment (Benson, 2009; Ellis, 2004; Hart, 1979). Chawla (1992) noted that place provides three types of satisfaction: (a) security, (b) social affiliation, and (c) creative expression and exploration. Tuan (1977/2008) also emphasized the sense of security that may come from place. He stated, “place is security, space is freedom: we are attached to the one and long for the other” (p. 3).

Additionally, children’s experiences of place may have long-term effects, including character development and ultimately where they decide to establish their homes and communities. Chawla (1992) argued that place and personality are shaped by childhood attachment to special places:

Children’s place attachment is important both for what it contributes to the quality of their lives and the enduring effects they leave after childhood is over. Our experiences are circumscribed by our places and our personalities and perspectives are developed from the experiences we have in the places available to us (p. 62).

The relationship between our places and our personalities is complex, involving physical and emotional experiences from our past and present. Place simultaneously shapes us by our interactions with it and from those experiences, place also transforms. From literature about the design and arrangement of the learning environment, it is evident that space and place have the potential to influence academics and behaviours. From
special place literature, it is evident that students create and find meaningful places both inside and outside of their classrooms, in turn developing their sense of identity and belonging. Children’s experiences in special places involve the design of the physical environment, emotional and social relationships, and activities in-place (Kylin, 2003).

My study takes steps to investigate young students’ perspectives of their holistic experiences in special places at school. The rationale of the study is based on three research findings. First, the role of schools in childhood is significant (Holloway & Valentine, 2000; Rasmussen, 2004). Second, place-making is prominent in middle childhood (Hart, 1979; Sobel, 1993/2002). Third, place research using visual methods with students is an effective method for understanding students’ place attachment and special places at their schools (Cele, 2006; Chawla, 2000; Dittoe, 2002; Scourfield, Dicks, Drakeford & Davies, 2006; O’Donoghue, 2007). The research design of my study focuses on facilitating young students’ voices to communicate their perspectives and experiences of special places at school in ways that empowered them and reflected the visual, spatial and experiential nature of place.

THE STUDY

In my study, I used a qualitative approach and conducted two case studies (Stake, 2005, 2006). Each case consisted of one school and one small group of Grade 2 students who volunteered to participate in the study. One school offered a privately funded program, which followed the Montessori curriculum accredited by the Canadian Council of Montessori Administrators (2010). The second school offered a publicly funded elementary program, which followed the curriculum from the Ontario Ministry of Education. I focused on comparing each case in all their “particularity and ordinariness” (Stake, 2005, p. 445). A cross-case analysis allowed for the realisation of commonalities as well as situations of “unique vitality” and “complexity” (Stake, 2006, p. 39) between the two groups of students located at two different sites. The research process began in January 2011.
The Montessori school is referred to as Maple School (Figure 1). It is a not-for-profit school that adapted Victorian houses to make classrooms. Walls were simply decorated with brightly coloured materials on each shelf. Two teachers led small group lessons in a class made up of 3-year age groupings (Grades 1 to 3, ages six to nine). From Maple School, six students volunteered to participate in the current study. I use the following pseudonyms to refer to them: Alicia, Lily, Viola, Rocky, Luke, and Petunia.

The public school is referred to as Pine School (Figure 2). It is an Ontario Public school that was constructed and first opened for classes in September 2010. Walls were decorated with colourful posters and teaching materials, as well as an interactive whiteboard and chalkboards. This particular class combined grades 2 and 3, which were taught as a whole group by one teacher. From Pine School, five students volunteered for the current study. I use the following pseudonyms to refer to them: Jessica, Christina, Hal, Kaleb and Mason.
Participation from the schools and students was voluntary. Due to the scope of the study, only a small group of students from each school were permitted to participate. All students in Grade 2 who volunteered for the study were included, while the other classmates who were in different grades were given the opportunity to use a class camera to take their own photographs. Students in Maple School did not voice concern about being excluded, perhaps due to the organization and structures of a Montessori education. Students worked largely according to their own interests and academic levels, which means that they were often working on different projects than their classmates. One student in Pine School expressed a feeling of being excluded from the photography task. The student, as well as some of the other Grade 2 students in the class, took photographs and expressed excitement for the opportunity. I printed the class camera photographs and provided a piece of Bristol board for the teacher and students to display the photographs. I did not include these photographs in the data nor were they included in interviews.

In each context, three preparatory methods and three data collection methods were conducted to explore what places are special to Grade 2 students, where they are situated and how they are used. Preparatory methods were observations, meetings, and
researcher logs. Data collection methods were photo elicitation interviews, walking tours, and focus groups.

