Educating Children in Our Care: An Interprofessional Dialogue

Kathryn Ann Levine
Dawn Sutherland
Melanie Janzen

Abstract: In Canada, there is increasing recognition that poor educational outcomes of children and adolescents involved with the child welfare system represent an emerging crisis for youth, their families, and the broader society. Interprofessional education and collaboration between educators and social workers may facilitate better outcomes for children in care. Although interprofessional education (IPE) and interprofessional collaboration (IPC) are well established in the allied health fields, there is not an equivalent acceptance within the applied social sciences, specifically in education and child welfare contexts. This may partially be attributed to the “silod” nature of these professions, which limits both capacity and opportunities for professionals to understand each other’s mandates, roles, and policies. The purpose of this paper is to describe the development, implementation, and evaluation of a graduate elective course for social workers and educators that was geared toward educational outcomes of children in care. Thirty-eight students from both disciplines participated in a summer institute. Although participants valued the content and process of the course, it is unclear whether these types of initiatives facilitate enhanced IPC. Findings do however suggest that IPE initiatives targeted toward a specific population may have more positive outcomes, compared to general IPC.

Keywords: Interprofessional education; educational child welfare; children in care

In Canada, the term “children in care” refers to a broad range of legal arrangements between families and the child welfare system that involves children who have been a) apprehended from their parent/guardian by a child welfare agency due to allegations of neglect or abuse; b) placed under the care of a child welfare agency on a voluntary basis by their parent/guardian; c) brought into the care of the child welfare agency for a temporary period of time on the order of a Family Court judge; or d) made a permanent ward of the province on the order of a Family Court judge. Children in care may be placed in a variety of out-of-home arrangements, including emergency shelters, group homes, extended family/kinship care settings, foster care placements, or specialized treatment settings. Notwithstanding the differences related to legal status or placement, there is increasing recognition that poor educational outcomes of children and adolescents in care represent an emerging crisis for youth, their families, and the broader society. Despite beginning discussions at both policy and practice levels, views on how to deal with the multiple and complex issues associated with this concern vary considerably.

Although the acceptance of interprofessional education (IPE) leading toward interprofessional collaboration (IPC) is well-established within the allied health fields (Ndoro, 2014), IPC has yet to be universally recognized within other professional contexts,
specifically education and child welfare. One rationale for engaging in IPC is the acknowledgment that “complex problems require complex solutions” (Bridges et al., 2011, p. 1). Improving educational outcomes of children in care represents such a challenge. In Manitoba, the most recent data suggests that only about 30% of this population will graduate on time from high school (Brownell et al., 2015). In view of the fact that Manitoba currently has over 10,000 children in care (Manitoba Government, 2019b), the possibility that 7000 children will not attain a high school diploma has significant negative social, political, and economic impacts.

Given that the two key professions of education and social work share responsibility for the educational experiences of children in care, a reasonable hypothesis is that outcomes may improve if educators and social workers collaborated within an interprofessional framework. Prior to engaging in collaborative practice however, educators and social workers may benefit from experiential interventions designed to facilitate the communication, relational, and knowledge building skills that form the foundation of effective collaboration. This article describes the development, implementation, and evaluation of a graduate level elective course for social workers and practicing teachers with a specific focus on educational experiences of children in care.

**Educational Gaps of Children in Care**

It is well established that children in care are significantly more likely to experience poor educational outcomes compared to children who do not have child welfare involvement including: high dropout rates, low graduation rates, lower academic achievement, and lower participation in post-secondary education institutions (Harker, 2004; Kufeldt et al., 2003; Pecora, 2012; Piechser et al., 2014; Romano, Babchishin, Marquis, & Fréchette, 2015; Rouse & Fantuzzo, 2009; Smithgall et al., 2004; Stoddart, 2012; Stone et al., 2006; Trout, et al., 2008).

