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Professional Learning and Knowledge Transfer to Practice in Unregulated Care Provider Training in Resident-Centred Care

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PROFESSIONAL LEARNING AND KNOWLEDGE TRANSFER TO PRACTICE IN UNREGULATED CARE PROVIDER TRAINING IN RESIDENT-CENTRED CARE

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Abstract

Ongoing training for unregulated care providers (UCPs) in Ontario is required to meet the care needs of the aging population. Inconsistencies in standards and options for formal training for UCPs as well as the evolving complex needs of the aging population are factors contributing to needing training programs for UCPs in the workforce. This thesis examined the delivery and transfer of professional learning for UCP training in resident centred care. Increasing resident-centred care behaviours and knowledge were the primary aims of the training. One 128-bed long-term care home in southwestern Ontario volunteered to participate in this study while providing the Excellence in Resident Centred Care (ERCC) program for the UCPs in their home. A total of six participants completed the ERCC program during the study while six control participants were also involved in completing the evaluation measures. In self-evaluations, participants ranked themselves on a scale of how often they demonstrated resident-centred care behaviours. Observations from the researcher also provided further evidence of implementation of behaviours. Knowledge was evaluated through mid-course and final course tests and the ERCC program was evaluated through participant surveys related to content, delivery method, and the peer facilitator model of the program. Though there was limited data in the course delivery evaluation, results from self-evaluations and observations indicated that UCPs were indeed implementing resident-centred care behaviours in practice. Quantitative data indicated differences in participant self-evaluated behaviours between control and intervention groups. Conclusions guide the direction for future research and development of ongoing UCP training in long-term care.

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Chapter 1: Introduction

There is no doubt that Canada's population is aging (Macdonald, Stodel, & Casimiro, 2006; Nolan et al., 2008). This aging population in Canada is projected to accelerate in the next 20 years when the last of the baby boomers (born between 1946 and 1964) will reach age 65. The proportion of those aged 65 years or over will continue to increase in the future and could represent 22-24% of the population by 2030, compared to 15.3% in 2013 (Statistics Canada, 2014). This change requires that health care workers are suitably trained to provide support and high quality care for residents in long-term care (LTC) homes (Macdonald et al., 2006). The majority of the workers in these settings are unregulated care provides, or UCPs, comprising 72.3% of the frontline care staff in LTC homes in 2014 in Ontario (Ontario Long Term Care Association [OLTCA], 2014). Unlike regulated health care professionals who are accountable to a regulatory body that sets standards and monitors service, unregulated care providers are only accountable to their employers. UCPs do not have the same regulatory mechanisms to ensure appropriate training or education and to monitor quality of care to the public (College of Nurses of Ontario, 2013; Federation of Health Regulatory Colleges of Ontario, 2014). The purpose of this study is to examine the impact of a new training model on the quality of care offered to residents in long-term care.

Long-Term Care in Ontario

A long-term care home is a residence for adults that provides access to help with activities of daily living (ADLs) as well as access to 24-hour nursing and personal care (Government of Ontario, 2015). There are currently 627 long-term care (LTC) homes licensed

to operate in Ontario which provides 76,535 long-stay beds for residents who require permanent placement (OLTCA, 2014). A LTC home can be run by a privately owned company, publicly owned company, non-profit/charitable organization, or municipality (OLTCA, 2014). The government provides funding and term licenses to the building owners to operate the long-term care home (OLTCA, 2014). Long-term care homes provide services such as meals, shared living spaces, access to health professionals, individual care planning, housekeeping, spiritual services, social and recreational programs, as well as medical supplies and services (OLTCA, 2014; Government of Ontario, 2015).

Long-term care was initially established to provide a light degree of care and a safe, comfortable place to live, however, "With a significantly more frail and ill population, most LTC homes are evolving into complex, clinically oriented facilities that care for people at the end of their lives" (OLTCA, 2014, p.2). The Ontario government has invested significant funding into strategies for helping seniors to stay in their community homes longer (OLTCA, 2014). As a result, the health needs of new residents in long-term care are more complex than five years ago, and a different level of care is required (OLTCA, 2014). Ninety three percent of residents living in long-term care have two or more chronic diseases such as endocrine, metabolic, pulmonary and heart/circulatory diseases (OLTCA, 2014; OLTCA, 2015). The eligibility for long-term care now includes much more complex individuals who have multiple functional impairments (including physical disability, cognitive impairment, falls, challenging behaviours, and wandering) that do not allow the person to remain independent in the community (OLTCA, 2014, p.5).

Resident Needs in LTC

Individuals who live in long-term care have specialized care needs that include "24-hour nursing care and personal care, frequent assistance with activities of daily living, and on-site supervision or monitoring to ensure safety or well-being" (Government of Ontario, 2015). Activities of daily living (ADLs) include bathing, eating, dressing, personal hygiene, transfers, toileting, bed mobility, walking in corridors and rooms, and locomotion on and off the unit. Complex needs of long-term care residents are higher than five years ago and are expected to continue to rise (OLTCA, 2015). As a result, the need for assistance with ADLs continues to increase (OLTCA, 2015). There has been an increase of 22-24% in the number of residents who need help with ADLs such as toileting, personal hygiene, and dressing (OLTCA, 2014).

Staffing in Long-Term Care to Meet Resident Needs

Long-term care staffing is still geared to what care homes were like in the past prior to the increasing complex needs of the aging population (OLTCA, 2014). The majority of LTC staff is "unskilled care workers whose main focus is on the maintenance of residents' activities of daily living" (Moyle, Hsu, Lieff, & Vernooij-Dassen, 2010, p.1097). The number of unregulated care providers has increased substantially from 21% in 1987 to 39% of all health care providers in 2003 to meet the aging population needs (Pyper, 2004). Meeting the needs of the aging population is one reason that there has been an increased reliance on unregulated care providers (Canadian Nurses Association, 2008, p.5).

In Ontario, unregulated care providers have previously included titles such as Personal Support Workers (PSWs), personal attendants, health care aides, respite workers, home helpers, and home support workers (Ontario Community Support Association, 2009). The Personal Support Network of Ontario (2009) reported that PSWs received education through various

sources in the past: 44% received education through a combination of sources, 25% through publicly funded community colleges, 15% through Board of Education programs, 11% through private training colleges, and 5% through on the job training from employers. The Canadian Nurses Association (2008) also adds that across Canada, UCPs "learn about their assistive roles through a variety of methods…[they] may be formally trained through instructional or vocational training or may have received training on the job, or there may be a combination of these" (p.9). Inconsistency in admission requirements in addition to the inconsistency in sources of education leads to a diversely trained group of UCPs entering the workforce (PSNO, 2009).

Historically PSWs did not require a certificate to work and there were no national standards, exams, or training for UCPs (PSNO, 2009; Stolee et al., 2005). The absence of standard curriculum content in the past as well as the present absence of an officially recognized "certification" or "registration" process in Ontario resulted in much confusion around the role of the UCP (Canadian Research Network for Care in the Community, 2010). Thus, UCPs were entering the healthcare profession with varying levels of knowledge and experience. This leads to a great level of variability in quality and consistency of training which is a problem for quality of care for residents.

As of July 1, 2011, changes to the new Long-Term Care Act, required PSWs to have a certificate for all new hires in long-term care settings (Canadian Research Network for Care in the Community, 2010). Additionally, as of 2014, the Ministry of Training, Colleges and Universities (MTCU) of Ontario developed and approved system-wide standards for programs of Personal Support Worker (PSW) instruction (MTCU, 2014). Though this certificate is now required and provincial standards are now available for PSW training, the majority of UCPs currently working in "PSW" roles in LTC in Ontario were trained without a certificate and prior

to system-wide standards. For this study, the term UCP will be used given that individuals involved in the research will not all be "PSWs" by training, even if they work in a PSW role.

UCPs have the smallest amount of formal training of those who work in LTC despite these workers having the most direct and continuous patient contact (Swift, Williams, & Potter, 2002). As evident above, many UCPs have uneven skills and competencies due to a lack of formal education and the fact that the majority of UCPs receive on-the-job training (CNA, 2008). Long-term care homes must provide safe, high-quality resident-centered care (Ontario, 2015). However, resident needs have become more complex which requires more care and time by the frontline workers (OLTCA, 2015; OLTCA, 2014). The workload of staff working in LTC due to increased care needs has increased (OLTCA, 2015). Increased falls, pressure ulcers, and the need for assistance with ADLs all indicate that quality of care is not sufficient in LTC (Health Quality Ontario, 2014). The OLTCA (2014) reports that LTC homes staff are "working harder and faster, but many lack the clinical skills or the right mix of staff to manage some of the more complex health conditions and behavioural issues" (p.2). With evolving job expectations, new models of care, new technologies and advances in knowledge, the education that UCPs received is not necessarily consistent or sufficient (CNA, 2008).

Need for UCP Training

It is clear that there are multiple issues related to UCP training that contribute to insufficient quality of care in current LTC homes, including inconsistencies in training and requirements for certification for UCPs in the past, as well as the fact that UCPs receive the smallest amount of training but have the most direct resident contact in LTC. Nolan et al. (2008) highlight the importance of providing ongoing education for UCPs that provide the most hands-on care for residents. Training and support for healthcare workers in LTC homes are urgently

required to ensure workers provide quality care to the residents (MacDonald et al., 2006). New approaches are required for ongoing education in healthcare to remain current, efficient, and effective in practice (MacDonald et al., 2006; Moyle et al., 2010; Nolan et al., 2008). An increasing demand for well-prepared UCPs requires innovative approaches in education (Atack, 2003). These new approaches are required to be able to train the increasing number of necessary UCPs and to also meet the needs of the changing population.

Offering continuing education and training for UCPs in the workforce is necessary to allow these care providers to continue to improve their practice and meet the evolving complex needs of residents. Evaluation of such continuing education and training for UCPs is necessary to ensure needs of residents and UCPs are met in the evolving health care system.

UCP Professional Learning in Ontario

A review of professional learning programs was completed examining all health care related continuing education programs and courses offered through Ontario Colleges for unregulated care providers. The list of Ontario Colleges was obtained through www.ontariocolleges.ca. The websites of the 27 Colleges listed were then searched for a page entitled “Continuing Education”. A subsearch of programs specific to “health” was performed, either by searching under a list of “topics” or “area of study” as described by the College websites. Within the list of programs and courses listed under the related “health” subsearch, the webpage for each program or course was opened and examined for “admission requirements”. Only programs/courses with at least one of the following admission requirements were included in this review: having an unregulated care provider related certificate, general interest in a health care related field, or no formal admission requirements. Any program or course that required a

diploma, degree, or being a "Registered" health care professional was not included as UCPs would not be able to meet this admission requirement.

There are 27 Colleges in Ontario and 18 of these Colleges offer continuing education programs applicable to UCPs. That is, they offer programs (or single courses) that provide additional health care related training and are open and available for those with UCP admission requirements. The webpages for the programs/courses available to UCP professional learning in the 18 Colleges were then recorded for title of program/course, entry (admission) requirements, and type of delivery. A total of 33 different programs pertaining to professional learning for UCPs were found to be currently offered across the 18 Colleges. Table 1 outlines the programs offered through Ontario Colleges for UCPs.

Of the 33 programs that offer professional learning opportunities for UCPs, 72.72% (*n*=24) of the programs are delivered completely online, 18.18% (*n*=6) of the programs are a mix of online and in class delivery, 6.06% (*n*=2) of the programs are in class delivery only, and 3.03% (*n*=1) of the programs did not state the type of delivery.

The content of the continuing education programs available to UCPs was similar across many Colleges. There were four programs offered across multiple Colleges including "Palliative Care", "Dementia" care related, "Thanatology," and "Children's Mental Health." Table 2 outlines a summary of the program/course content, number of Colleges offering the program/course, and the delivery method.

Table 2
Delivery Method of Programs Offered to UCPs through Colleges in Ontario

Program/Course Topic	Number of Colleges Offering Program/Course	Delivery Method			
		Online	In Class	Both Online and In Class	Unknown
Excellence in Resident Centred Care	1			1	
Children's Mental Health	4	3		1	
Comfort Measures	1	1			
Cultural Approaches to HC and Healing	1	1			
Enhanced PSW - Acute Care	1			1	
Enhanced PSW - Community-Based Care	1			1	
Enhanced PSW - Palliative Care	1			1	
Footcare for Personal Support Worker	1		1		
Fundamentals of Diabetic Management	1			1	
Palliative Care	8	7	1		
Thanatology	4	4			
Dementia Care	9	7	1		1

Eight Colleges offer a "Palliative Care" Certificate. Of these eight Colleges, the majority (*n*=7) deliver the Certificate online and only one is delivered in class. Nine Colleges offer a "Dementia" related program. Again, the majority (*n*=7) deliver the program online and only one is delivered in class. One did not state the type of delivery. Four Colleges offer a "Thanatology" program through continuing education and all four Colleges deliver this online. Similarly, four Colleges offer a "Children's Mental Health" program and all four Colleges deliver this online. All four programs available for UCPs to enroll in were open to anyone in the public with a health interest, not limited to those with a PSW or health care related certificate.

Only three of the 27 Colleges in Ontario offer PSW specific continuing education programs which require completion of a PSW certificate for admission to the program. One College offers "Palliative Care for PSWs" and it is delivered in class. Another College offers "Foot Care for PSW" and it is also delivered in class. Finally, the College which developed the program involved in this study offers four programs specific to PSWs. These four programs are delivered through a blend of online and in class and include three "Enhanced Personal Support Worker" programs (with three specialty streams including Acute Care, Palliative Care, and Community-Based Care) and the Excellence in Resident Centred Care (ERCC) program.

The majority of courses available to UCPs for professional learning are offered through online methods. It is not clear from the publicly available data what "online" means or what computerized system is used for the training. It is also unclear whether there are measures in any of the professional learning opportunities offered through online methods to promote knowledge transfer to practice. The ERCC program is unique to the majority of programs because it uses online, computerized methods within an in-class setting. The content of the professional learning available to UCPs through Colleges in Ontario is widespread, from concepts of child

care to end-of-life (palliative) care. The ERCC program is the only program for professional learning for UCPs specific to resident-centred care.