**Preparatory Methods**

I conducted three methods to develop my understanding of each school context. The preparatory methods also helped me to develop a working relationship with participating students in an effort to make them comfortable sharing their photographs and stories with me later during the data collection phases of research.

**Meetings.** First, I conducted a preliminary meeting with the students. The meeting allowed me to ask students to take photographs of their special places at school. I explained that I would print their photographs for them to sort and select the ones of their special places that they wanted to discuss. I showed some examples of my special places and then encouraged students, when they agreed to complete the photography task, to take practice photographs with their new disposable cameras.

**Observations.** Second, I observed how students used school spaces over a four-day period, which totalled between 12.5 and 13.5 hours at each school. During my observation visits to each school, students asked me questions about taking photographs and the research task. They completed the task and returned their cameras to me for developing. Photographing and visiting the schools proved to be crucial for establishing rapport with the participating students and organizing the data.

**Researcher logs.** Third, I maintained researcher logs throughout the data collection and analysis period. This stage helped me to follow the research schedule, including dates for meetings and interviews. As a result of the preparatory methods, I was able to build rapport with the students and develop a deeper understanding of the case contexts and reflect on them.

**Data Collection Methods**

Three additional methods were used for collecting data for the cross-case analysis. Photo elicitation interviews, walking tours and focus groups enabled students to share their special places in visual, experiential and meaningful ways. Visual methods have been documented for facilitating interviews about space and place (Collier, 1967; O’Donoghue, 2007; Prosser, 1998), in particular with young students (Cele, 2006;

**Photo elicitation interviews.** In one-on-one photo elicitation interviews, students sorted their photographs and selected a minimum of six to discuss. The interview was the student’s first time seeing the photographs, which caused excitement, giggling and fidgeting. I asked the students to arrange their photographs in the order that they wanted to talk about them but to set their most special place aside for the walking tour. One student selected the photograph of her most special place at random, pointing “eeny, meeny, miney, moe” while others identified their most special place after viewing, sorting and resorting all of their photographs. I referred to my “interviewer guide” (McMillan & Schumacher, 2010, p. 355; Patton, 2002, p. 343), which included four main items: (a) Please tell me where this place is, (b) Please tell me what is in the photograph, (c) What do you like to do in this place? and (d) What would make this place even more special to you? Although I had an interviewer guide, I used it in a semi-structured way. This resulted in a conversation that was informal. For example, without prompting, students would tell me not only where the place was but also why the place was special. Interviews ranged from 7 to 23 minutes.

**Walking tours.** Immediately following the photo elicitation interview, students led me on a one-on-one walking tour of their most special place. I audio-recorded any conversation that occurred while the student and I walked to the special place. I included the journey from the photo elicitation interview location to the special place because there was the possibility that the journey, as Hart (1979) suggested, was a part of the place’s meaningfulness. Once we were in the special place, I asked the student about it and referred to the same questions used for the photo elicitation interview.

**Focus groups.** After the photo elicitation interviews and walking tours, one focus group interview was conducted at each school. Focus groups permitted students to share their photographs and discuss their special places with each other. I arranged their photographs in individual photo albums for the group interview and facilitated discussion among the students by asking them to show their special places and ask each other
questions or share comments. I acted as the moderator for the focus group meetings and referred to semi-structured open-ended questions from the focus group guide. Five main questions included: (a) Who would like to tell us about their special places at school?, (b) Where is this place?, (c) What makes this place special to you?, (d) Who has a question they would like to ask? and (e) Is there anything else you would like to tell us about your special place?

For analysis, I first used descriptive structures and ordered places and contents according to the number of times they appeared. Further analysis used 83 photographs that students selected and discussed in their photo elicitation interviews, walking tours and focus groups. I used places as the unit of analysis and coded using etic and emic codes (McMillan, & Schumacher, 2010; Patton, 2002) to help me find patterns in the data of how places became meaningful.

In order to establish inter-rater reliability (Lombard, Snyder-Duch, & Bracken, 2004/2010; Saldana, 2009), one section of the transcripts, representing 33% of the total transcripts, was coded by a second-rater who was trained in my coding scheme. Interrater reliability was calculated at 83%.

**Data**

Students took a total of 408 photographs (Maple: 217; Pine: 191) of school spaces. On average, students took 36 photographs at Maple School and 39 photographs at Pine School (Table 1). From sorting the students’ photographs, I noted the most photographed spaces and selected special places.