There are a number of factors that contribute to these disparities. The Manitoba Task Force on Educational Outcomes of Children in Care (Christensen & Lamoureux, 2016) concluded that minimal information sharing, multiple care placements, school transience, an absence of meaningful connections to culture, and the lack of school connectedness all contribute to poor outcomes for this group. Children’s educational outcomes are further complicated by a siloed approach to practice that constrains professional interactions. These concerns are not limited to a particular discipline, but rather extend to a number of child and family-serving systems including both mandated services, health, education, and social service institutions, and non-profit organizations. As a result, professionals within these systems may lack the requisite knowledge and skills to effectively communicate and collaborate with each other. Significantly, the Task Force reinforced the position that enhancing interprofessional collaboration was critical to addressing these barriers for children in care. Therefore, in order to fully engage both groups of professionals as partners in improving educational outcomes, we need to advance our understanding of current perspectives on the dynamics of collaborative relationships between education and social work professionals.
Background

A comprehensive understanding of educational experiences of children in care must account for the critical ways in which historical factors influence present outcomes. In Manitoba, both social work and education share a problematic history with respect to children and families involved with the child welfare system. They are but two examples of how structural inequities embedded in social institutions, governmental discourses, policies, and services marginalize many groups, based on particular social group categories including First Nations status (Blackstock, 2011). For many Indigenous families, the disruptions that occurred through the forced removal of children from families and communities, and the use of educational systems in the form of residential schools as the primary vehicles of oppression continue to recreate inequities. These are currently manifest as significantly higher rates of involvement with child welfare systems as a function of intergenerational trauma and lower rates of educational attainment related to distrust of educational systems (O’Neill et al., 2018).

Child welfare and education professionals are independently and universally mandated to work “in the best interests” of children. From a child welfare perspective, in addition to ensuring the child’s safety and security, Section 2(1)b of The Child and Family Services Act of Manitoba defines best interests as meeting “the mental, emotional, physical and educational needs of the child and the appropriate care or treatment, or both, to meet such needs” (Manitoba Government, 2019a, p. 1, emphasis added). Correspondingly, the preamble of the Manitoba Public Schools Act states that “the purpose of the public school system is to serve the best educational interests of students” (Manitoba Government, 2019c, p.1). Taken together, it is clear that representatives of the child welfare and education systems hold legislated responsibility for educational experiences of children in care. As an example of how to translate these policies into practice, the province of Manitoba had developed a protocol for education and child welfare staff to navigate the administrative challenges associated with registering children in care in school (Healthy Child Manitoba, 2013). Despite the individual mandates and existing protocols, in addition to the position that interprofessional collaboration is unequivocally endorsed as “best practice” for working with youth (Darlington & Feeney, 2008, p. 195), IPC has not yet emerged as an intuitive approach to practice, a structural consideration within systems, nor an administrative expectation of educators and social workers. IPC is a framework through which educators and social workers could enact their collective responsibility to children in care.

Collective responsibility was a part of the educational reform movement in the late 1990’s. The educational research focuses teachers’ collective responsibility on learning. Whalan (2012) in the book Collective Responsibility identifies five major discourses within the notion of collective responsibility for learning. They are: professional community, professional development, relational trust, accountability and efficacy (Whalan, 2012). Within the discourse on professional communities the focus is on the collective responsibility of teachers “…to commit to professional practices that focus on gains for student learning and social equity” (Whalan, 2012, p. 43). There is little inclusion of professionals outside of education in the research on collective responsibility. Child welfare is no different in that most child and family service legislation is silent about the
obligation of child protection to work with other agencies, including schools. Gallagher-Mackay (2017), in the book _Succeeding Together_, examines how the independent mandates of educators and child welfare staff operate contrary to ideals of collective responsibility. Fineman’s 2005 (as cited in Gallagher-Mackay, 2017) notion of collective responsibility is applied to child welfare work and schooling and found to be in contradiction to current policies and practice. In essence, Gallagher-Mackay’s research findings describe how child welfare staff and educators work in separate spheres and closed systems.

The expressed need for collaboration between educators and social workers is not a recent phenomenon. In 1921, Pratt described how the educator’s requirement for knowledge of the “whole child” would “give this social worker the welcome which is now accorded to her by those of their own number who understand and by socially minded physicians, psychiatrists, and psychologists” (p. 96). Unfortunately, Pratt’s optimism was less prescient than the desired ideal, and in the current context, child welfare workers typically do not describe themselves as “welcomed” by school staff. Research regarding these two disciplines has identified significant barriers to collaboration including adversarial relationships, differences in perceived importance or significance of child-related issues, and differences in professional perspectives on how to address problems (Altshuler, 2003; Gallagher-MacKay, 2017; Garstka et al., 2014; Isaksson & Larsson, 2017). More recently, research by our team concluded that “competing discourses” regarding child-centered versus family-centered worldviews, the need for information-sharing versus the importance of maintaining confidentiality, and prioritizing either school continuity or placement stability, each reflect the different professional mandates and organizational cultures of educators and social workers (Levine & Sutherland, 2019). What became evident is that the relationships between the two disciplines reproduce the very conditions of disconnections that children in care and their families experienced, and serve as an additional barrier to improving children’s educational experiences.