Innovative Training for UCPs

To address the learning needs of UCPs in long-term care, a large LTC and retirement home organization partnered with a community college to create a program for professional learning. The two organizations have a longstanding and successful record of collaboration and have a unique partnership and shared values for a focus on enhancing care and life for seniors. Together, they developed the Excellence in Resident Centred Care (ERCC) program. This is a 12-module program for UCPs focusing on resident-centred care training that is run over at least two learning sessions. A brief description of each of the 12 modules can be found in Appendix A. There are four characteristics that make this course innovative and unique. First, practical care skills are taught within a framework of resident-centredness. Second, the course is highly interactive and allows students to directly apply the content to their practice. Third, the course delivery uses a peer-led train-the-trainer model where UCPs are trained to deliver and facilitate the modules to their peers. Fourth, the course is embedded within a larger multi-year plan that has resident-centredness at the heart of an organization-wide move toward a more social model of living.

In brief, the 12 modules focus on key areas that are relevant to the care provided by UCPs. All modules center on the principles of resident-centred care which are introduced in the first module, “Resident Centred Care”. Of the 12 modules in the ERCC program, 10 are content modules and two are consolidation modules.

All content modules review and refresh skills that UCPs complete or use daily in their work, but focus on how the tasks can be carried out in a resident-centred manner. For example,

the module on "Oral Care" highlights information that UCPs likely received in whatever training they had to become a UCP; however, the module focuses not only on the task of providing oral care (e.g. how to brush a resident's teeth), but on how one can make oral care resident-centred (e.g. how to brush Mrs. T's teeth the way she prefers, while incorporating her ability to hold the tooth brush). The final two content modules, "Pain" and "Responsive Behaviours" were added to the program in 2013 as these were areas identified by a research institute and community partners involved in the program creation that UCPs required further training.

The framework of each content module involves four phases: "Review; what do I already know?"; "Reinforce; what can I strengthen?"; "Relate; what is my role as a PSW?" and; "Reflect, how will I use this in my work as a PSW?" Each module includes interactive quizzes throughout as stop-points for discussion, as well as case studies and hands-on activities in which UCPs are able to role play common resident interactions.

Modules 6 and 12 of the program are "Quality Care Consolidation" modules that involve a test (midterm and final), sharing experiences (what has worked and what has been challenging in implementing the content in practice), and evaluating the program content and delivery.

Since 2009, the ERCC program has been delivered in a face-to-face traditional classroom format. In addition, a train-the-trainer model is developed where a college instructor trains selected UCPs to lead the delivery of the course for their colleagues. These trained UCPs would then return to their individual long-term care or retirement homes and train other UCPs. This model allows UCP trainers to deliver the content using paper-based and Power Point delivery methods to their peers in a small group setting within the work setting.

Over time, the ERCC program revealed a few issues and deficiencies through course evaluations and feedback from trainers. The train-the-trainer approach of the ERCC program led

to a lack of integrity in the delivery of the program across ERCC trainers. Though the content was outlined in paper-based and standardized Power Point scripts, the delivery depended on the trainer's confidence in providing the content. Given that UCPs were not trained as educators, many stated they felt uncomfortable in the delivery and there was inconsistency in the delivery of the program, which lead to inconsistency in meeting the outcomes of the program.

The New ERCC Program

In 2013, a new delivery method for the ERCC program was developed using computer-based videos to standardize content and delivery so that the facilitator is less involved than in the past. The train-the-trainer model continues to be in place for UCP facilitators to train their UCP peers; however, the facilitator now runs the computer-based video and leads key discussion stop-points, case studies, and activities, instead of having to present the content that previously was delivered inconsistently. This new delivery method has the potential advantage of providing greater consistency in delivering the ERCC content.

Next Steps

As of January 2016, 206 UCP facilitators and 586 UCP students completed the new program within 23 LTC homes in Ontario (Conestoga College, 2016). Trainers and developers of the ERCC program received positive feedback from the UCP facilitators and UCP students who used the new program as well as feedback from the residents living in the homes where this training was completed. However, no formal evaluation has been undertaken to evaluate the outcomes of this computer-based delivery model. This study therefore aims to explore the impact of the new computer-based delivery format that allows for more standardized content possibly leading to greater motivation to implement the knowledge learned regarding resident-centred care behaviours in practice.

Situating the Researcher in the Research

My role as a nursing faculty member at the community college included a partnership with the research institute and the organization that owns the long-term care homes to design and create the new computer-based ERCC program modules. This project included my redesigning the existing 10 paper-based modules of the program to 10 modules in the new standardized computer-based format. As well, I created and designed two new modules to add to the program. The topics of the new additional modules were based on training needs that were identified within the organization who owns the long term care and retirement homes as well as previous research conducted by the research institute. As the project designer, I also took on the role of training the first group of UCP facilitators in the pilot of the new computer-based training method.

Because of my involvement in the development of the new computer-based course, the potential for researcher bias toward the evaluation of the newly adapted ERCC program and its effectiveness was addressed and prevented in the following ways. I participated in training the initial UCP facilitators of the pilot project. Following the initial training, the program has been taught by the trained facilitators (UCPs at their individual facilities) to their peers. As part of my Master of Education thesis process, I moved from the role of the instructor in ERCC to a researcher. Data were collected by facilitators as part of the regular program requirements and participants were asked to consent to sharing that data as part of the research project. Additional data that were unique to the research project were collected independently and additional consent was obtained.

Chapter 2: Literature Review

To inform the research question in this study regarding knowledge transfer to practice, a review of the literature on relevant and current UCP training methods in long-term care homes was conducted examining current training programs and suggestions for future training programs. The literature review will be discussed in sections. In the first section, the literature reveals many studies that have focused on the challenges and potential barriers within existing training programs in long-term care. A closer examination of these current training programs provides for a better understanding of what limitations have been experienced and where additional research should be completed. The second section highlights literature that reveals many suggestions for future training programs in long-term care. These suggestions involve investigating e-learning, knowledge transfer to practice, and the role of self-reflection and evaluation in training programs. To conclude this literature review, a summary of useful considerations for training programs will be provided as it pertains to the present study about knowledge transfer to practice within the ERCC program. Limitations within current research that require further analysis will also be explored, leading to the theoretical framework guiding this study.

Current Training Programs

Studies on training programs in long-term care are abundant. It is clear that there are many challenges to providing quality training that allows for knowledge transfer to practice for UCPs in long-term care homes. A closer examination of issues related to current training programs for UCPs, with a focus on the importance of redressing practical limitations, is required. Issues that are identified in the literature leading to challenges in training include the

lack of standard education that UCPs receive and organization and system issues within long-term care.

Lack of standard education. There is clearly a lack of standard training for UCPs that are currently working in LTC. UCPs may not have sufficient education from their initial education programs, if they took any program at all, and will require continuing education to keep up with the changing complex needs of the aging population. However, Stolee et al. (2005) explain that "the low educational requirements for positions such as health care aides have resulted in a work force that may not value continuing education" (p.401). In a survey conducted by the Canadian Research Network for Care in the Community (2010), 80% of UCPs surveyed in Ontario agreed they had enough training to meet their work responsibilities. However, it is noted that these UCPs may not be aware of issues that are changing in healthcare and that they need to consider the significance of these issues within their roles and responsibilities (CRNCC, 2010). Specifically, "there are aspects of patient-centred care that are problematic in long-term care facilities but currently not generally addressed in the formal curriculum" and UCPs did not cite this topic as a source requiring further training for their role (CRNCC, 2010). Thus, the ERCC program is created to address the need for a focus on resident-centred care.

Organization and system issues. Organization and system issues are frequently cited in the literature in studies on current training programs. Organizational factors include whether the home values and supports the professional development and lifelong learning (Maguire, 2013; Meyer, Lees, Humphris and Connell, 2007). Larger organizational and system factors such as the culture of the long-term care home can also hinder the implementation of educational initiatives (Aylward et al., 2003). There is a different culture in long-term care from acute care, where "there is less emphasis and value on training and few incentives are present to encourage

staff change or motivation" (Aylward et al., 2003, p.260). Lack of improvement in behaviour in practice was most often due to deficient organizational or system support where new knowledge was provided without "enabling or reinforcing strategies" that would allow staff to transfer new knowledge or behaviour into their work (Aylward et al., 2003). Thus, the importance of organizational support is highlighted as necessary to facilitate a change in practice and further research is required on effectiveness evaluation.

Knowledge transfer to practice. The strongest and most relevant theme to the research question in this study and within the literature is whether training programs result in a change in practice. The literature suggests that evaluation of the effectiveness of existing training programs for UCPs in long-term care and retirement homes is lacking. There exists very little empirical evidence to suggest whether or not participation in training programs results in a practical change in day-to-day behaviour exhibited by UCPs towards residents (Moyle et al., 2010).

Moyle et al. (2010) reviewed 17 papers from 2003 to 2010 to identify evidence for education and training of LTC staff in geriatric mental health and to summarize recommendations for practice. There was little evidence or rigorous evaluation of the effectiveness of training and education in long-term care. "Even though the importance of education and training are extolled, there is controversy as to whether they encourage positive change in practice" (Moyle et al., 2010, p.1104). Aylward et al. (2003) also found similar results when they reviewed 48 studies on the effectiveness of continuing education programs in LTC. Despite many training programs being undertaken in long-term care, the effects of the training and long-term impact on resident care were still unclear. "In almost all cases in which both

knowledge and behaviour changes were evaluated, staff showed improvement in knowledge and no improvement in behaviour" (Aylward et al., 2003, p.269).

Meyer, Lees, Humphris and Connell (2007) also identified that there is difficulty determining if learning is actually implemented in practice. They highlighted that training must be realistic, attainable, and include participation in order to increase the effectiveness of continuing professional development. There must be opportunity to use new learning in practice. The context of learning and support for new learning application are pivotal in the transfer process (Meyer et al., 2007). Meyer et al. (2007) identifies that there are important considerations for follow up. Close supervision and frequency of follow-up post-intervention are associated with more successful skills transfer. More specifically, involving a mentor or coach can have a significant impact on aiding the transfer of learning to practice (Meyer, Lees, Humphris and Connell, 2007, p.309). It is suggested that "Healthcare organizations should provide a post-training framework, which assists staff in attaining and applying competencies that are anticipated outcomes of training courses" (Meyer, Lees, Humphris and Connell, 2007, p.315).

Beeber, Zimmerman, Fletcher, Mitchell, and Gould (2010) reviewed 25 articles on the effectiveness of dementia care training programs in LTC. They concluded that there needs to be "practical ways to conduct and evaluate training and to promote the use and sustainability of the new practices" (Beeber et al., 2010, p.35). The biggest challenge is that training programs do not result in improvement because they are not translated into practice (Beeber et al., 2010). Nolan et al. (2008) found that better outcomes and benefits for residents were variable, not always statistically significant or detectable in previous studies. There was a need identified to include the transfer of knowledge to practice. "Transfer is, in fact, more difficult that we might think"

(Norman, 2009, p.808). Maguire (2013) added that there are individual factors to consider in whether a learner's knowledge is transferred to practice. These individual factors include confidence, self-esteem and the perceived ability to achieve the end goal (Maguire, 2013).

Luke, Solomon, Baptiste, Hall, Orchard, Rukholm and Carter (2009) also contribute to the literature on knowledge transfer to practice by identifying that the key to translating knowledge learned online to practice is grounding learning within the work place setting. The pedagogical design and champions within the work practice area and organization are essential to an effective translation of skills learned online to practice (Luke et al., 2009). Learning in the context where the learning needs to be applied assists knowledge transfer and builds confidence, competence and capability (Maguire, 2013).

There is quite obviously conflicting evidence as to whether continuing education and training programs in long-term care homes promote a change in practice, again due to the lack of effectiveness evaluation under taken. The literature suggests there is an increase in training opportunities and the need for changes to the delivery of that training given the issues identified above such as lack of standard education for UCPs, organizational and system issues, and difficulty with knowledge transfer to practice (Luke et al., 2009; Marks, Sisirak and Chang, 2013; Stephens and Mottet, 2008). However, there is little empirical support to indicate what type of training is best for UCPs in practice because most research studies to date have not evaluated this. Brief, flexible, relevant and engaging curricula need to be developed and implemented to address the challenges of current training programs.

Suggestions for Future Programs

Given the challenges to existing programs as described in this literature review, suggestions for future program and training should be carefully considered. The literature

indicates useful and important considerations for facilitating knowledge transfer to practice after training programs. These considerations include: e-learning methods, train-the-trainer approach, standardizing content methods, and the use of self-reflection and evaluation. Overall, it is suggested that training programs need to incorporate more technology and offer more interactive and multifaceted classes (MacDonald, Stodel, & Casimiro, 2006; Moyle et al., 2010). New training methods will ultimately influence residents as a result which provides practical significance for the current study.

E-learning. The literature on new and innovative training methods highlights online and technology based e-learning as strategies that can meet some of the barriers associated with previous training methods. It is noted that e-learning training is an alternative to traditional methods that should be assessed (Marks, Sisirak and Chang, 2013, p.331). Web-based education allows for opportunity to overcome traditional access barriers and provide convenience for learners (Atack, 2003). Online and technology based e-learning have the potential to overcome collaboration constraints (such as time, scheduling, geography), address organizations' needs to cut costs and save money, and to reach a broader audience (Luke et al., 2009; Stephens and Mottet, 2008).

Though it is noted that some of the current health care workers, including UCPs, may have less aptitude for technology-enhanced learning at this time, Luke et al. (2009) identify that future health care students and workers "will more readily use technology" (p.162). Caison, Bulman, Pai and Neville (2008) also found in their study that students older than 25 had a negative technology readiness score, whereas those younger than 25 had a positive technology readiness score. Therefore, "non-traditional aged students may need additional support to become comfortable in a technology rich environment and programs may need additional

resources to address this issue" (Caison, Bulman, Pai and Neville, 2008, p.292). The authors further suggest that learning for those who are unfamiliar with current technologies should be structured "within a social context that allows for cooperative learning environments and open encouragement of all learners with sufficient support" (Caison, Bulman, Pai and Neville, 2008, p.292). E-learning methods will be appropriate for learners in health care for the future.