**The most photographed spaces.** Three hundred and six (Maple: 146; Pine: 160) photographs were of indoor spaces while ninety-one (Maple: 60; Pine: 31) were of outdoor spaces. Twelve photographs were not interpretable due to improper exposure or were blocked by fingers (Maple: 11; Pine: 1). Students at Maple School identified nine indoor school spaces (146 photos) and four outdoor school spaces (60 photos). Students at Pine School identified eight indoor school spaces (160 photos) and two outdoor school spaces (31 photos).
Overall, indoor spaces were photographed more frequently than outdoor spaces. For both cases, the most frequently photographed indoor school space was the students’ classroom (Maple: 47 photos; Pine: 57). The library was the second most photographed space (Maple: 40 photos; Pine: 40). The most frequently photographed outdoor space was the playground (Maple: 29 photos; Pine: 18).

Table 1
Photographs Taken and Selected for Photo Elicitation Interviews (PEI) and Walking Tours (WT) by Grade 2 students at Maple School (Montessori) and Pine School (Public)

<table>
<thead>
<tr>
<th>Space</th>
<th>Maple School</th>
<th>Pine School</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Photos Taken</td>
<td>Photos Selected</td>
</tr>
<tr>
<td>Indoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom</td>
<td>47</td>
<td>8</td>
</tr>
<tr>
<td>Library</td>
<td>36</td>
<td>8</td>
</tr>
<tr>
<td>Before/after school care room</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>French room</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>Music room</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Kitchen</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Atrium</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Hallways</td>
<td>25</td>
<td>1</td>
</tr>
<tr>
<td>Gymnasium</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Office</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Washroom</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Outdoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front of School</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Back of School</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Sidewalk/street</td>
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<td>1</td>
</tr>
<tr>
<td>Playground</td>
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<td>8</td>
</tr>
<tr>
<td>Totals</td>
<td>206</td>
<td>39</td>
</tr>
</tbody>
</table>

Note: n/a represents instances where one space was not applicable (e.g., did not exist or was not accessible to students).
The most selected special places. The analysis focused on 83 (Maple: 39; Pine: 44) photographs that students took, selected and discussed in their photo elicitation interviews, walking tours and focus groups (Table 2). Specifically, Maple School students selected photographs of 20 indoor special places and 4 outdoor special places. The most frequently selected indoor special places were topic-specific shelves in the library (3 photos were selected; Figure 3) and the front of the music room (3 photos). The most frequently selected outdoor special place was the open area in the playground (4 photos; Figure 4).

Figure 3. Most photographed indoor place: topic-specific shelf in the library at Maple Montessori School. Photographed and selected by Petunia.

Figure 4. Most photographed outdoor place: open area in the playground at Maple Montessori School. Photographed and selected by Lily.
Table 2
Special Places Identified by Grade 2 Students in Photo Elicitation Interviews (PEI) and Walking Tours (WT) at Maple School (Montessori) and Pine School (Public).

<table>
<thead>
<tr>
<th>Space</th>
<th>Maple School</th>
<th>Pine School</th>
<th>n</th>
<th>Place</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom</td>
<td></td>
<td></td>
<td></td>
<td>Table–single</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Reading corner</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Table–group</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bulletin Board</td>
<td>1</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Front of classroom</td>
<td>2</td>
</tr>
<tr>
<td>Library</td>
<td></td>
<td></td>
<td></td>
<td>Subject specific</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Subject specific shelf</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Reading circle</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Couches–two</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Computer lab</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Winter mural</td>
<td>1</td>
</tr>
<tr>
<td>Before/after</td>
<td></td>
<td></td>
<td></td>
<td>Computers and listening</td>
<td>1</td>
</tr>
<tr>
<td>school program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>room</td>
<td></td>
<td></td>
<td></td>
<td>Sign in table</td>
<td>1</td>
</tr>
<tr>
<td>French room</td>
<td></td>
<td></td>
<td></td>
<td>Desks</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Carpet</td>
<td>1</td>
</tr>
<tr>
<td>Music room</td>
<td></td>
<td></td>
<td></td>
<td>Front</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Back</td>
<td>1</td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
<td></td>
<td></td>
<td>Front</td>
<td>3</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Back</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Back</td>
<td>2</td>
</tr>
<tr>
<td>Hallways</td>
<td></td>
<td></td>
<td></td>
<td>Sink in front of window</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Outdoor</td>
<td></td>
<td></td>
<td></td>
<td>Counter</td>
<td>1</td>
</tr>
<tr>
<td>Gymnasium</td>
<td></td>
<td></td>
<td></td>
<td>Stairwells–front</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>“wall of windows”</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Water fountains</td>
<td>1</td>
</tr>
<tr>
<td>Office</td>
<td></td>
<td></td>
<td></td>
<td>South</td>
<td>4</td>
</tr>
<tr>
<td>Washroom</td>
<td></td>
<td></td>
<td></td>
<td>Secretaries’ desks</td>
<td>1</td>
</tr>
<tr>
<td>Atrium</td>
<td></td>
<td></td>
<td></td>
<td>Toilet &amp; sink</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not photographed</td>
<td></td>
</tr>
<tr>
<td>Back of School</td>
<td></td>
<td></td>
<td></td>
<td>Bike racks</td>
<td>1</td>
</tr>
<tr>
<td>“Courtyard”</td>
<td></td>
<td></td>
<td></td>
<td>Flag</td>
<td>1</td>
</tr>
<tr>
<td>Sidewalk/street</td>
<td></td>
<td></td>
<td></td>
<td>Garden</td>
<td>1</td>
</tr>
<tr>
<td>Playground</td>
<td></td>
<td></td>
<td></td>
<td>Gate and entrance</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not photographed</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tennis courts (pavement)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pavement</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Open area (field-like)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Play equipment</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Play equipment</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: n = number of photographs selected for PEI and WT.
At Pine School, students selected photographs of 17 indoor special places and five outdoor special places. The most frequently selected indoor special place was the south side of the gymnasium (4 photos were selected in total; Figure 5). The topic-specific shelves and the reading circle in the library followed second (3 photos were selected for each place). The most frequently selected outdoor special place was the pavement in the playground (5 photos; Figure 6).