In response to these findings, our team undertook a research project that explored the process of facilitating systems change, with the goal of moving toward a model of IPC that focused on improving educational experiences of children in care. The study was located within a jurisdiction in Winnipeg, Manitoba in which two key administrators, representing child welfare and education, had established a working committee comprised of a number of representatives of the Child Welfare authorities and a group of interested teachers and administrators, to facilitate improved communication. This committee functioned as an advisory group to the research study in order to ensure that project activities were informed by the perspectives and expertise of the different stakeholders, as well as to facilitate communication between the research team and stakeholder groups. A key accomplishment of this committee was the institution of a number of professional development sharing days in which school division staff, child welfare workers, youth in care of child welfare agencies, biological family members, and foster care providers came together to listen to each other’s experiences, as one means of facilitating enhanced understanding of the perspectives of the different stakeholders. In other words, the sharing days became way in which the various stakeholders demonstrated and attempted to extend their collective responsibility for children in their care.
In addition to the data collected through the sharing days, the research team conducted an informal needs assessment with committee members to identify areas of opportunity that would facilitate interprofessional collaboration between the two systems. Through this process, a number of gaps were identified. Both educators and social workers reported inadequate knowledge of each other’s mandates, policies, and practices, and therefore some did not feel equipped to fully support educational experiences of children in care. As academics representing both disciplines, and after a curriculum scan, the project team determined that curricula from neither undergraduate-level social work nor education programs includes this content. We used these findings to shape the development of a graduate elective course for both social work and education students entitled *Educating Children in Our Care: A Interprofessional Dialogue*.

**Interprofessional Collaborative Practice**

According to the World Health Organization (WHO, 2010), “interprofessional education occurs when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve outcomes” (p. 1). Our research team recognized that changes must occur in post-secondary pedagogies if these programs are to become places where interprofessional collaboration becomes instrumental in improving the academic achievement of children in care. We determined that exploration of interprofessional collaboration could frame a graduate level elective course for social workers and educators. We hoped that bringing together graduate social work and education students would acknowledge the failure of current systems to target educational disparities for children in care, enhance understanding of the links between interprofessional theory and practice, clarify how each profession values and promotes social justice, and ultimately, how collaboration could reimagine service provision for children and families.

Building on interprofessional education, interprofessional practice has been defined as a collaborative approach to address the needs of individuals, families, or communities (D’Amour & Oandasan, 2005). Although readily accepted in allied health, ideas regarding interprofessional collaboration have yet to be embraced within other areas. At the same time however, particular social problems are creating a profound need for different approaches, specifically, educational outcomes of children in care. Although social workers and educators each play a particular role in and share responsibility for educational experiences of children in care, they are socialized into very different discourse communities that limit the capacity for collaborative practice.

**Course Development**

_Educating Children in Our Care: An Interprofessional Dialogue_ created a context for learning shaped by new ideas about opportunities for learning and professional development. Our thinking about the intersections between education and social work was guided by the literature on interprofessional collaboration which also served as the conceptual framework for the course. These intersections were not only important pedagogical elements that framed course development and delivery, but became the key topic of class discussion.
Within the health services literature, there are four key domains that are integral to IPC; contextual, organizational, professional practice, and relational (Bentley et al., 2018). We used the Bentley model and had educators and social workers apply it to their professional settings. Each domain is further delineated into a number of concepts that describe how IPC theory is translated into practice. The contextual domain refers to the settings in which collaboration is expected to occur, the stakeholders involved, and the characteristics of each discipline that influence the process. The organizational domain determines how educational institutions and social service agencies are mandated to meet the needs of children and families, how leadership practices within each system support collaborative practice, how each understands their own and others’ legal responsibilities, how the policy and administrative contexts of each profession facilitate or impede collaboration, and the degree to which there is congruence between discipline-specific contexts. The professional practice domain includes ideas regarding role clarification, recognition of the diversity and expertise of each profession, interprofessional ethics, decision-making, problem-solving, and service coordination for children and families. Lastly, the relational or interpersonal domain focuses on issues of mutual respect, honesty, trusting relationships, communication, conflict resolution processes, and how these are manifest at a practice level.