Knowledge transfer to practice in e-learning. The literature discusses knowledge transfer to practice from e-learning and web-based experiences specifically. Atack (2003) found that web-based learning is found to be a convenient method for impacting positively on health care providers' practice. To have this positive impact, there are a number of factors identified in the literature by multiple authors.

Transferring learning to practice development from e-learning requires "protected time for learning" (Maguire, 2013, p.645). Maguire (2013) highlights the use of a standardized program using e-learning and found that consolidating knowledge involved offering opportunity and encouragement for application of theory and being supervised during clinical practice. Strategies that reinforce knowledge and a readiness to learn in this standardized program included providing structure, outlining specific learning objectives, facilitating opportunity to apply new knowledge quickly after learning, using real-life problem solving, and allowing for opportunity to integrate knowledge into the specific workplace. Norman (2009) suggests that knowledge transfer is facilitated when new learning is linked to something known and instruction is offered in both text and illustration. The teacher is able to facilitate transfer of knowledge to practice through strategies such as using multiple example problems, and using mixed practice with multiple examples in context. These strategies will sustain learning and capability and contribute to the learner's reflection on the material (Maguire, 2013).

Harrington and Walker (2002) compared the effectiveness of computer based to print-based/instructor-led training on knowledge, attitudes and practices of learners through a randomized pretest/posttest study. The training program which related to fire safety specifically for health care workers in long-term care provided a solution to the high turnover rate. It was found that this method could provide training for new staff easily without waiting for the facility to schedule a group session. This method of training allowed for staff to work at their own pace, repeat lessons, and take the training in various languages. Results suggested that computer based training was an effective alternative training method for long term care facilities to implement as 98% of participants indicated computer based training was "better" than instructor-led training. However, this study did not address the costs and benefits of the training itself and this warrants further evaluation.

Wood, Cummings, Schnelle, and Stephens (2002) also studied a new training program using a videotaped method. After completing the training course, staff who received the intervention significantly improved in their ability to detect mood symptoms in videotaped patients. The course curriculum was highly scripted in an effort to easily implement it at other sites, without lecture-style teaching. Improvement in detection of depression and general knowledge was also evident four months later. It was further highlighted that online learning and technology are becoming more integral to teaching and learning strategies. The authors indicated that participants found the content relevant and interesting, and that online training could "be both a feasible and cost effective solution for delivering consistent, high quality training to thousands of healthcare workers and professionals in the field" (p.395). The necessity of training interventions to be interactive and involve participation from the learner, whether online or not, is emphasized in that these interventions are "more effective in bringing about

positive changes than traditional non-interactive techniques" (Rampatige, Dunt, Doyle, Day, and Van Dort, 2009, p.540). Both of these studies highlight the effectiveness of using new training methods that incorporate video and computer-based technology.

The challenges of online and technology based e-learning are also discussed in the literature and are important to consider as they relate to knowledge transfer to practice. One challenge is the potential for decreased learner interaction if the e-learning opportunity is teacher-centred and information is only disseminated from teacher toward students (and not between students) (Stephens and Mottet, 2008). Adults learn better in student-centered contexts and the difficulty of web-based learning is that is can become teacher-centered with little student interaction (Stephens and Mottet, 2008, p.89). Stephens and Mottet (2008) found that often e-learning encourages information exchange but discourages participation because the learner is shown a slide presentation with trainer narration.

Another challenge is technology related issues that need to be accounted for in an e-learning based course. "Students need to be fully informed about the hardware and software requirements, Internet access, required computer skills and issues faced by home and work learners well in advance of course start dates" (Atack, 2003, p.295). Completing an assessment of computer skills and orientation to the technology prior to the course is advised as well as having technical support available (Atack, 2013). Overall, Atack (2003) found that preparation in advance and ongoing support throughout the course are necessary for a positive e-learning experience.

It is also important to understand that there are many facets to making good use of e-learning. This is highlighted in the literature by many authors. Supports that are necessary to make good use of e-learning include "clear instructions, the ability to practice skills, and good

facilitator support" (Luke et al., 2009, p.162). E-learning should be challenging for students and provide opportunity for cooperation with face-to-face discussion while building on existing knowledge (Luke et al., 2009). Atack (2003) also identified that face-to-face dialogue with peers is critical in fostering learning with e-learning. The three domains of learning (cognitive, psychomotor, and affective) should be incorporated into e-learning (Luke et al., 2009). This involves using a variety of activities that incorporate thinking, doing, and feeling. Experiential learning, including case-based learning, could also assist students with knowledge transfer and to create a change in their practice.

Tools for interactivity and encouraging participation are recommended to increase learning and knowledge transfer to practice with e-learning methods. Stephens and Mottet (2008) recommend tools that encourage participation and engagement such as using polls and posting questions for discussion. Stocks and Freddolino (2000) suggest that incorporating question links and discussion questions into e-learning methods contribute to an active learning environment for students. Cairncross and Mannion (2001) explain that effective interactive e-learning strategies must have a user-centred approach to the design based on educational theory. When students are interactive and engaged in the learning environment, student learning and engagement are enhanced (Stephens and Mottet, 2008). Continued investigation of the role of interactivity in web contexts, examining the specific types of interactivity, the actual technologies used for interactivity, and the trainer and learner related outcomes still need to be further explored (Stephens and Mottet, 2008).

Train-the-trainer. As part of the above identified strategies for successful knowledge transfer to practice, the role of the trainer also has significance in e-learning formats. Social cognitive theory highlights the experience of learning from more experienced peers through

modeling and observational learning (Schunk, 2012). A train-the-trainer approach supports the notion of a peer-led model.

Many studies have indicated the effective use of a train-the-trainer program in assisting transfer of knowledge to practice. Marks, Sisirak and Chang (2013) found that staff had a unique role in changing behaviours and improving health status through a train-the-trainer model. Their findings demonstrate the efficacy of the staff-led program. Fitzgerald, Chromy, Philbrick, Sanders, Muske, and Bratteli (2009) discuss the previous work that has shown that a train-the-trainer model is successful in providing education. The model was successful in providing training to a wide rural population, and increasing perceived confidence levels of students. Moon, Calabrese, and Aird (2008) found the train-the-trainer model was effective in improving knowledge and practice of child care providers and empowering them to modify their practice. Graziano (2011) identified that peer-assisted learning could be a useful teaching method for technical skills.

McClelland, Irving, Mitchell, Bearon, and Webber (2002) found that the train-the-trainer approach was successful in some cases with health care workers. The report indicates participant satisfaction with the train-the-trainer approach. Participants reported feeling more confident than prior to the training and they were satisfied with the training and that the trainers were knowledgeable, caring and willing to help (McClelland, Irving, Mitchell, Bearon, and Webber, 2002, S50). However, there were limited checks to ensure the module content was delivered by the trainers with "fidelity" the way it was designed. They suggest that future research should address the issues of fidelity of implementation and the transfer of learning that occurs as a lack of fidelity in the program implementation can result in poor outcomes (McClelland, Irving, Mitchell, Bearon, and Webber, 2002, S51). This study also lacked a control group that would

compare the satisfaction and confidence outcomes of participants not taking a train-the-trainer model.

Standardized methods. The issue of fidelity or potential for lack of consistency of the trainers in many programs is well documented. The need to develop standardized methods that effectively translate research into practice is suggested in numerous studies (e.g. Marks, Sisirak and Chang, 2013; Fitzgerald et al., 2009; McClelland, Irving, Mitchell, Bearon, and Webber , 2002). There is a need for more standardized toolkits for trainers and more time spent on presentation design including the selection of topics, pacing, and agenda development which could benefit less experienced trainers (Fitzgerald et al., 2009, p.126). McClelland, Irving, Mitchell, Bearon, and Webber (2002) offered training on module content, adult learning styles, and educational deliver methods.

Fitzgerald, Chromy, Philbrick, Sanders, Muske, & Bratteli, (2009) created a training toolkit for trainers including background information, PowerPoint and overhead slides, activities, handouts, and additional materials to conduct the training. This allowed for a more standardized program to be delivered by trainers. The careful selection of trainers also contributed to the success of their program. Trainers were selected for their trusting rapport and ability to facilitate education and referral (Fitzgerald et al., 2009, p.119). Luke et al. (2009) recommend finding trainers that are experts in the content area and then to teach them how to teach given the e-learning format.

Self-reflection and evaluation. The importance of reflection in facilitating knowledge transfer to practice in e-learning is noted by Lamb, Lane and Aldous (2012). Reflective practice allows an individual to look back on past events and issues and identify one's strengths and learning needs (College of Nurses of Ontario, 2013a). Reflection must be meaningful and

grounded in action. For a sustained change in practice, one must acknowledge uncertainties in practice and engage in meaningful deliberation to gain insight (Lamb, Lane, and Aldous, 2012). "Reflection can lead to improved practice and greater awareness of one's identity in the professional setting" (Lamb, Lane, and Aldous, 2012, p.23).

Luke et al. (2009) also discuss reflective practice and peer review as important components that help to facilitate individual accountability within an e-learning framework. Having peer input can help in identifying strengths and learning needs that one didn't think about or that were missed in one's self-assessment (College of Nurses of Ontario, 2013a). Lamb, Lane and Aldous (2012) also found that sharing informal feedback with a peer, which required mutual trust and a sense of solidarity, provided positive reinforcement for behaviour. The findings from Lamb et al. (2012) also contribute to the literature on peer review where trainees demonstrated a cycle of awareness, responsiveness, learning and changed action as a result of peer review.

Summary of useful considerations for training. In summary, there are many useful considerations in the literature for future training programs in long-term care to encourage knowledge transfer to practice. E-learning methods are successful for training programs in long-term care but require attention to many points: time for application to practice, the use of text and illustrations, and tools for interactivity and participation to ensure there is not decreased learner interaction. There can be challenges to using technology within the e-learning method, so one must be prepared for technology related issues. The train-the-trainer model has been a successful method for training in long-term care and promoting knowledge transfer to practice but it is important to consider how to maintain the fidelity of programs, possibly using standardized methods. Finally, self-evaluation and reflection are encouraged in training programs to support knowledge transfer to practice.

The current ERCC program implements these considerations evident in the literature. The program includes many activities which involve time for application to practice (for example, brushing the teeth of a peer UCP in the group and playing the role of both the resident and the UCP). The computer-based modules make use of both text and illustrations throughout on the screen. The "Student Guide" that allows learners to follow along with the computer-based content also contains text on key points. Tools for interactivity include the discussion stop-points and quizzes embedded in the modules as well as the "Student Guide" that has fill-in-the-blanks for learners to write down their own key phrases and points from the discussion. The fidelity of the new ERCC program is promoted through the standardized computer-based content in the modules. Self-evaluation and reflection on practice are encouraged throughout every module when learners are asked to share experiences they have encountered relevant to the material and discussion. Reflection is also promoted at the end of every ERCC module when learners are asked to "Reflect" and "identify 3 ways you will use this in your work".

Limitations of Current Research

From the literature review of current training programs as well as suggestions for future programs, it is clear that there are many areas that can be further researched. Empirical studies to date have been limited in a number of ways and therefore the evaluation of the effectiveness of current training programs still remains as an area where research can be added. Sample size was documented as a limitation in the majority of studies reviewed such as using only staff from one unit or a specialized area within a location (Harrington & Walker, 2002; Landreville et al., 2005; Rampatige, Dunt, Doyle, Day, and Van Dort, 2009; Wood et al., 2002). This limited the generalizability to the specific unit, facility, or residents involved. Most of the samples were selected purposefully and focused on one core training principle (for example dementia or

mental health needs of the elderly). Few studies used a sample outside of one facility, therefore making it difficult to determine the applicability and generalizability of the research findings.

The lack of clear methodological design of many studies is also troublesome in this review of the literature. Problems in research design were highlighted by many researchers (Aylward et al., 2003; Beeber et al., 2010; Moyle et al.,2010; Rampatige et al., 2009). Problems included: lack of comparison group, difference of measured outcome variables across studies, and no follow up evaluation. Few of the studies under review outlined the training programs or the data collection tools used, other than stating the tool names. As well, the majority of studies failed to provide data analysis from the various methodological tools (e.g. Harrington & Walker, 2002; Landreville, Dicaire, & Levesque, 2005; MacDonald et al., 2006; Wood, Cummings, Schnelle, and Stephens, 2002). As a result, Moyle et al. (2010) suggested "the need for further replication studies using strong research designs" (p.1097). It is thus difficult to determine the relationship between the training program and UCP job performance and implementation of skills learned from the current programs.

The current research addressed the limitations identified in previous literature by using a robust research design. This study added to the literature by examining an additional context, that is the computer-based training program. A larger sample size was intended as part of the research design and included staff from all units from the LTC home, and potentially any residents within the LTC home for whom the UCPs care. The current research focused on multiple key training principles from the 12 modules that all contribute to resident-centred care and on the outcomes of both knowledge and behaviour. The methodological design of the current study also included a comparison group. The data collection tools are clearly explained and included in the Appendices and clear data analysis is provided as part of the study.

Interestingly, there were no studies found discussing a methodological design on a training program on the topic of resident-centred care such as is the focus of the current study. Other studies have focused on strategies involved in providing care and how these have a resident-centred focus (e.g. enhancing communication by Williams, Kemper, & Hummert (2004)) but none have focused on the implementation of resident-centred care as an overall topic of importance. The Registered Nurses' Association of Ontario (2002) highlights the importance of a client-centred organizational environment on client outcomes.

As a result of the above gaps in research, there is clearly a need for further research into UCP training in long-term care homes, specifically on resident-centred care and evaluation of emerging training methods that might influence change in practice. Because UCPs make up such a large portion of those working with residents in long-term care, it is important to evaluate how UCP training can contribute to change in knowledge and behaviour in practice. Resident-centred care could lead to improved outcomes for residents and an increase in quality of life. Delivery methods that aid knowledge transfer to practice could also assist with determining best ways to train UCPs in future programs.