*Figure 5. Most photographed indoor place: south gymnasium at Pine Public School. Photographed and selected by Kaleb.*

*Figure 6. Most photographed outdoor place: pavement in the playground at Pine Public School. Photographed and selected by Jessica.*
In comparison, some photographs that students selected to discuss their special places appeared in both cases. Within the classroom, students at Maple School and Pine School selected photos of bulletin boards and subject-specific materials. Within the library, four places were similar between the two cases. First, students selected topic-specific shelves in both cases. At Maple School, a student selected a photograph of her reading “nook,” which was similar to the reading circle that some students at Pine School selected. Students at Maple School selected photographs of leather armchairs, which were comparable to the armchairs and couches identified in students’ photographs from Pine School. The back and front of the music room were selected in both cases.

Students also selected photographs of similar outdoor spaces. The playground was selected for the paved areas. Specifically, students at Maple School selected photographs of the tennis courts with nets, painted lines and hedges while students in Pine School selected photographs of the pavement with basketball nets, hopscotch and building corners. Students in both cases also selected photographs of the play equipment.

Despite these similarities, the photographs selected by students also differed between cases. Students from Pine School selected photographs of the hallways whereas students from Maple School did not. At Maple School, students selected photographs of the street and sidewalk, although students at Pine School did not take any photographs of that space. Students at Maple School also photographed tables within their classroom, including single and group, while students at Pine School, who were assigned desks, did not select any photographs of their desks (and only one student talked about his desk).

**Cross-Case Analysis**

Analysis of the data from both cases revealed four patterns. Places at each school were described as special for the opportunities they created for students to: (a) develop a sense of place, (b) engage in different forms of play, (c) foster friendships, and (d) find space for solitude and tranquility.
A sense of place or *placeness*¹ (Ellis, 2004; Tupper, et al., 2008) included students’ place knowledge, which they demonstrated by indicating spatial sense and awareness of one location in relation to another, as well as communicating knowledge and experience of seasonal changes to the landscape. Placeness also described students’ sense of belonging, which was expressed by students’ familiarity and knowledge of rules. For example, Luke described his special place in the courtyard at the back of Maple School: “THIS is us going to specialties. I stood back from my teacher, so I could get a BIG VIEW of the school” (Maple, Luke, PEI). Luke demonstrated an understanding of his spatial location in relation to other buildings and people.

Students often discussed the rules and routines for finding and borrowing books within the classrooms and libraries. For example, Christina, Hal, Jessica and Kaleb at Pine School described typical visits to the library. They explained that their teacher read a book to the class and then invited students to choose books to borrow. Jessica said, “you’d sign out the book and then we’d go to our classrooms and then put it in our backpacks to take home” (P, J, PEI; Figure 7).