Using this framework, the course objectives were; 1) to facilitate relationship building between educators and social workers; 2) to increase knowledge of each other’s policy, organizational, and professional contexts; 3) to develop more permeable professional boundaries through enhanced interpersonal communication; 4) to explore and consider various interprofessional responses to children in care including trauma-informed practice; and 5) to develop students' commitments to improving educational outcomes of children in care through the explicit recognition of collective responsibility.

The course was offered as a 3-credit graduate level elective in the summer session of 2019. 38 students (32 Education and 6 Social Work) registered and completed the course. The disparity in numbers may be partially explained by the different professional contexts. Summer courses are ideal for educators pursuing graduate degrees. In contrast, social workers typically move into their advanced field placements during the summer, having completed their electives during the fall and winter terms. In addition to being cross-listed in two faculties, the course spanned two institutions as students from both the universities of Winnipeg and Manitoba were able to register. The course was held for four hours each morning for a two-week period. Members of the research team, one from the Faculty of Social Work, and one each from the Faculties of Education at each university, were the instructors for the course. Funding to aid in course development was provided by the Teaching and Learning Enhancement Fund at the University of Manitoba.

Course Content

Building upon readings, case studies, guest speakers, and in-class collaborative activities, students were provided with multiple opportunities for collaborative practice, culminating in a group presentation that consisted of an interprofessional case study of children in care. Within the contextual domain, our guiding questions focused on the social and historical factors in Manitoba in regards to children in care. Participants reviewed the
research on educational outcomes of children in care (Brownell et al., 2015) and were surprised to learn that in Canada, it was in only in 1996 that the last residential school closed (Blackstock, 2011). They read the subsequent report of the Task Force on Educational Outcomes (Christensen & Lamoureux, 2016), and received a lecture from and discussed the recommendations with Kevin Lamoureux, one of the authors. Building on this history, participants were introduced to the concept of “collective responsibility” for children in care. Although educators and social workers can individually advocate for particular children, these actions cannot change the increasingly large and complex bureaucracies that are accountable for educational outcomes of children in care through a process of formal decision-making structures. It is only through acknowledging the need for comprehensive systemic change as a collective responsibility that educators and social workers can advocate for the necessary political changes that will benefit all children in care.

Within the organizational domain, our guiding questions encouraged participants to consider their particular contexts, and to explore how existing policies and protocols can inform collaborative practice and decision-making. Collaboration begins from a shared knowledge base; and clearly, each system must understand the others’ mandates, policies, practices, and challenges. Educators were not fully aware of how the child welfare system works, and child welfare staff do not fully understand the education system. In response, participants learned about the complexity of the current child welfare system in Manitoba, which consists of four separate child welfare authorities that govern 53 individual child and family agencies, each with their own unique culture and climate. The education system is somewhat less complex; however, there are 38 different school divisions (not including Locally Controlled Manitoba Band Operated Schools which are funded and regulated by the Federal Government of Canada) overseeing over 600 schools, each with their corresponding school-specific climates and culture. Participants learned about the policy context of each profession and the expectations and constraints of each system. For example, in one activity geared toward roles and responsibilities, participants were presented with the professional Code of Ethics for Social Work (Canadian Association of Social Workers, 2005) and the Manitoba Teachers’ Society Code of Professional Practice that establishes standards of conduct for teachers, and were asked to note points of convergence and divergence.

Participants observed that the social work code is primarily focused upon protection of the public as recipients of social work services, including children in care, and the education code is focused upon regulating teacher behavior, which facilitated a thoughtful discussion on the implication of these differences for working together.