Theoretical Framework

The literature review suggests some practical limitations associated with current models of training and professional learning in a long-term care provider context. However, there is a lack of theoretical consideration evident in training program development to date in the literature as previous studies do not indicate the theoretical frameworks that have guided development of these programs. The importance of incorporating theoretical best practices in training programs warrants further discussion and, therefore, the theoretical framework of the current study will be discussed.

Social Cognitive Learning Theory

The literature on training programs for UCPs highlights that delivery method and pedagogical design have a strong influence on the student's transfer of knowledge to practice. Social cognitive learning theory is the theoretical framework guiding the development of the new delivery method for ERCC and suggests best practice approaches for training programs that are incorporated into the ERCC program and this study. Social cognitive learning theory is based on the premise that learning occurs in a social environment and emphasizes the interaction of personal, behavioural, and environmental factors (Schunk, 2012). The theory assumes that people have the capability to self-reflect to be able to have control over their thoughts, feelings, motivation, and actions (Bandura, 1991). In the case of this study, this would imply that UCPs have control in being able to implement the knowledge learned from the ERCC program in practice. Social cognitive learning theory includes central points on self-efficacy as related to self-regulation as well as motivation. These concepts will be explored further as they relate to the current study on transfer of knowledge to practice. As described in the following sections, the ERCC program model incorporates learning principles from social cognitive learning theory, especially in its emphasis on self-regulation, self-evaluation, self-efficacy, and motivation.

Self-Regulation

Self-regulation is a foundational concept to the pedagogical design and delivery model of the ERCC program under study in this research. If students are to transfer knowledge to practice through the computer-based ERCC program, they must be able to self-regulate with their learning. Self-regulated learning is a deliberate, judgmental and adaptive process that emphasizes autonomy and control of the individual in their own learning (Bandura, 1991; Butler and Winner, 1995; Paris and Paris, 2001). Self-regulated learners have a high efficacy for

learning (Perry, Phillips, and Dowler, 2004). The role of goals, the skills necessary for self-regulation, and the processes involved in self-regulation are three considerations to better understand this theoretical framework.

First, the importance of learning goals in self-regulated learning is identified (Bandura, 1991; Winne, 1995b). The learner "monitors, directs, and regulates actions toward goals of information acquisition, expanding expertise, and self-improvement" (Paris and Paris, 2001, p.89). Effective self-regulation suggests that individuals will be motivated to continue with behaviours, cognitions, and affects which assist them in meeting their goals (Schunk, 2012). It requires that learners have choices in learning (Schunk, 2012). There is a positive correlation between choosing one's own learning goals and the positive beliefs one holds related to their sense of agency, their need to apply effort in learning, and their ability to build capacity (Butler and Winne, 1995). In the ERCC program, learners are asked at the end of each module how they will implement the knowledge learned in practice. They are asked to identify three areas in their practice that require improvement. At the midterm and final modules, learners are also asked to review what goals they have set and whether they have been successful in implementing strategies in practice to achieve these goals. If learners are willing to share in the discussion group, the facilitator and other learners are able to discuss how what is learned in the program can assist in improving in the targeted areas. This allows each learner to have choice in what goals they will set for themselves and contributes to better self-regulation.

The second consideration within self-regulated learning is that self-regulation is a process that becomes automatic and non-deliberate with experience and procedural knowledge (Winne, 1995a; Winne, 1995b). The ability to manage one's own learning leads to success outside of school (Perry, Phillips, and Dowler, 2004). Students who are able to self-regulate "exercise a

suite of powerful skills" that include: "setting goals for upgrading knowledge; deliberating about strategies to select those that balance progress toward goals against unwanted costs; and, as steps are taken and the task evolves, monitoring the accumulating effects of their engagement" (Butler and Winne, 1995, p.245). Again, as part of this research, students will reflect on areas that require improvement in each module and how the ERCC program will assist them in applying knowledge to practice.

A third consideration is the three key processes involved in self-regulation in learning: observation, judgment, and reflection (Bandura, 1991). First, the learner observes their behaviour. The behaviour is judged against standards as positive or negative (Schunk, 2012). The learner monitors their engagement in relation to the goal (Winne, 1995a). As a result, the second process of judgment states that the individual compares their present state with their goal. Standards inform and motivate the learner to move toward their goal (Bandura, 1991). The third process is the individual's self-reaction to their goal progress. The learner's belief that progress is being made sustains motivation to continue toward the goal (Bandura, 1991). In the end, self-regulated learners accept responsibilities for the achievement of outcomes (Schunk, 2012). In this study, participants are provided with best practice teaching as part of the ERCC program, that is, a standard against which to compare their own behaviour. In each module, they are asked to review what they already know, reinforce principles of behaviour they may or may not already be implementing, relate the material to their role as a UCP, and finally reflect on what they may be able to implement in practice.

Self-Evaluation

A closer examination of self-evaluation as part of self-regulated learning is necessary to better understand the theoretical foundation of this study. Feedback is inherent in self-regulated

learning (Butler and Winne, 1995). Self-generated feedback is "rich" because it provides information to modify knowledge or beliefs (Butler and Winne, 1995). Paris and Paris (2001) explain that self-assessment leads to more effective self-regulation of learning. Through self-evaluation, learners revise knowledge and beliefs about self-competence (Winne, 1995a). One's self-assessment of learning can influence motivational consequences on students' behaviour and attitudes (Paris and Paris, 2001, p.95). Motivation is promoted when learners are instructed to evaluate their own performance (Bandura, 1991). Judging and evaluating oneself positively leads a learner to feel more effective and thus motivated to continue to work toward the goal (Schunk, 2012). Butler and Winne (1995) state that internal feedback creates knowledge that leads to further action. Monitoring and evaluating one's performance and progress in learning allows an individual to see that they have become more competent (Schunk, 2012).

Self-evaluation is an underlying theoretical foundation for the ERCC program and was also a theoretical foundation for the evaluation of the program in this study. In the program, participants are asked to regularly "reflect" on their own learning, that is, to self-evaluate their current practice and think about how they can use the information in their own practice. In the study, self-evaluation was a tool used to evaluate change in perceived behaviour; more specifically, whether internal feedback related to new knowledge gained produced a change in practice as a result of taking the computer-based ERCC program. To implement new strategies in practice, learners must clearly be able to self-regulate.

Self-Efficacy

Self-efficacy is another concept related to self-regulation that supports knowledge transfer to practice. Self-efficacy is a learner's beliefs about their personal capabilities to perform at a certain level and is key to promoting a sense of having control and influence in

one's own learning (Bandura, 1991). Students with a learning goal and who are given feedback lead to the highest self-efficacy and motivation (Paris and Paris, 2001). "Self-efficacy can affect choice of activities, effort, persistence, and achievement" (Schunk, 2012, p.160). Thus, self-efficacy of the students completing the ERCC program can affect the knowledge transfer to practice in the activities and effort that students put forth.

Self-assessment, which includes reflection and evaluation as above, increases self-efficacy (Paris and Paris, 2001). Sources that indicate self-efficacy include an individual's performances (or self-evaluation) as well as observing models with which one can compare (Schunk, 2012). "Observing similar others succeed raises observers' self-efficacy and motivates them to try the task because they believe that if others can succeed, they can as well" (Schunk, 2012, p.147). Further, if a learner is able to observe a peer model performing well, this can also increase self-efficacy. Schunk (2012) explains that "observing a peer model raised self-efficacy and achievement more than observing a teacher model" (p.150).

In the ERCC program, a train-the-trainer approach is used as a peer-assisted learning model. Once UCP facilitators are selected from their work sites, they are trained to then train their peers. This intentional design in delivery method allows for UCPs to lead as peer facilitators to other UCPs. UCPs are able to observe the peer facilitators throughout the modules as they demonstrate the attitudes, behaviours, and knowledge that are accepted and expected from taking the ERCC program. There are motivational benefits that result from peer-assisted learning in the literature that contribute to this theoretical framework. Effective peer tutors are perceived by students as being similar to them but further along in acquiring skills. This perception of being similar can lead students to believe that if the peer was able to learn, they are able to as well. This can increase student self-efficacy as well as motivation to learn (Schunk,

2012). In the current study, participants were asked questions on the final evaluation regarding this type of delivery method. The data collected assisted in determining how the peer-assisted learning model was perceived by students and how it related to their self-efficacy, motivation, and overall helped them to self-regulate their learning. This method contributes to self-efficacy and facilitates knowledge transfer to practice.

Motivation

Motivation lies at the foundation of the concepts of self-regulation, self-efficacy, and peer-assisted learning as part of the social cognitive learning theory. Motivation is said to be "the process of instigating and sustaining goal directed behaviour" (Schunk, 2012, p.346). Learners use cognitive processes such as planning and monitoring as well as behaviours such as persistence and effort to attain goals that they set. Motivation cannot be directly observed but instead can be inferred from behaviour (Schunk, 2012). Behaviours that indicate motivation might include verbalizations, task choices, and goal-directed activities (Schunk, 2012).

The connection between motivation and self-regulation is clear; students who are intrinsically motivated are self-regulated and students who are self-regulated display goal-directed, motivated actions (Paris and Paris, 2001; Perry, Phillips, and Dowler, 2004). These students demonstrate being attentive to instruction, asking questions, engaging in rehearsing information, and relating new learning to previous acquired knowledge (Schunk, 2012). "When students are deeply engaged, they make psychological investments to master the knowledge and skills" (Paris and Paris, 2001, p.93). Engagement "requires that tasks elicit the intrinsic interests of students, permit a sense of ownership, relate to life outside of school, allow for collaboration, communicate high expectations, and offer consistent support for students to meet those expectations" (Paris and Paris, 2001, p.93). Motivating tasks are challenging but not

overwhelming (Perry, Phillips, and Dowler, 2004). These points are all necessary for students to succeed in transferring knowledge to practice as part of the current research study.

Freedom to Learn

Rogers' theory of "Freedom to Learn" suggests that a learner's motivation involves making choices to seek control over one's life (Schunk, 2012). Rogers identifies that individuals are innately "oriented toward personal growth, autonomy, and freedom from control by external forces" (Schunk, 2012, p.354). Rogers' theoretical framework explains that meaningful, experiential learning leads to learners being invested in learning. Learners must believe that learning is important. Learners' needs are satisfied through experiential learning as a result of a number of factors.

First, learning must be relevant to the whole person and have personal involvement including learners' cognitions and feelings (Schunk, 2012). Meaningful learning is "relevant because they believe it will enhance them personally" (Schunk, 2012, p.355). The content in the ERCC program is directly relevant to the individual learner in their role as a UCP. In each module of the program, learners are asked to discuss their feelings and knowledge (cognitions) related to many of the presented concepts (such as oral care, infection control, nutrition). Learners are asked to share personal experiences of situations in which they have been as a UCP and residents with whom they have worked. Learners are also asked to participate in many experiential activities and play the role of the resident. UCPs can reflect on how the discussions as well as experience in the activities can enhance their role.

Second, Rogers' theory indicates that learning must be self-initiated and the drive for learning must come from within (Schunk, 2012). Though individuals taking the ERCC program are selected by the agency for which they work typically without a choice, components within

the program allow for self initiated learning. The ERCC program allows individuals to select their own goals as indicated above as to how they will incorporate the module content into their own work as a UCP. This will be different and individualized for each learner.

Third, learning must be pervasive and affect the learners' behaviour, attitudes, and personality (Schunk, 2012). Components of the ERCC modules focus not only on providing new or revising knowledge but also on allowing learners to think about their behaviour and attitudes related to their role as a UCP in given situations. Case studies and experiential learning activities that have follow-up discussion questions allow learners to share their attitudes regarding a given situation. The learners are also able to reflect on how their behaviour changed (or didn't) when they were able to play the role of a resident in the activities.

Finally, Rogers' theory states that learning must be evaluated by the learner according to whether it meets needs or leads to goals. Learning requires active participation combined with self-criticism and self-evaluation by learners (Schunk, 2012). This connects back to self-regulation and self-efficacy as discussed previously. Throughout the ERCC program, learners are asked to evaluate their current practices informally in group discussions. They are also given opportunity to evaluate how they have met their own goals at modules 6 and 12. As a result of taking the program, UCPs will hopefully be motivated to implement more resident centred care behaviours. The choices in behaviours implemented by UCPs in practice as a result of taking the ERCC program will be examined.

Rogers' theory also speaks to the role of the teacher in motivating students to learn and to transfer knowledge to practice. The role of the teacher is not to impart learning, but instead act as a facilitator to arrange resources for learning to occur and to share feelings and thoughts with students. The facilitator must establish a classroom climate that is oriented toward learning and

assists students with meeting their goals (Schunk, 2012). Inquiry, simulations and self-evaluation are ways to provide freedom for students with the facilitator model. In this study, the facilitator guided students through the ERCC program. The facilitator is purposely a peer UCP with similar experience and background to the learners. Facilitators guide learners through the computer-based standardized modules and act as the leaders for discussion stop-points. The role of the facilitator in the ERCC program does not present the content of the modules, but instead acts as a guide through the standardized computer-based modules and leads discussions and activities.

Summary of Theoretical Connections

In summary, the ERCC program includes many e-learning strategies and a strong pedagogical design that have been outlined as important. The importance of goal setting is intertwined within each module of the program. Observation, judgment, and reflection are three facets contained in the ERCC program that assist learners with self-regulated learning. Self-efficacy is promoted within the program as learners have a sense of control and influence in their own learning in the modules, as well as through the peer facilitating model. The program's standardized content framework provides fidelity between the facilitators. The facilitator role promotes motivation and 'freedom to learn' as a peer model that is relatable to the UCPs. The framework allows learners to build on existing knowledge involving the four phases (review, reinforce, relate, reflect) within each module. The modules also involve interactive quizzes for learning within the cognitive domain, experiential case studies and hands-on activities for learning in the psychomotor domain, and discussion questions and reflection to reach the learners' affective domain. Cooperative face-to-face discussion alongside the program's standardized computer-based content run by the facilitators is a strength of the program.

Motivation is supported through the engaging nature of the program as learners work to master knowledge and skills for resident-centred care. The experiential activities are directly meaningful to the role of the UCP and thus further promote motivation to invest in learning and to implement a change in practice.