![Figure 7. Placeness: rules and routines for borrowing books in the library at Pine Public School. Photographed and selected by Jessica.](image)

¹ Place has been discussed often as the absence of place or feeling of not belonging, or placelessness (Relph, 1976). Researchers in geography and sociology (Chawla, 2000; Ellis, 2004; Tupper et al., 2008) have begun to consider what it means to have a sense of place, to be aware of one's physical location in space-time as well as socio-emotional belonging. Placeness, as these researchers have defined, is one’s sense that comes from spatial knowledge and experience of space and place.
Students described places as special that afforded different types of play. Play, an activity that is freely chosen and inclusive, took on many forms, including pretending, moving, creating, gaming, and hiding, which were grounded in free choice and participation. For example, Lily described “slippery rock,” a rock in the open area of the playground for climbing (Figure 8):

L: I climb it, well, I try and climb it, and I slide. . . . There’s a little lump on it, so I climb the lump.
R: Why is it special for you?
L: Because it’s out in the open and its very fun (laughs) to slide down. (Maple, Lily, PEI)

Hal at Pine School attributed significance to the pavement in the playground for play that involved hiding and moving (Figure 10): “It’s funner when there’s lots of obstacles. We just run through the kids. I jumped over a little kid (laughs). I didn’t see him there then, I finally saw him because there was red [from his jacket]. I had to juuuump! It’s a softer landing there [on the grass] too” (Pine, Hal, PEI; Figure 9).

Figure 8. Play: climbing on “slippery rock” in the open area of the playground at Maple Montessori School. Photographed by the researcher.
Students described places as special that afforded friendships. Sometimes a place was special because best friends were sitting in it and invited you to join. Luke described a group table in his classroom at which he liked to work (Figure 10): “My favourite is the two table beside the window because there’s a window and a Chinese lantern hanging over it. I have two friends here, Rocky and Parker, sitting in the distance. I always like to sit with them. They’re very special friends” (Maple, Luke, PEI). Books were also described as friends. In the focus group at Maple School, Rocky asked Petunia, “Why did you take a picture of books?” She replied: “Because I love books” (Maple, Focus Group).

Conversely, students described places as special that afforded solitude and tranquility. Students described seeking out places free from noise, conducive for reading and writing, and for privacy. For example, Alicia found her own space in the open area of the playground. She explained: “It’s just I really like open space sometimes because sometimes, I really want to be
alone instead of like with other people. It’s a good place because its really big and you can find spaces that you can be alone and its quiet, so that’s why I really like this picture” (M, A, PEI). Lily found privacy when she sat in her “nook” which included pillows stacked between a shelf and a wall in the library (Figure 11). Jessica, along with Kaleb and Mason, described the reading corner in her classroom at Pine School as “Comfy! At the bean bag, it feels nice and comfy and relaxed” (Pine, Jessica, PEI).

Figure 10. Friendship: a place to sit with friends under the Chinese Lantern in the classroom at Maple Montessori School. Photographed and selected by Luke.

Figure 11. Solitude and tranquility: a reading nook for privacy in the library at Maple Montessori School. Photographed and selected by Lily.
Students in the current study photographed and discussed numerous special places at their schools. Places were special for placeness, a sense of spatial knowledge and belonging that was perceived from experiences in familiar, clearly defined places. Students described physical reasons for specialness, including space to play: move, hide, and chase; to be with friends: sit, talk, and work; and space to be alone and quiet: read, work and observe. The experiences and connections that the students described regarding their special places in the two school contexts were rich and complex. Despite the physical differences between the schools, students, for the most part, described parallel places and associated them with similar meanings. Special places, at their essence, offered experiences of interdependence and independence.

To give a sense of the richness and complexity of the data, I have described in detail the walkway in Maple School and the reading corner in Pine School. Then, in the discussion, I have focused on the two major themes, including interdependence and independence that the cross-case analysis revealed.

Two Special Places

Detailed descriptions of the walkway at Maple School and the reading corner at Pine School have been composed from my discussions with the students about their experiences in these special places. The walkway resembled, to some, a tight rope; the reading corner resembled a burrow to others.

**Walkway.** Students at Maple School characterized the walkway connecting one house to the other as special (Figure 12). It acted as a transitional place between the kitchen and elementary classrooms, and between additional elementary classrooms. Part of the walkway’s specialness was attributed to its design: the walkway was two-stories above ground and could be closed off by a door at each end. Windows lined the top halves of each wall, while a blue, gray and purple speckled carpet stretched from one door to the other. Students walked or skipped across this elevated threshold, each one careful to pause in the middle and peer out the window down upon the courtyard and parking lot at the back of the school, then down upon the street and railway tracks in the front of the school. When students described visiting their friends during lunch or
borrowing materials from other classrooms, they reflected on seeing the whole view of the school from the walkway and feeling proud that they were not afraid of heights. As they traversed the walkway, students often stretched their arms out towards the window ledges, as if walking on a tight rope. Upon reaching the door at the end of the walkway, they would knock and await permission to enter the classroom.