Within the professional practice domain, our guiding questions challenged participants to consider strength-based perspectives as a means of reconsidering their work with children and families. Additionally, they were encouraged to approach children differently by learning about trauma-informed practice (Morgan et al., 2015). A key tenet in trauma-informed practice is shifting professionals’ from “What's wrong with you?” to “What has happened to you?” which can significantly change perceptions of all children and their behaviors.
Within the relational domain, our guiding question asked participants to reflect upon how interprofessional collaboration is manifest in practice, bound by both possibilities and realities. Participants observed that system change does not always need to occur in a top-down approach, but can occur at a grass roots level. This was made evident when a school administrator and child welfare supervisor attended the class as guest speakers and shared their experience of collaboration to ameliorate the long-standing and seemingly entrenched interprofessional conflicts and tensions. Other examples included the sharing of a project in which a group of social workers, high school educators, and child advocates collaborated in the development of a school-based self-advocacy credit course for students involved with the child welfare system.

Education participants were encouraged by the idea that they too could collaborate with social workers to develop school-specific projects to support youth in care.

**Evaluation Methods**

As this was the first iteration of an interprofessional practice course that occurred within the context of a larger research project on collaboration, it was important to extend the evaluation beyond the Likert scales that standard course evaluations typically employ. Our team was interested in learning about the impact of the course on students’ attitudes, knowledge, and skills for collaboration, how the course may have invited educators and social workers to apply their learning to their respective settings through changed professional practice with children in care, and how the use of multi-disciplinary content affected students’ perspectives of each other’s disciplines. Therefore, the evaluation focused upon two key questions: (a) what is the impact of participation in a course designed to enhance interprofessional collaboration, and (b) how might this impact educational experiences of children in care?

Using an online program (Qualtrics), we constructed a survey that consisted of a series of open-ended questions that addressed 1) knowledge and skills needed for IPC (e.g., “How has your understanding of interprofessional collaboration (IPC) changed?” “In what ways have your skills regarding IPC changed?”); 2) interprofessional relationships (e.g., “What facilitates collaboration between educators/social workers?” “What do you think that educators and social workers could learn from each other?” “Has your experience in the course changed your understanding of working inter-professionally?”); and 3) connections to practice (e.g., “How do you think the course content will help you work more effectively?” “In what way(s) do you think your new knowledge will benefit children in care?”). A final section included questions related to the evaluation of the learning activities (e.g., “Which component of the class [lectures from instructors, guest lectures or projects] contributed most to your learning and why?” “How effective were the learning activities used in this course?” “Which topic/teaching method did you find most/least useful?”).

Ethics approval was granted by the Psychology Sociology Research Ethics Board at the University of Manitoba. Given that the participants were students in Graduate Studies, the invitation to participate in the research was released after the deadline for submission of final grades. Using content analysis (Hsieh & Shannon, 2005), participant responses were downloaded from the program and then organized into the broad themes of course
objectives, content, structure, learning activities, and overall evaluation. Seventeen participants, 4 social workers and 13 educators/administrators (45% in total) completed the survey.

Findings

While all four IPC domains were represented in participants’ responses, shifts in their knowledge of roles and responsibilities emerged as a key theme. Participants expressed an increased appreciation and respect for understanding each other’s professions, expanded their knowledge regarding each other’s roles, and reinforced the position that “relationships matter when it comes to getting things done” (Educator). The majority of responses identified “increased understanding of systems” as a key factor that expanded their knowledge of IPC. For instance, educators described how reviewing the existing policies and protocols facilitated “increased understanding of child welfare workers’ perspectives and responsibilities.” Other comments highlighted the recognition of how “systemic hurdles impede our work with children” (Social Worker). Participants from both disciplines identified that their knowledge of interprofessional practice had expanded moving from “simply working together” to “identifying and breaking down the barriers between the two disciplines” to the recognition of “the ways in which the different professions are positioned with a certain lens and set of beliefs about our roles and responsibilities.” Clearly, having professionals from both education and social work represented within the course, as students and instructors, was noted to be a clear benefit. Responses highlighted how participants recognized how the reciprocal interactions of education and child welfare will impact children in care, both positively and negatively. One educator identified how they now have a “better understanding of the various factors that underlie reduced academic achievement for children in our care and how we need to work together in order to begin to address them.” Another concluded that “how what we do in our role can positively or negatively impact on the others’ areas of responsibility.” There was recognition that “Educators can learn more about family dynamics that influence adaptive coping strategies and social workers can see how children are coping at school - are they feeling safe enough to be learning?” In particular, the group projects that brought participants together were evaluated positively. One educator stated “I enjoyed working alongside a social worker and really learning what that job entails.”