The current study also made use of best practice approaches from the literature and theoretical paradigms in relation to the evaluation methods used in the study. Feedback was a key component in this study and was evident in three parts of the study: self-evaluation of behaviours, evaluation of the program, and evaluation of knowledge. Self-evaluation is a learner's evaluation of their knowledge transfer to practice. Learners were asked to provide feedback on their own behaviour in practice; that is, how they saw themselves using resident-centred care behaviours throughout regular shifts. Learners were also asked to evaluate and provide feedback on the ERCC program at its completion in terms of how the peer facilitator model, delivery model, and content assisted their learning. Finally, learners completed knowledge evaluations in the form of the midterm and final tests that provided feedback on the knowledge they gained from the ERCC program.

Purpose of Study

Based on the review of the literature pertaining to training programs in long-term care, and considering the theoretical paradigms, the current study sought to add to the research on information about transfer of knowledge to practice. More specifically, the study examined how a standardized computer-based e-learning strategy that incorporates a train-the-trainer model impacted knowledge and behaviours in UCPs. The training program, as well as the current study approach, addressed gaps identified previously in the current body of knowledge.

The ERCC program addresses many of the gaps as well as best practice principles identified in the literature as reviewed previously. First, the topic of resident-centred care is highlighted as important to residents and is relevant to all UCPs in long-term care. The content of training programs should be focused on resident needs for whom UCPs provide care (Moyle et al., 2010). The pedagogical design of the program as identified previously is also a strength of the program. The program is accessible and flexible given the e-learning computer-based method of delivery and addresses the issues evident in current training programs. The lack of standard education in UCPs entering the workforce is addressed by incorporating sections to "review" and "reinforce" concepts from the basic UCP role within each module of the program. The ERCC program required evaluation through the current study to identify how gaps and best practices assisted in knowledge transfer to practice.

The study design and evaluation of the program also addressed gaps and best practices identified in the literature. The robust methodological design of the study allowed for evaluating knowledge transfer to practice using numerous methods including observation, knowledge evaluations, participant self-evaluation, and surveys. This study had a significant and important advantage over previous evaluation efforts, in that it included a control group comparison. The control group was comprised of a group of UCPs who had not yet taken the ERCC training program. The study took part in a long-term care home, without limiting the training to one unit. Overall, this design addressed gaps previously identified and allowed for greater generalizability of the study findings to the UCP population. As discussed previously, evaluation of the effectiveness of training programs for UCPs in long-term care still remains as an area where research can be added. The current study adds to this research.

This study investigated the effect of a computer-based ERCC program on unregulated care providers' (UCPs) knowledge of resident-centred care and the resident-centred care behaviours exhibited by those UCPs. Incorporating resident-centred care into UCPs' practice has been shown to increase quality of life for residents and provides practical significance for the study. Overall, understanding resident-centred care and how best to train UCPs for this will improve outcomes for residents living in long-term care homes (RNAO, 2012). The current study planned to address limitations noted in previous studies. It adds to current research through the intent to include a larger sample size involving multiple units within a facility and providing a measure of knowledge transfer to behaviour as a practical focus on actual behaviour toward residents.

The following two research questions were explored within this study:

1) What are the outcomes of the computer-based ERCC program on unregulated care providers' knowledge and practice?
2) How do prior experience and learner variables impact the effectiveness of computer-based training?

It was hypothesized that:

1) The computer-based ERCC training program will lead to an increased level of resident-centred care knowledge for UCPs
2) The computer-based ERCC training program will lead to an increased demonstration of resident-centred care behaviours by UCPs at the completion of the course in comparison to UCPs who do not receive the training

3) The computer-based ERCC training program will lead to an increased demonstration of self-perceived resident-centred care behaviours by UCPs at the completion of the course in comparison to UCPs who do not receive the training.
4) There is a relationship between knowledge and behaviour of resident-centred care in that those who demonstrate an increase in knowledge will also demonstrate an increase in resident-centred care behaviours.
5) Participants with prior experience with e-learning strategies will find taking the ERCC computer-based modules facilitates knowledge transfer to practice better than those without prior experience.
6) Mediator variables such as computer experience, education, success in the course, level of participation in the course, and self-efficacy and self-confidence may influence the knowledge and behaviours of UCPs.

Chapter 3: Methodology

Design

A quasi-experimental, mixed methods design was used to address the objectives of the study. Appendix B outlines the study design related to the research questions.

The present study followed a nonequivalent pretest-posttest control group design involving two groups: (1) an intervention group of 10 participants that were enrolled to take the ERCC program and (2) a control group of 6 participants who were not enrolled to take the ERCC program at the time of the study. Allocation of participants to groups was done by the administration team at the long-term care home. The researcher was blind to the participant grouping.

Using both quantitative and qualitative methods within this study allowed a better approach to gather and analyze data with the research questions (McMillan, 2012). This study uses primarily quantitative methods with some additional contribution of qualitative content analysis. McMillan (2012) discusses that "it is typical in survey research to use sampling and closed-response type questions (quantitative) and also have some open-ended questions at the end that are analyzed qualitatively" (p.15).

Quantitative data were collected from participant surveys, researcher observations, and written tests of knowledge. Pre and post-intervention surveys and tests explored changes in knowledge while post-intervention surveys and observations explored the transfer of knowledge to practice.

Qualitative data were collected from participant comments on surveys. Qualitative analysis helps to "understand the complexities" and to "illuminate subtle meanings and interpretations" of the data (McMillan, 2012, p.84). The qualitative comments provided by

participants on the pre and post-intervention surveys explored changes in perceived knowledge transfer to practice as well as perceptions of the computer-based training. The qualitative component provided further explanation and interpretation of the quantitative scale numbers selected by the participants on surveys. This allowed opportunity for participants to explain rationale for their selection of the quantitative scale based data. This helped to ensure that the researcher understood what was meant by the rating selected on the scale in each subcategory.

Setting and Sample

This study took place at a 128-bed long-term care home in a medium sized city in southwestern Ontario. At the time of data collection, there were 86 UCPs employed at the home. The design was quasi-experimental in that the participants were assigned to the intervention and control groups by the administration team at the long-term care home. Participants in the intervention group (n=10) were enrolled in the ERCC training in spring 2015 with a facilitator and the computer-based modules. Participants in the control group (n=6) were not provided with any training for ERCC until after completion of the study. The long-term care home continues to train UCPs in the ERCC program as scheduling allows.

Demographics. The majority of participants were female (n=13) and only one participant was male. The majority of participants had a Personal Support Worker certificate. Specifically, 64.3% of participants (n=9) graduated from a Personal Support Worker certificate program, 21.4% of participants (n=3) graduated from a Health Care Aide program, and only one participant stated "other" as their post-secondary training related to their UCP role. The majority of participants (64.3%, n=9) were employed "full time". Two participants (14.3%) were employed "part time" and two participants were employed on a "casual" status. All participants worked a combination of days, evenings, and/or nights. The majority of participants (71.4%,

n=10) worked evenings as well as nights. Fewer participants (64.3%, n=9) worked days. The age of participants ranged from 20 to 59. The mean age of participants was 38.92 years (SD=14.37), and the median age was 35. The demographic findings of the small sample in this study are representative of the general population of PSWs in Canada. In long term care settings, women make up the majority of care workers and "nearly three-quarters of care workers in Canada are 35 years or older" (CRNCC, 2010, p.3).

Measures

Measures used for data collection included three self-report surveys, researcher observations, and two written tests of knowledge. Participants in both the control and intervention groups completed the "Demographics Data Sheet" and "Self-Evaluation of Resident Centred Care" surveys. Participants in the intervention group also completed an "Evaluation of the Program" survey. A percentage of participants in the control and intervention groups were observed by the researcher using the "Observation Checklist." Participants in the intervention group also completed the "Midterm Test" and "Final Test" as a test of knowledge.

Surveys. The "Demographic Data Sheet" (see Appendix C) was used to collect information on participants' age, gender, post-secondary training, employment status, schedule of work, and experience with computer-based learning. Participants created their own anonymous ID number for identification and connection of data throughout the study.

The "Self-Evaluation of Resident Centred Care" survey (see Appendix D) is composed of 19 scale-based questions and three open-ended questions examining participants' perceptions of their demonstration of resident-centred care behaviours. The 19 questions are divided into three main categories: activities of daily living, interactions with residents, and awareness of resident. This tool was adapted from the main themes of the RNAO (2008) "Report Card – Client

Centered Care: How are we doing?" Adaptations were made to incorporate the above three categories that are more specific to care from the perspective of a UCP. This tool is not regularly used in the ERCC program, but instead was implemented for the purposes of this study to discover participant perceptions of their own behaviour. Participants scored themselves on a Likert-type scale including "never" (1), "rarely" (2), "sometimes" (3), "often" (4), "always" (5) on the 19 scale based questions within the three categories. The Cronbach's Alpha for the 19 items on the "Self-Evaluation" indicated moderate reliability on the pretest before ERCC training ($\alpha = .60$) and on the posttest after ERCC training ($\alpha = .65$). Participants were also asked to provide examples of their perceived resident-centred care behaviours in the three open-ended questions.

The "Evaluation of the Program" survey (see Appendix E) measures participant satisfaction at the end of the training modules. This survey tool initially incorporated questions from Conestoga College's "Student Appraisal of Teaching" which is typically completed at the end of the ERCC program. However, for the purposes of this study, it was adapted further to include specific elements from the literature review including items on program content, delivery method and the peer facilitator model. These items are identified in the literature as being necessary components for better transfer of knowledge to practice. Participants were asked to complete this evaluation together with the regular course evaluation. The "Evaluation" tool contains 16 forced-choice questions that use a Likert scale including "strongly disagree" (1), "disagree" (2), "neither agree nor disagree" (3), "agree" (4), "strongly agree" (5) to measure satisfaction with the program content, delivery method, and facilitator model. The Cronbach's Alpha indicated high reliability ($\alpha = .96$) for the 18 items at midterm and high reliability ($\alpha = .94$) for the 18 items at final.

Observations. The "Observation Checklist" (see Appendix F) is an observation tool that was adapted from the existing "Sustainability Checklist" included in the ERCC program. The "Sustainability Checklist" has been used regularly for peer observation since the start of the ERCC program in 2009. Numerous agencies have used this tool to observe for change in behaviour after taking the original ERCC program, which contributes to the validity of the tool. The original tool asked the observer to answer four questions (on a five point scale of "Never → Always") of how the student demonstrated resident-centred care behaviours and then provide any general comments and examples. For the purposes of this study, the tool was adapted to indicate resident-centred care behaviours involved in a UCP assisting a resident with morning or evening care. The observations provided an objective measure of behaviour to compare to participant perceptions of behaviour from the "Self-Evaluation."

Morning and evening care were selected for observations as these are definite and expected resident-UCP contact points on a shift when UCPs spend significant time with the resident. The scale of the original tool was modified from the five-point "Never → Always" to include an open ended checklist of items indicating resident-centred care. Each time the observer saw behaviour from the checklist, a checkmark was placed in the "frequency" column. The "Observation Checklist" was scored two ways in the end: a total frequency for each item and a total frequency score for the full list of items.

Knowledge evaluation. There were two tests of knowledge in the ERCC training program: one midway through the course that evaluated modules 1 through 6, the "Midterm Test" (see Appendix G), and one at the end of the course that evaluated modules 7 through 12, the "Final Test" (see Appendix H). Both "Tests" used 10 multiple choice questions and 15 short

answer questions developed to test knowledge of resident-centred care related to the ERCC program modules.

Procedure

Recruitment and REB. All participants in this study were treated in accordance with Tri-Council guidelines for the Ethical Conduct for Research Involving Humans. Participants were recruited by first determining one of the long-term care homes that was running the ERCC training program. For this study to have a control group, it was necessary that there were additional participants at the home who had not yet participated in the ERCC training program. The administration team at the LTC home signed the administrator Information and Consent Form (see Appendix I). Participant selection was determined by the administration team at the long-term care home and the researcher discussed the details on how this selection was determined with administration. Selection for the intervention group depended on registration in the ERCC course. A second group of participants that were not taking (and had not already taken) the ERCC course were in the control group. The researcher was blind as to which participants had been assigned to each group.

The researcher sent the Information and Consent forms to the administration team to deliver to all participants as well as the ERCC facilitators (see Appendix J and Appendix K). The researcher offered to answer any questions over email and/or to meet in person at a mutually agreed time. No participants asked for a meeting or had any questions over email. A letter of consent was signed by each individual UCP who agreed to participate in the study.

Data collection. Before the ERCC program began, participants in both the intervention and control groups completed the "Demographic Data Sheet." The administration team and

facilitators assisted with collecting surveys that were completed on various shifts outside of the time the researcher was present.

Both groups were then asked to complete the "Self-Evaluation" of their perceived resident-centred care behaviours on one shift before the ERCC program began as a pretest. The "Observation Checklist" tool was used with 25% of participants for the researcher to observe actual demonstration of resident-centred care behaviours. The first observation, the pretest, was completed by the researcher prior to starting the ERCC program. The researcher observed participants during morning or evening care with a resident.

The 12 modules of ERCC were delivered to those in the intervention group. UCPs in the intervention group were required to take all 12 modules of the ERCC program to participate in the study.

The "Self-Evaluation" was again completed as a posttest by all participants, approximately two weeks, after completion of the ERCC course. The same sample of participants was then observed using the "Observation Checklist" in a posttest period by the researcher for one shift after the intervention group had taken the ERCC program.

In the end, since the researcher was blind to the participant groups the number of participants that were observed in each group was not equal. 25% of participants (n=6) in total were observed--one participant observed was in the intervention group with the remaining five from the control group. The "Observation Checklist" was completed on one shift by the researcher.

The "Evaluation of the Program" was completed by participants in the intervention group at the end of module 6 and 12 as part of the time assigned for the "evaluation" component of these modules. The facilitator of the program handed the tool out to the participants during the

module to complete and then collected the completed forms and gave them to the researcher. The "Evaluation" tool also asked participants for open-ended responses about the program content, delivery method, and facilitator model.