**Reading corner.** At Pine School, students characterized the reading corner in their classroom as special (Figure 13). The corner resembled a burrow: the arrangement of a desk, filing cabinet and bookshelves created a hollow where one soft, fire engine red and one egg yolk yellow beanbag chair were positioned. As soon as they had completed their assigned work, students would take their novels to this reading corner and escape into this new place to read quietly. This private, cozy place was special because of the physical and emotional comfort it afforded students. They described the weight of their bodies sinking into one of the beanbag chairs and resting their backs and their heads on the soft cushioning. They described the corner as quiet, even when the classroom was not, as if it had imaginary walls that protected it from unwanted sounds.
DISCUSSION

Analysis of the data made evident that two themes weave their way throughout the students’ descriptions of special places: (a) Interdependence; Grade 2 students become attached to places in which people, and community are evident; and (b) Independence: students perceive places as special when they are permitted to act freely, to interact with selected friends and engage in independent experiences. Notably, special places for interdependence and independence were often within the same space.

Interdependence. Specific locations within the classroom, library, office, atrium, front of school, back of school, sidewalk and playground were places that supported students’ interdependence. These places were valued for the opportunities they created for students to engage with friends in different ways. This is reflected in the significant number of photographs taken of people by the participating students despite their assigned task from the preliminary meeting: to take at least six photographs of their special places at school.

Friends, self-images, and school signs, logos and flags were significant aspects of students’ special places (Figures 14; 15;
The people and community within these places created, in part, their specialness. For example, I asked Mason, “What is special about the flag place?” and he responded, “Sometimes I’m far away from the school, [but] I can see the Canadian flag so I know it’s the school” (P, PEI, M, p. 7). This is an example of context, which is one of the seven design principles that Dudek (2011) attributes to children’s spaces. The remaining six are: character, connectivity, chance, clarity and challenge (Dudek, p. 82).

Other researchers have expressed the importance of a sense of community in creating positive experiences of place (Bergin & Bergin, 2009; Tupper, et al., 2008; Upitis, 2010). In a school, developing community has been called “school bonding, a sense of belonging at school and having a network of relationships
with peers and teachers” (Bergin & Bergin, 2009, p. 156). Bergin and Bergin stated that a student who is bonded to school has a sense that “people at school like me” (p. 156) whereas a student who is not bonded to school “feels lonely, out-casted, and alienated” (p. 156). Places were characterized as special that facilitated positive interactions with selected friends and communities.

![Image](image1.jpg)

*Figure 15. Symbols of Interdependence: people and community walking from one schoolhouse to another at Maple Montessori School. Photographed by Alicia.*

![Image](image2.jpg)

*Figure 16. Symbols of Interdependence: flag in front of Pine Public School Photographed by Mason.*
Independence. Special places were valued for the freedoms they afforded: choice and exploration. Students’ ability or potential to make decisions throughout their day depended on school and classroom routines and schedules, as well as in which spaces they were spending time. Most often, students exercised choice to determine different types of activities and with whom they interacted. For example, students in Maple School described how they enjoyed sitting in different places, at tables or by floor mats, depending on the work they were doing and with whom they were working. In both schools, students described the significance of borrowing books that they chose from the libraries (Figure 17). Books were important outlets for choice and exploration: students were able to act independently when selecting, reading and learning from books.

Many researchers agree that choice plays an integral role in self-development, however too many choices have proven to be overwhelming and lead to poor decisions or a sense of regret (e.g., for literature review of choice see Lillard, 2005). A child’s ability to make choices demonstrated their individual power and agency, such as when, in play, children chose who could or could not enter a special place by positioning guards at the entrance, establishing a secret password, or making the entrance
itself a secret (Kylin, 2003; Powell, 2007; Rasmussen, 2004; Sobel, 1993/2002).

Independence was also demonstrated by students’ desire for novel activities that occurred in novel places, including playing musical instruments in the music rooms, or exercising choice for free-play activities. Recess and before- and after-school care programs supported choice and exploration by permitting free-play, such as access to climbing structures, fields and hedges on the playgrounds as well as access to building materials (e.g., connecting straws and LegoTM; Figure 18). The students, for the most part, acted according to the rules and routines for these environments. Rules were integrated into their play and did not inhibit their senses of independence but may have enhanced it. Other researchers (Derr, 2006, Holloway & Valentine, 2000; Morrow, 2011; Rasmussen, 2004) reported that students who did not feel responsible and secure in the space because of these rules would not have exercised choice to play and to act independent from supervision in their special places.