However, one caveat was that the groups were not numerically equal, with significantly more students from education compared to social work. Recommendations around this issue identified greater efforts to recruit more equitable numbers from each profession.

A number of participants indicated that the course gave them enhanced insight into the needs of children in care, and how to construct a “more robust team of support” (Educator) that could respond in a more meaningful way, including “advocating within both systems.” There was increased recognition of the “whole” child in the context of their family and school domains, and the importance of shared, productive planning. Educators expressed greater appreciation for family issues and social workers were able to identify school-specific coping strategies for children. Several education participants suggested that they would have benefited from knowledge of children in care early on in their post-secondary programs, prior to beginning their teaching careers. As described by one participant, “They
will now see themselves in my classroom” suggesting that all children’s experiences will be validated. The sessions on developing trauma-informed approaches to practice in the classroom were appreciated by students in both disciplines, and in fact, there was a desire for additional content in this area, including discussions related to caregiver burden when working with traumatized children.

**Discussion**

A major objective of the course was to connect educators and social workers through the framework of interprofessional collaborative practice. Findings from this exploratory research suggest that IPE for social work and education is an innovative approach in which students of different disciplines are encouraged to communicate around the needs of a particular population. It will be beneficial for future research to more rigorously assess the effects of IPE programs on participants’ capacities for IPC to strengthen the evidence base in support of these initiatives. For example, one goal of IPE is to reduce negative stereotypes held by professionals regarding different disciplines (Bell & Allain, 2011). Although we did not assess these perceptions as a pre-test, evaluation comments suggested that course content encouraged participants to shift their understandings of each other by gaining a more informed perspective on each other’s roles, responsibilities, and structural constraints. There was recognition, even among members of the same discipline, that there can be misunderstandings regarding the scope of practice, and IPE invites one to reflect upon one’s own discipline, as well as others. Future research that incorporates pre- and post-tests can address these limitations. As well, we also know that relationships are paramount to system change. Prior research emphasizes the importance of the relational domain of IPC, and how interprofessional learning/education facilitates the development of authentic relationships that compliment professional relationships (Carney et al., 2019, p. 120).

However, what cannot be assessed is whether this particular IPE initiative will result in increased collaboration between educators and social workers in their daily practice, or whether IPC can result in more positive educational experiences for children in care. Research on IPE within the allied health fields suggests that despite positive perceptions, there “is insufficient robust evidence to support its effectiveness on improved (client) outcomes” (Illingworth & Chelvanayagam, 2017, p. 817). However, despite the absence of evidence of improvement in general health outcomes, there is emerging evidence to support the position that interprofessional education focused on specific populations may hold more promise. Findings from Queen’s University suggest that an interprofessional educational course on individuals with intellectual or developmental disabilities resulted in improvements in student knowledge, attitudes, and skills (Jones et al., 2015). Similar improvements in interprofessional knowledge were found in programs focused on improving men’s health (Sealey et al., 2017) and children’s social communication skills (Coiro et al., 2016). Accordingly, developing population- or issue-specific IPE courses that involve the relevant professions may be one means of researching the relationship between IPC and improved client outcomes.
Conclusion

Despite the fact that many social workers are members of multidisciplinary teams during their professional careers, as students, they receive minimal formal content on interprofessional collaboration. IPC is not part of the current Education curriculum, and of particular note for this paper, neither is content about children and families involved with the child welfare system. The availability of an elective course focused on the collective responsibility for children in care created an opportunity to invite change to participants’ perspectives toward collaborative work and the unique needs of children in care. Overall, this course created an opportunity for social workers and educators to cultivate mutual respect and increased understanding of each other’s respective professional systems, cultures, and roles, and facilitated the sharing of ideas, knowledge, and resources.

References


https://doi.org/10.1111/jppi.12112

https://doi.org/10.1177/030857590302700204


https://doi.org/10.1080/13603116.2015.1035344

https://doi.org/10.12968/bjon.2014.23.13.724

https://doi.org/10.1007/s40653-016-0117-9


https://doi.org/10.1016/j.childyouth.2014.11.004


https://doi.org/10.1177/1524838014537908


Author note: Address correspondence to Kathryn Levine, Faculty of Social Work, University of Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2. Email: Kathryn.Levine@umanitoba.ca