The "Midterm Test" and "Final Test" built into the ERCC program at modules 6 and 12 were also completed by all registered course members as part of the regular "test" component of these modules. The facilitator of the program handed the test out to participants to complete as a regular component of these modules. Participants in the intervention group were asked for consent to include their results in the data collection for this study. Participants recorded a self-generated ID number on their tests to match midterm and final tests, each marked out of 25 total marks. The facilitator collected the completed tests and marked them in collaboration with the administration team and the final marks for the intervention group were shared with the researcher. The results of these tests were used to measure participant knowledge during the ERCC computer-based program.

Attrition

Of the original participants (n=10) in the intervention group, two participants did not attend the first ERCC training session which made them ineligible to participate in the study. An additional two participants in the intervention group were absent for the second of two training sessions. This made them ineligible to complete to participate in the study because they were unable to complete the ERCC training session at this time. The total number of participants in the intervention group who completed the entire ERCC training was six. Of the original six UCPs who volunteered to be in the control group for the study, only five completed the appropriate consent form and data collection measures.

Analysis

For this study, demographic data, self-evaluations, observations, test data and evaluation data were collected for participants. To develop a clearer picture of the sample in the study and to compare the intervention and control group participants, frequency distributions and descriptive statistics were analyzed for all demographic data collected from the "Demographic Data Sheet" using SPSS.

To test the first hypothesis that the computer-based ERCC training program will lead to an increased level of resident-centred care knowledge for UCPs, the mean test scores from the "Midterm Test" and "Final Test" were analyzed for comparisons at midpoint and after completing the training. A paired samples correlation analysis was also appropriate to analyze the connection between midterm and final marks for participants. Frequencies of the questions most often answered incorrectly on the "Midterm" and "Final" were additionally analyzed for potential knowledge gaps in content. The potential knowledge gaps were linked to one of the existing ERCC module titles. The knowledge gaps were then compared to the items with lowest reported means on the "Self-Evaluation" as well as lowest reported means on the "Observations." This comparison allowed for a fuller analysis of the content of the knowledge participants received from the ERCC training.

To test the hypothesis that the computer-based ERCC training program will lead to an increased demonstration of resident-centred care behaviours at the completion of the course in comparison to UCPs who did not receive the training, frequencies were analyzed for the data from the 14 items as well as three subcategories on the "Observation Checklist." Given there was only one intervention participant, this participant's data were explored by looking at the change in frequency and variety of behaviours from before to after ERCC. Paired samples t-tests

were completed within the control group participants in the three subcategories to analyze any significant change in number of behaviours from the pretest to posttest observations. A case description of two participants also provided further analysis of the data by comparing the means for items on the "Observation Checklist" from one control participant and one intervention participant. Qualitative comment responses provided by these two participants on the "Self-Evaluation" were additionally analyzed for themes and connections of words to similar items in the "Observation Checklist."

To test the hypothesis that the computer-based ERCC training program will lead to an increased demonstration of self-perceived resident-centred care behaviours at the completion of the course in comparison to UCPs who did not receive the training, multiple quantitative analyses were explored from the "Self-Evaluation" data. First, the data for both control and intervention groups were analyzed for measures of central tendency to see if UCPs perceived implementing more behaviours from taking or not taking the ERCC program, in intervals before (pretest) and after (posttest) ERCC. Next, the individual 19 items as well as the three subcategories on the "Self-Evaluation" were analyzed using independent t-test comparisons of the means between the control and intervention groups, at pretest and posttest intervals. The independent t-test was appropriate for this analysis because there were different participants in two set groups; the control and intervention group. Given the small sample size, the independent t-test allowed for comparison of the mean of self-perceived behaviour in the control group compared to the intervention group.

Additionally, the three subcategories on the "Self-Evaluation" allowed for examination of types of behaviour beyond the 19 specific items. The subcategories were analyzed using paired sample t-tests within the control and intervention groups to compare pretest and posttest data.

The paired samples t-test was appropriate to analyze the differences within each of the groups between the pretest and posttest means. Again, given the small sample size, the paired samples t-test allowed for comparison of the means of self-perceived behaviour within the control group from pretest to posttest, and then within the intervention group from pretest to posttest.

Further, qualitative data collected in the form of participant comments on the "Self-Evaluation" were analyzed using a content analysis approach. The qualitative content analysis in this study focused on the latent content of participant comments, meaning the "interpretation of the underlying meaning of the text" (Graneheim & Lundman, 2003, p.106). In contrast, some comments (because they were so short) were analyzed solely based on manifest content which is "the visible, obvious components" (Graneheim & Lundman, 2003, p.106). Qualitative responses were analyzed for a "meaning unit," which contained "words or statements that relate to the same central meaning" (Graneheim & Lundman, 2003, p.106). Categories were created from the meaning units using the definition of "a group of content that shares a commonality" (Graneheim & Lundman, 2003, p.107). Four categories emerged from the meaning units; 1)verbal example of caring for residents in general, 2)verbal example of caring for specific resident needs, 3)action example of caring for residents in general, and 4)action example of caring for specific resident needs. Categories in the analysis were exhaustive (meaning there was a suitable category for all data) and mutually exclusive (meaning data only fit within one category) (Graneheim & Lundman, 2003). Based on the categories, two themes developed as part of the analysis. The two themes allowed for the expression of the latent content of the text as well as "to link the underlying meanings together in categories" (Graneheim & Lundman, 2003, p.107). The qualitative content analysis complemented the qualitative analysis to demonstrate further

explanation and interpretation of the quantitative scale numbers selected by the participants on surveys.

To test the hypothesis that there is a relationship between knowledge and behaviour of resident-centred care in that those who demonstrate an increase in knowledge will also demonstrate an increase in resident-centred care behaviours, a case description was used to analyze the data from the "Test", "Self-Evaluation", and "Observation Checklist" completed by the one intervention participant. A summary of the data analyzed from previous tests provided means of the self-perceived behaviours and observed behaviours. "Midterm" and "Final" tests were analyzed within the case description for an increase in knowledge, demonstrated by an increase in mean of the final test mark. The intended analysis, had there been a larger sample size, would have included examination of the relationship test scores (knowledge) and observations (behaviour), using Pearson's correlation. It would have been expected that there was a correlation between knowledge and behaviour in that those who score higher in knowledge would also score higher in observed behaviour.

The next hypothesis indicated that participants with prior experience with e-learning strategies will find taking the ERCC computer-based training facilitates knowledge transfer to practice better than those without prior experience. The data from the "Demographic Data Sheet" were analyzed for frequency of uses of the computer by participants. The 18 individual items as well as the three subcategories on the "Course Evaluation" for the intervention group were analyzed for measures of central tendency to explore the satisfaction of participants related to how the program content, peer facilitator model, and computer-based method facilitated knowledge transfer to practice. Additionally, the three subcategories on the "Course Evaluation" were analyzed using paired sample t-tests to compare the midterm to final evaluation. The

paired samples t-test was appropriate to analyze the differences within the one group between the pretest and posttest means. Again, given the small sample size, the paired samples t-test allowed for comparison of the means of reported satisfaction within the intervention group from pretest to posttest. Further analysis was completed by linking any words provided by participants in qualitative comments that were similar to the existing items on the "Course Evaluation." Any similar words noted in the comments were then compared to the items with lowest or highest reported means on the "Course Evaluation."

To test the final hypothesis that mediator variables such as computer experience, success in the course, level of participation in the course, and self efficacy and self-confidence may influence the knowledge and behaviours of UCPs, data collected from the "Demographic Data Sheet", "Course Evaluations", "Self-Evaluation", and "Observation Checklist" were analyzed using methods previously discussed. A case description was used to further analyze the data for the one intervention participant who completed all measures in the study. A summary of the data analyzed from previous tests provided means of the self-perceived behaviours and observed behaviours. "Course Evaluations" were analyzed within the case description for satisfaction related to program content, the peer model, and the computer-based method. The intended analysis, had there been a larger sample size within the intervention group, would have included completing a multiple regression analysis using the demographic data of computer experience, education, age, and gender. These variables would have been used to determine the relative contributions of each variable to the outcome score of knowledge in the "Tests" and behaviour in the "Observations."

Chapter 4: Results

Demographic data, self-evaluations, observations, test data and evaluation data were analyzed using SPSS to answer the research questions.

Demographic Data Sheet

The demographic data including gender, post-secondary training, employment status, shifts worked, age, uses of computer, and previous computer course experience was collected to describe the sample. Frequency distributions and descriptive statistics were produced for data collected from the "Demographic Data Sheet" to develop a clearer picture of the sample in the study and to compare the intervention and control groups, as well as to compare to the larger population of UCPs in Ontario. Of the 14 total participants in the research study, 13 participants completed the "Demographic Data Sheet".

Demographic data on gender, post-secondary training, employment status, shifts worked, and age were described in the participant sample. Additional information was collected from participants on comfort with using a computer, uses of a computer and previous computer course experience.

Participant responses for "What is your comfort level with using a computer" were collected on the "Demographic Data Sheet." The sample of participants were generally "somewhat comfortable" with technology (M=3.23, SD=1.30, n=13). Eight of the 13 participants (57.1%) have never taken a previous computer-based course before.

Control group. Within the control group, five of the six participants completed the "Demographic Data Sheet". One of the five participants was male. The mean age of participants was 44.80 years (SD=15.71). Three of the five participants graduated from a Personal Support Worker program, one graduated from a Health Care Aide program, and one stated "other" as

their post-secondary training related to their UCP role. Three of the participants were employed "full time" and two were "casual" status. All five participants worked evening shift, four of the five worked day shift, and three of the five worked night shift.

One participant stated being "very comfortable" with the computer, one participant was "comfortable", two were "somewhat comfortable" and one was "not at all comfortable" with the computer. The mean comfort level with the computer for the control group was more "comfortable" than the overall group of participants (M=2.80, SD=1.48, n=5). Three of the five participants in the control group had never taken a previous computer-based course.

Comparison to intervention group. Within the intervention group, the mean age of participants was 35.25 years (SD=13.16). All eight participants were female. Six of the eight participants graduated from a Personal Support Worker program, and two graduated from a Health Care Aide program. Six of the eight participants were employed "full time" and two were employed "part time". Participants reported working a combination of day, evening and night shifts. Seven of the participants worked night shifts, and five worked days as well as evening shifts.

The mean comfort level with the computer for the intervention group was "somewhat comfortable" (M=3.25, SD=1.49, n=8). There was no statistical difference between the control and intervention group for comfort level with the computer ($t(11)$=-.53, p=.61). Five of the eight participants in the intervention group (62.5%) had never taken a previous computer-based course.

Computer use. Participants reported using the computer for a variety of tasks. Table 3 outlines the reported uses of computer by participants in the control and intervention control group. All participants reported using the computer for two or more purposes. The majority of

participants, in both the intervention and control groups, reported using the computer for five or more purposes.

Almost all participants reported using the computer for communication purposes (including email and social media), most reported using the computer for research (including surfing the internet), and fewer participants reported using the computer for business purposes (banking, creating files) and entertainment purposes (watching TV/music/video, and listening to music). Less than half of the participants reported using the computer for learning in a formal way.

Table 3
Reported Uses of Computer on Demographic Data Sheet by UCPs in Control and Intervention Groups

Reported Uses of Computer	Control Group n=5	Intervention Group n=8	Total n=13
	n	*n*	*n*
Email	5	7	12
Social media	4	7	11
Surfing the internet	4	6	10
Banking	4	5	9
Watching TV/music/video	4	4	8
Listening to music	3	4	7
Creating files	4	2	6
Taking a course	2	3	5
Individuals who use computer for two uses	1	3	4
Individuals who use computer for four uses	0	2	2
Individuals who use computer for five + uses	4	3	7

Quantitative Analysis for Self-Evaluation

Self-evaluation of resident centered care before training. The means for the self-reported behaviours on the "Self-Evaluation" prior to the ERCC training for both groups of participants including the control group and intervention group are included in Table 4. Within the three subcategories, the highest mean was within the Awareness of Resident (AOR) subcategory (M = 4.66). In comparison, the next highest was Interactions with Residents (IWR) (M = 4.42) and finally the lowest was Activities of Daily Living (ADL) (M = 4.09).

UCPs reported the highest occurrence of self-perceived behaviours in the items "regularly check on residents" (ADL subcategory) (M = 4.92, SD = .28), "give residents privacy during care" (ADL subcategory) (M = 4.92, SD = .28), and "treat residents with respect" (IWR subcategory) (M = 4.92, SD = .28). UCPs reported the lowest occurrence of self-perceived behaviours in the items "allow residents to have a say in their transferring needs" (ADL subcategory) (M = 2.85, SD = 1.21), and "allow residents to wake up at the time of their choosing" (ADL subcategory) (M = 2.69, SD = 1.03).

The most varied items included "answer questions from residents as you feel appropriate" (IWR subcategory) (M = 3.69, SD = 1.80) and "speak with residents in a private space when needed" (IWR subcategory) (M = 4.00, SD = 1.41). The least varied items, which were also the highest occurring items reported, included "regularly check on residents" (ADL subcategory) (M = 4.92, SD = .28), "give residents privacy during care" (ADL subcategory) (M = 4.92, SD = .28), and "treat residents with respect" (IWR subcategory) (M = 4.92, SD = .28).

Self-evaluation of resident centered care after training. The means for the self-reported behaviours on the "Self-Evaluation" after the ERCC training for both groups of participants including the control group who received no ERCC training and the intervention

group who received the new computer-based ERCC training are as follows (see Table 5). Within the three subcategories, similar to the pre-test results, the highest mean was within the Awareness of Resident subcategory (*M* = 4.70). In comparison, the next highest was Interactions with Residents (*M* = 4.68) and finally the lowest was Activities of Daily Living (*M* = 4.34).

UCPs reported the highest occurrence of self-perceived behaviours in "treat residents with respect" (IWR subcategory) (*M* = 5.00, *SD = 0)* and "respect preferences of residents" (AOR subcategory) (*M* = 4.88, *SD* = .35). UCPs reported the lowest occurrence of self-perceived behaviours in "allow residents to have a say in their transferring needs" (in the ADL subcategory) (*M* = 2.88, *SD* = 1.36).