Figure 18. Places for Independence: free-play activities in the before- and after-school care program at Pine Public School. Photographed by Mason.
The balance between interdependence and independence was significant to the students. Students characterized special places for the opportunities they provided for acting interdependently and independently. In other words, as Gibson (1982) defined, “the meaning or value of a thing consists of what it affords” (p. 407). The concept of affordances states that the environment has “action possibilities” (Gibson, p. 407). From the thematic analysis of data, it is evident that special places afforded Grade 2 students possibilities for the development of their senses of place, engage in play, foster friendships and find space for solitude and tranquility.

STUDY LIMITATIONS

Although the results answered the research questions (i.e. identifying where special places were located at school, what defined them and how they were used) the study was limited in three ways: time frame, camera selection and interview protocol. First, some students communicated that they would have photographed additional places if they had opportunities to visit them during the week that they had their cameras. Second, some students in the photo elicitation interviews struggled to sort their photographs when they did not have “good” photographs of the place that they wanted to discuss or the photographs did not capture what they had intended. A digital camera with a preview screen would have addressed this limitation. Third, one question within the interview protocols proved to be difficult for students to answer. After each photograph, I asked: “What would make this place even more special?” This question predominantly yielded “I don’t know” responses from the students. More studies that use visual methods need to be conducted in education to overcome some of these limitations. In O’Donoghue’s (2007) words: make “space for space in education” (p. 107).

IMPLICATIONS

The current study has implications for further place research as it contributes Grade 2 Canadian students’ photographs and voices to the discussion about school special places. The study also has implications for my teaching practice as I apply my
awareness of special places to the arrangement of my classroom and school environments.

**For Further Place Research**

The study adds the Canadian context and voices of young Canadian students to the on-going, international discussion of special places at school. Although social geographers (Elsley, 2011; Holloway & Valentine, 2000; Rasmussen, 2004; Spencer & Blades, 2006), psychologists, health (Epstein, et al., 2006; LaRocque, 2008) and educational researchers (Einarsdottir, 2005; Fraser, 1986; Hart, 1979; Doppelt & Schunn, 2008; Sobel, 1993/2002) have presented substantial data on children’s interactions and relationships with a variety of environments, including neighborhoods, recreational centers, family homes and schools, research has largely focused on outdoor environments and has been predominantly generated from Denmark, Iceland and the United Kingdom (Foley & Leverett, 2011). The impacts of Canadian winters on special places at school have yet to be explored from young students’ perspectives. From this study, students associated seasonal changes to the landscape with changes in the type of play and interactions with friends in which they engaged. Some students even described leaving those special places in the open areas and fields that they enjoyed spending time in during the spring and early summer for more sheltered ones such as corners of buildings or hedges during the winter.

Through active participation in the research process, Canadian Grade 2 students have the potential to make worthy contributions to place research. While researchers recognize the potential of young children to act as active participants (Holloway & Valentine, 2000), their contributions are somewhat limited in space and place research (Spencer & Blades, 2006). Some researchers (e.g., Brosterman, 2002; Dudek, 2000, 2002; and Einarssdottir, 2005) have worked with young students, aged 4–6, however, they focused on the Kindergarten or playschool environments. Other researchers (e.g., O’Donoghue, 2007; Sobel, 1992/2002; and Willenburg, et al., 2010) who have worked with students aged six to twelve in their studies about learning environments only partially include the younger students by excluding them in one-on-one interviews or focus
groups after the initial mapping, story-writing or brainstorming activities were completed.

With young students, as Morrow (2011) reported, collecting data seemed to be a matter of finding the right question. In this study, some questions yielded matter-of-fact, brief responses. I asked, “How would you make this place even more special?” to which students most often responded, “I don’t know” with expressions that seemed to say, “Duh, Miss Researcher, it’s already special.” Other questions inspired detailed, enthusiastic stories. Responses to the question, “What do you like to do here?” were typically detailed, such as descriptions about games, including the boundaries and who were allowed to play. The visual methods helped to take the pressure off of me as the researcher to ask the right question and positioned the students in the role of experts, showing and telling what was personally significant to them.

Reflecting on my role as a researcher, I have compiled five steps that I now realize were critical to my success when working with young students in this study and may be helpful for other researchers embarking on research with a similar population.  First, become familiar with the context. Prior to data collection, I arranged to observe for four days in each school. During these periods, I became familiar with the physical context of each school, as well as the routines to which students would later refer.