The most varied items included "allow residents to choose their appropriate clothing for the day" (ADL subcategory) (*M* = 3.25, *SD* = 1.75) and "allow residents to have a say in their transferring needs" (ADL subcategory) (*M* = 2.88, *SD* = 1.36). The least varied items included "treat residents with respect" (IWR subcategory) (*M* = 5.00, *SD* = .00) and "respect preferences of residents"(AOR subcategory) (*M* = 4.88, *SD* = .35).

Differences between groups after ERCC training. The differences between control and intervention groups are as follows for the three subcategories (see Table 6).

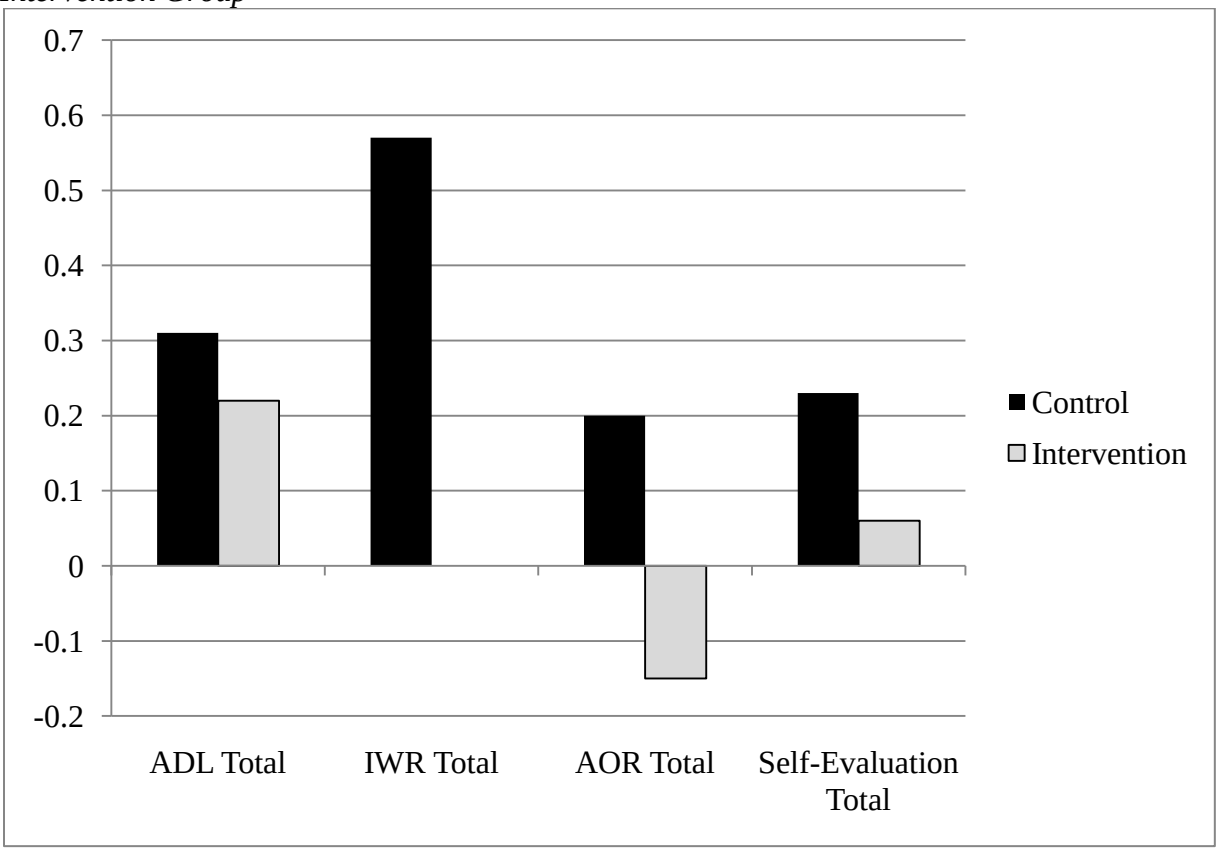
Table 6
UCP Self-Evaluation of Resident Centred Care Behaviour Before and After ERCC Training by Control and Intervention Group by Subcategory

Self-Evaluation Subcategory	Group	Before ERCC			After ERCC		
		N	*M*	*SD*	*N*	*M*	*SD*
ADL Total	Control	5	3.97	.21	4	4.28	.58
	Intervention	8	4.17	.23	4	4.39	.27
IWR Total	Control	5	4.28	.76	4	4.85	.19
	Intervention	8	4.50	.44	4	4.50	.20
AOR Total	Control	5	4.75	.56	4	4.95	.10
	Intervention	8	4.60	.37	4	4.45	.50
Self Evaluation Total	Control	5	4.31	.31	4	4.54	.35
	Intervention	8	4.38	.20	4	4.44	.21

The control group stayed consistent in pattern of perceived behaviour for the three subcategories from pretest to posttest with the highest reported mean for the subcategory of Awareness of Resident (*M* = 4.95, *SD* = .10), second highest for Interactions with Resident (*M* = 4.84, *SD* = .19) and lowest for Activities of Daily Living (*M* = 4.28, *SD* = .58). In contrast, the intervention group changed the pattern of perceived behaviour for the three subcategories from before ERCC to after ERCC with the highest reported mean for the subcategory of Interactions with Resident (*M* = 4.50, *SD* = .20), second highest for Awareness of Resident (*M* = 4.45, *SD* = .50), and lowest for Activities of Daily Living (*M* = 4.39, *SD* = .27).

Figure 1 illustrates the change in mean for each subcategory on the "Self-Evaluation" from pretest to posttest for the control and intervention group.

Figure 1
UCP Self-Evaluation of Resident Centred Care Behaviour Change in Mean By Control and Intervention Group



The control group reported an increase in perceived behaviour in all three subcategories. The change in perceived behaviour from pretest to posttest was less in each of the three subcategories for the intervention group than the control group. There was no perceived change in behaviour for the intervention group in the Interactions with Resident subcategory, and there was a decrease in reported perceived behaviour in the Awareness of Resident subcategory.

Independent t-tests were completed within the three subcategories to compare differences between the control and intervention groups for reported self-perceived behaviours on both the pretest and posttest. There was a significant difference between the control and intervention group of reported self-perceived behaviours on the Interactions with Residents subcategory after ERCC training ($t(6)=2.53$, $p=.04$). The control group scored a mean of 4.85 ($n=4$, $SD=.19$), and intervention group scored a mean of 4.50 ($n=4$, $SD=.20$). The differences between the other two subcategories were not significant: Awareness of Resident subcategory ($t(6)=1.96$, $p=.10$) and Activities of Daily Living subcategory ($t(6)=-0.35$, $p=.74$).

Differences within groups before and after ERCC training. Paired samples t-tests were completed within the three subcategories to compare differences within each group for before and after ERCC training. There was no significant change in self-perceived behaviours within the control group prior to the pretest and for a month after on the posttest **(**IWR subcategory ($t(3)=-1.69$, $p=.19$), AOR subcategory ($t(3)=1.00$, $p=.39$), and ADL subcategory ($t(3)=-0.84$, $p=.46$)). Although there were increases from before ERCC training to after ERCC training, changes were not significant, due in part to the small sample size. As outlined in Figure 1, there was an increase in each of the means for reported self-perceived behaviour in all three subcategories. The mean for all items together on the "Self-Evaluation" increased from 4.31 ($n=5$, $SD=.31$) prior to the ERCC training to 4.54 after ($n=4$, $SD=.35$)

Within the intervention group, although the mean for self-perceived behaviours within the ADL subcategory also increased from prior to after ERCC training, there was no significant change in self-perceived behaviours ($t(3)=-1.21$, $p=.31$). Within the Awareness of Resident subcategory, there was also no significant change ($t(3)=-0.58$, $p=.60$), although the self-perceived behaviours decreased from prior to the ERCC training to after as demonstrated in Figure 1. The reported mean for self-perceived behaviour in the Interactions with Residents subcategory did not change prior to and after the ERCC training and this was therefore not significant ($t(3)=-0.55$, $p=.62$).

Qualitative Analysis for Self-Evaluation

Qualitative responses were collected as comment examples from the "Self-Evaluation" for the four open-ended questions. Seven participants provided a total of 15 comment responses on the "Self-Evaluation" prior to the ERCC training, and six participants provided a total of 15 comment responses after the ERCC training. Categories were created from the meaning units of each of the participant comments. The following four categories emerged in the analysis related to how participants perceived demonstrating resident centered care;

1) **verbal example of caring for residents in general**
2) **verbal example of caring for specific resident needs**
3) **action example of caring for residents in general**
4) **action example of caring for specific resident needs**

Two underlying themes developed from these four categories, including ***general caring*** (caring that would be provided for any human being) and the more specific theme of ***caring by knowing each unique resident***.

Activities of Daily Living. In the Activities of Daily Living subcategory, participants were asked to provide "examples or description of how I incorporated resident-centred care into ADLs for residents today." Prior to the ERCC training, four participants provided examples of resident centered care behaviours that fit into only the category of **verbal example of caring for residents in general.** After the ERCC training, participants provided examples focused on two different categories. The first category, **verbal example of caring for specific resident needs**, was evident within two of the four participant responses. The second category, **action example of caring for specific resident needs**, was also evident within two of the four participant responses.

Overall, in the ADLs subcategory, there were more comments centered around the underlying theme of ***caring by knowing each unique resident*** after the ERCC training and three of the four comments were from participants in the intervention group who had taken the ERCC training. Table 7 outlines the participant responses by category for the Activities of Daily Living subcategory from the "Self-Evaluation".

Table 7
Participant Responses by Category from Activities of Daily Living Subcategory on "Self-Evaluation"

	Participant Responses	Participant Group	Category	Theme
Before ERCC	*"Give directions. If resident is not cognitive then everything is chosen for them."*	Control	Verbal example of caring for residents in **general**	General caring
	"Asking resident what they want to do first."	Control		
	"Encourage residents to participate."	Intervention		
	"Encouraged residents to help with ADLs."	Intervention		
After ERCC	*"Pick their own bedtime."*	Control	Verbal example of caring for **specific** resident needs	Caring by knowing each resident
	"I let residents choose what time they wanted to go to bed."	Intervention		
	"Ask residents what they wanted to eat and let them change items."	Intervention	Action example of caring for **specific** resident needs	
	"Try and meet every residents needs to the best I can."	Intervention		

Interactions with Residents. In the Interactions with Residents subcategory, the focus of questions was about how UCPs behaved in an interaction with a resident. Prior to the ERCC training, five participants provided examples of resident centered care behaviours that fit into three categories. The first category, **verbal example of caring for residents in general**, was evident in three participant responses. One participant response demonstrated the category of **action example of caring for residents in general**. One participant response also demonstrated the category of **verbal example of caring for specific resident needs**. Four of the five responses in this category prior to ERCC demonstrated the underlying theme of ***general caring***. Table 8 outlines the participant responses by category for the Interactions with Residents subcategory from the "Self-Evaluation".

Table 8
Participant Responses by Category from Interactions with Residents Subcategory on "Self-Evaluation"

	Participant Responses	Participant Group	Category	Theme
Before ERCC	*"Including them in conversations about care/needs."*	Control	Verbal example of caring for residents in **general**	General caring
	"Asking how family members are, or how their day was."	Control		
	"Told resident who I was before entering."	Intervention		
	"Provide privacy to each resident."	Intervention	Action example of caring for residents in **general**	
	"Focus on individual and ask their wants and needs."	Intervention	Verbal example of caring for **specific** resident needs:	Caring by knowing each resident
After ERCC	*"Always identify myself first…then ask if it's okay to do ie dinner, bath, etc"*	Control	Verbal example of caring for residents in **general**	General caring
	"Treated them with respect and dignity"	Control	Action example of caring for residents in **general**	
	"I took time to have a few words with residents about how their day was"	Intervention	Verbal example of caring for **specific** needs of residents	Caring by knowing each resident
	"Always take the time to go around and spend a few minutes with each resident"	Intervention	Action example of caring for **specific** needs of residents	
	"Always make sure w/c's are clean. Always take resident first who needs it the most"	Intervention		

Following the ERCC training, participants provided examples that demonstrated all four categories. Three of the five responses after the ERCC training demonstrated the underlying theme of ***caring by knowing each unique resident***, with two responses being from participants in the intervention group.

Awareness of Resident. In the Awareness of Resident subcategory, the focus of questions was about how well the UCP knows and understands the resident's strengths and preferences. Prior to the ERCC training, five participants provided examples of resident centered care behaviours that fit into three categories. The first category, **action example of caring for residents in general**, was evident in three participant responses. One participant response demonstrated the category of **verbal example of caring for specific needs of residents**. One participant response also demonstrated the category of **action example of caring for specific resident needs**. Three of the five responses in this category prior to ERCC demonstrated the underlying theme of ***general caring***. Following the ERCC training, five participants provided examples that demonstrated only the two categories focused on action examples. One participant response demonstrated an **action example of caring for residents in general**. Four of the five responses demonstrated an **action example of caring for specific needs of residents**. These four responses also demonstrated the underlying theme of ***caring by knowing each unique resident*** after the ERCC training, with three responses being from participants in the intervention group. Table 9 outlines the participant responses by category for the Awareness of Residents subcategory from the "Self-Evaluation".