Second, develop rapport with the teachers and students. In this study, I contacted teachers by email, which allowed us to agree on a schedule for the data collection and also to communicate any prior concerns. For example, the teachers described the students who would be participating in the study and made suggestions on how to interact with them (e.g., “She is a bit shy, and processes information at her own pace, so try to give her more time to respond to your questions”). Teachers also told the students when I was coming, which built anticipation for my arrival and their participation. Arranging to meet with the students as a small group, then talking to them during an observation period, worked well to develop a level of comfort between the students and me. I also made a point to greet each student by name and accept any invitations (with permission
from the teacher and principal) to go to recess. At both schools, students were excited to invite me to recess, show me around the playground and meet their friends from other classes.

Third, focus interaction during data collection with an activity. In this study, the first interactions were during the meeting. I described my special places as a student and showed some photographs, as well as gave students their disposable cameras and encouraged them to take three practice photographs. The second formal interaction was the photo elicitation interview, which focused on sorting, selecting and describing the photographs of their special places. In both interactions, the activity fostered and focused our discussion.

Fourth, whenever possible use the students’ language. Make note of what the students call particular places, objects and friends. In this study, I rephrased interview questions using their language. I also referred to classroom activities that resembled the focus group meetings. In Maple School, I explained that the focus group meeting was similar to the sharing circle, where one student has something special to show and describe to the class and other students may ask questions. In Pine School, I contextualized the focus group meeting by referring to their classroom activity called “star student”, which followed similar procedures to the sharing circle.

Fifth, involve an artifact to which students can refer and subsequently keep once the research is complete. In this study, photographs were available for students to sort, to describe and to show their friends throughout the data collection process. I gave students photo albums containing their photographs and a hand-written “thank you” note to take home. The album symbolized the end product of our project together: the students had something tangible to represent their time and effort, and to show their teachers, friends and families.

My study also contributes Grade 2 students’ perspectives of their special places from consideration of their entire school contexts. Space and place research largely focuses on one space such as the science lab (e.g., Learning Environment Research; see Fraser, 1986; Goh, & Khine, 2002; and Moos, 1979) or on one environment such as the outdoors including playgrounds (Bell & Dyment, 2006), gardens (Morris, Neustadtler, &
Zidenberg-Cherr, 2001; Morris & Zidenberg-Cherr, 2002; Willenberg, et al., 2010) and city parks (Elsley, 2011). Other studies that include school contexts typically involve youths or adolescents (Abbott-Chapman & Robertson, 2009; Derr, 2006; Dudek, 2011; Hopkins, 2011; Holley & Steiner, 2005; O’Donoghue, 2007; Peterson, 2009; Tupper et al., 2008).

Future research would benefit from involving young students in all research tasks to describe their special places at their learning environments as well as asking teachers, administrators and parents about places in which they perceive students’ frequenting and enjoying. Longitudinal studies that involve an on-going collection of students’ perceptions of their learning environments, their academic achievements and reflections on their careers and homes would help to develop an understanding of the implications of place attachment in childhood on adult development, achievement and attachments to place.

Relevance to Practice

The results of this study suggested five important findings for the arrangement of Grade 2 learning environments. First, make books accessible. As Dewey (1933/1989) described, in a utopian school there should be books everywhere. All 11 students in the study attributed, on at least one occasion, value to places that permitted them to select and read books. Books, as objects that were freely chosen and viewed independently or with friends, seemed to elevate the capital of the special place.

Second, designate specialty rooms. Students characterized places as special that were distinct: places to which they had to travel and engage in specific activities, including the French and music rooms.

Third, visit a variety of spaces at school. All students in the current study with one exception discussed special places in both indoor and outdoor spaces.

Fourth, provide opportunities for positive social interactions. Students attributed value to places that permitted them to interact with their friends in different ways: to read, sit and play. Encourage positive social interactions by creating places for one-on-one interactions and group activities.

Fifth, involve students in on-going discussions about classroom and school rules to help them establish their independence as well as develop a sense of belonging to the community. Students in the current study typically associated
their special places with specific rules and their place knowledge empowered them to act independently as well as act in the environment responsibly.

Place, for better or for worse, has tremendous potential to influence students’ behaviour, feelings, sense of self and wellbeing. This study has demonstrated that special places, which allow a sense of place, play, friendships, and solitude, within learning environments let students develop and change in interdependent and independent ways. More research that uses visual methods and young students’ as active participants is essential for developing our understanding of school design and enhancing all learning experiences to encourage joyous, life-long learners.

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