Table 9
Participant Responses by Category from Awareness of Residents Subcategory on "Self-Evaluation"

	Participant Responses	Participant Group	Category	Theme
Before ERCC	*"Giving privacy when needed"*	Control	Action example of caring for residents in **general**	General caring
	"I treat the residents the way I would want to be treated"	Control		
	"Make sure w/c is clean on a daily basis"	Intervention		
	"Being aware of the residents needs and wants as per good conversation/inclusion of resident in care"	Control	Verbal example of caring for **specific** resident needs	Caring by knowing each resident
	"Provide each resident with the care they need"	Intervention	Action example of caring for **specific** needs of residents	
After ERCC	*"I try and always clean the glasses (get dirty)"*	Intervention	Action example of caring for residents in **general**	General caring
	"Knowing that routines need to change to adapt to declining or changing residents"	Control	Action example of caring for **specific** needs of residents	Caring by knowing each resident
	"Brought warm towels to the residents that were cold"	Intervention		
	"Allowed residents to make choices when choosing clothing for tomorrow"	Intervention		
	"Tried to find residents glasses. Gave info to where I think they might be"	Intervention		

The theme of **caring by knowing each resident** connects directly to resident-centred care and the experiences the UCPs participated in within the ERCC program. UCPs had opportunity to role play situations including both the role of the UCP and the role of the resident, giving each UCP an opportunity to better understand what a resident needs and how to better demonstrate caring for their specific needs. Participant qualitative responses on the "Self-

Evaluation" indicated understanding of the concepts of resident-centred care, including knowing what each resident needs.

Quantitative Analysis for Observations

Observations of the 25% of participants (*n*=6) who volunteered to be observed (when initially recruited by the administration team) took place before the ERCC training and again after. One participant from the intervention group took the ERCC training, and five participants from the control group did not take the ERCC training. Though the administration team asked for volunteers to participate in the observations and were aware of the groups, the researcher was blind to the participant groups until after the observations were complete.

The most frequently observed behaviour from the six participants before the ERCC training was "Explain procedures to resident while completing them" (Activities of Daily Living [ADL] subcategory) (M = 2.83, SD = 3.37). The least frequently observed behaviour from participants was for the UCP to "Announce him/herself before approaching the resident" (Interactions with Residents [IWR] subcategory) (M = 0.17, SD = 0.41).

The most frequently observed behaviour from the six participants after the ERCC training was again "Explain procedures to resident while completing them" (ADL subcategory) (M = 5.33, SD = 3.14). The least frequently observed behaviour from participants was for the UCP to "Provide glasses and hearing aids for those who require them" (Awareness of Resident [AOR] subcategory) (M = 0.17, SD = 0.41).

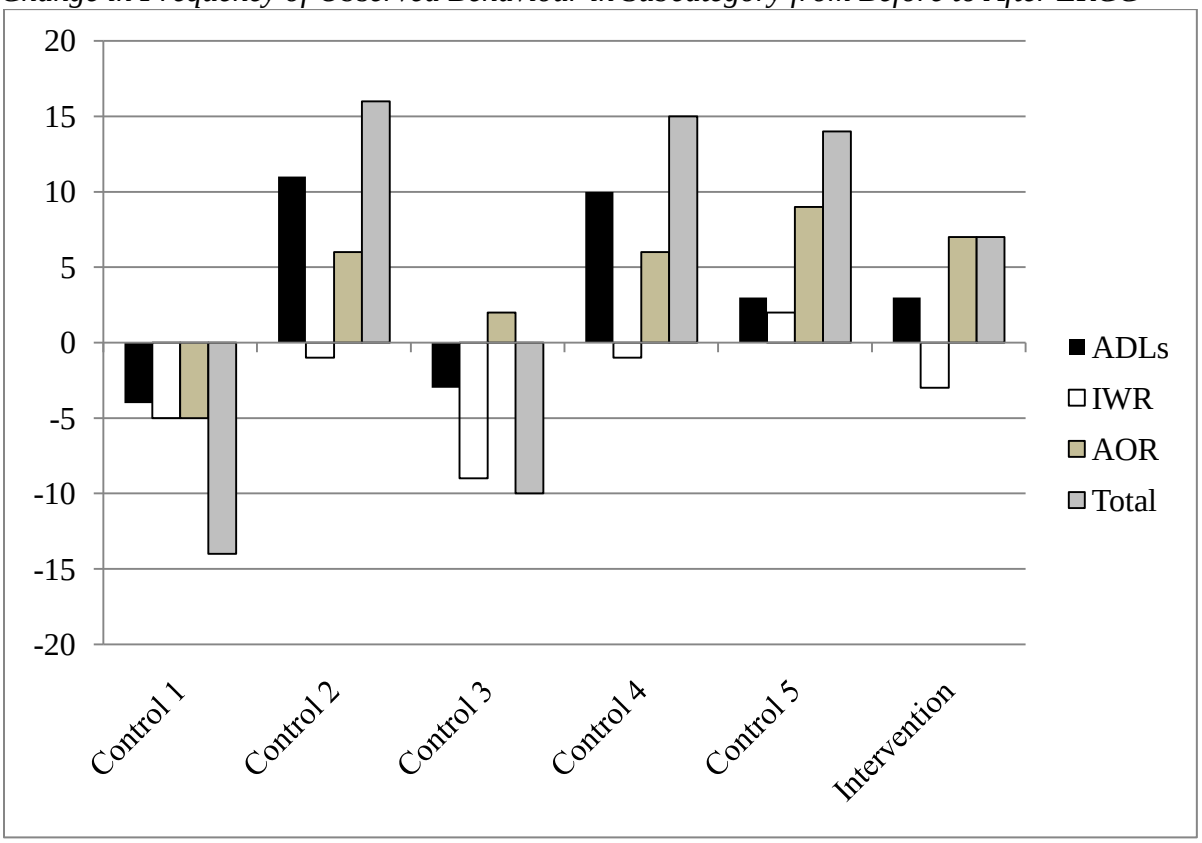
In comparison to the five participants in the control group, the one participant in the intervention group who took the ERCC training displayed higher frequencies of the observed behaviours compared to the majority of the participants in the control group. Table 10 outlines the comparison of frequency of behaviours from the control group participants to the

intervention participant. The only behaviour observed that was less frequent in the intervention group participant than the control group was "Address resident by preferred name". In 11 of 14 behaviours, the participant displays higher frequency of behaviours after ERCC training.

Table 11 shows the difference of the frequencies of behaviours observed for each participant by subcategory. Figure 2 outlines the change in frequency of observed behaviour in each subcategory by each participant from before to after ERCC training. The change in total observed behaviours is also provided. Three of the control group participants demonstrated an overall total increase in frequency of resident-centred care behaviours in the posttest observation period, after ERCC. Similarly, the intervention participant demonstrated an overall increase in frequency of behaviours. Two control group participants demonstrated a decrease in frequency of resident-centred care behaviours overall.

Figure 2

Change in Frequency of Observed Behaviour in Subcategory from Before to After ERCC



A comparison of the data collected in observations within the control group from pretest to posttest was completed using a paired samples t-test. There were no significant differences from pretest to posttest for the control group in any individual items on the Observation Checklist or in any averages of the three subcategories (IWR subcategory ($t(4)=1.91$, $p=.13$), AOR subcategory ($t(4)=-0.80$, $p=.47$), and ADL subcategory ($t(4)=0.18$, $p=.86$). This was expected since the control group did not take the ERCC training.

Quantitative Analysis for Course Evaluations

The means for the self-reported evaluation of the course at both midterm and final are included in Table 12. The three sub-categories on the evaluation included: program content, computer-based method, and peer facilitator model. Overall, the reported means on the evaluation were high at both midterm and final, with little variation.

At midterm, participants reported overall high satisfaction and "agree" with the statements on the "Evaluation." The highest satisfaction was with the program content (M = 4.57, SD = .46), followed by peer method (M = 4.43, SD = .56), and then computer-based method (M = 4.42, SD = .65). On the midterm evaluation, UCPs reported high satisfaction with all items on the "Evaluation" and the means for all items indicate the majority of participants selected "agree" or "strongly agree". The highest level of satisfaction was in the items: "The program content was engaging" (M = 4.63, SD = .52), "The program content made me reflect on my practice" (M = 4.50, SD = .76), "Having a peer run this course allowed me to feel supported" (M = 4.50, SD = .54), "Having a peer run this course contributed to my satisfaction of the training" (M = 4.50, SD = .54), and "Having a peer run this course was beneficial to my learning" (M = 4.50, SD = .54). The lowest level of satisfaction was on the items: "The

computer-based method allowed me to learn at an appropriate pace" (*M* = 4.00, *SD* = .93), and "The computer-based method gave me opportunity to practice" (*M* = 4.00, *SD* = 1.07).

On the final evaluations of the ERCC training program, participants continued to report overall high satisfaction and selected "agree" for the majority of the statements on the "Evaluation". The highest satisfaction continued to be with the subcategory program content (*M* = 4.30, *SD* = .37), followed by computer-based method (*M* = 4.27, *SD* = 0.46) and then peer method (*M* = 4.17, *SD* = .51). UCPs reported to overall "agree" and the highest level of satisfaction in the individual items: "The computer-based method allowed for deep discussion" (*M* = 4.67, *SD* = .52), "The computer-based method encouraged me to participate" (*M* = 4.50, *SD* = .55), "The program content promoted discussion" (*M* = 4.50, *SD* = .55), and "The program content made me reflect on my practice" (*M* = 4.50, *SD* = .55). Participants reported the lowest level of satisfaction on average with "neither agree or disagree" on the following two items: "The program content challenged my thinking" (*M* = 3.83, *SD* = .41) and "The computer-based method met my learning needs" (*M* = 3.67, *SD* = 0.52).

The differences on the evaluation from midterm to final were analyzed using a paired samples t-test. The differences between the three subcategories were not significant: program content subcategory ($t(5)=2.00$, $p=.10$), peer subcategory ($t(5)=2.00$, $p=.10$) and the lowest difference was computer-based method subcategory ($t(5)=0.64$, $p=.55$).

Quantitative Analysis for Knowledge Tests

To test the hypothesis that taking the computer-based ERCC training program will lead to an increased level of resident-centred care knowledge in UCPs, the data from the "Midterm Test" and "Final Test" were correlated. A paired samples correlation of .71 illustrates that participants who did well on the "Midterm Test" also did well on the "Final Test." On the

"Midterm Test", 75% of participants incorrectly answered question four which asked about infection control practices, 62.5% of participants incorrect answered question one about what a UCP needs to recognize to provide person-centred care, and 50% of participants incorrectly answered question six about restraints. On the "Final Test", 50% of participants incorrectly answered question nine which asked about factors that affect pain and 33.3% of participants incorrectly answered question seven about overall principles of safety.

Case Description of Two Participants

To examine the impact of the course in more depth, a comparison of two participants (given pseudonyms here), one in the intervention group, Janet, and one in the control group, Elizabeth, is provided as a summary in Table 13. Janet was the only participant to complete all measures, including the observations by the researcher. Elizabeth was randomly selected from the three participants in the control group who completed all measures. Both Janet and Elizabeth were female, a similar age, graduated from a Health Care Aide program and worked full time. They were similarly "not comfortable" with the computer, using it for email and Elizabeth additionally using it for social media purposes. Neither Janet nor Elizabeth had taken a computer-based course before this.

Table 13

Comparison of Intervention Group Participant with Control Group Participant

Data Collected	Janet (Intervention Group)	Elizabeth (Control Group)
Gender, Age	Female, 52 years old	Female, 55 years old
Previous Post-Secondary Training	Health Care Aide program	Health Care Aide program
Employment Status	Full time	Full time
Shifts Worked	Evenings, nights	Days, evenings
Comfort with Computer	Selected "4-Not comfortable"	Selected "3-somewhat comfortable"
Uses for Computer	Email, taking a course	Email, social media
Taken a Computer-Based Course?	No	No
Self-Evaluation Before ERCC	ADLs (M=4.44) IWR (M=4.4) AOR (M=4.4)	ADLs (M=3.89) IWR (M=3.6) AOR (M=5)
	Total mean of 4.42	Total mean of 4.11
Self-Evaluation After ERCC	ADLs (M=4.22) *"I let residents choose what time they wanted to go to bed"* IWR (M=4.4) *"I took time to have a few words with residents about how their day was"* AOR (M=4.6) *"Allowed residents to make choices when choosing clothing for tomorrow"*	ADLs (M=3.56) IWR (M=4.6) *"Always identify myself first, then ask if it's okay to do ie. Dinner, bath, etc"* AOR (M=4.8) *"Knowing that routines need to change to adapt to declining or changing residents"*
	Total mean of 4.37	Total mean of 4.16
Observations Before ERCC	ADLs = total of 15 IWR = total of 12 AOR = total of 7	ADLs = total of 1 IWR = total of 3 AOR = total of 2
	Total of 34 behaviours observed	Total of 6 behaviours observed
Observations After ERCC	ADLs = total of 18 IWR = total of 9 AOR = total of 14	ADLs = total of 11 IWR = total of 2 AOR = total of 8
	Total of 41 behaviours observed	Total of 21 behaviours observed

Comparison of self-perceived behaviour on self-evaluations. The reported means for each scale-based item (1 "never" to 5 "always) on the "Self-Evaluation" were averaged within each of the three subcategories for each of these participants. Elizabeth scored the following for the means in the three subcategories prior to and after the intervention of ERCC training: Activities of Daily Living (ADL) 3.89 before, 3.56 after; Interactions with Residents (IWR) 3.6 before, 4.6 after; and Awareness of Resident (AOR) 5 before and 4.8 after. She did not provide any examples on the "Self-Evaluation" on the pre-intervention survey but included two comments on the post-intervention survey: "Always identify myself first, then ask if it's okay to do ie. Dinner, bath, etc" related to Interactions with Residents, and "Knowing that routines need to change to adapt to declining or changing residents" related to Awareness of Resident. Elizabeth scored herself higher overall on the "Self-Evaluation" after ERCC training (though she did not take the training). The pre-intervention mean total on the "Self-Evaluation" was 4.11 (on a scale of 1 being "never" to 5 being "always") whereas the mean total after ERCC training was 4.16.

Janet scored the following for the means in the three subcategories prior to and after the intervention of ERCC training on the "Self-Evaluation": ADLs 4.44 before, 4.22 after; IWR 4.4 before, 4.4 after; and AOR 4.4 before and 4.6 after. She did not provide any examples on the "Self-Evaluation" on the pre-intervention survey but included a comment in each subcategory section on the post-intervention survey: "I let residents choose what time they wanted to go to bed," related to Activities of Daily Living, "I took time to have a few words with residents about how their day was," related to Interactions with Residents, and "Allowed residents to make choices when choosing clothing for tomorrow," related to Awareness of Resident. In contrast to Elizabeth, Janet, who did take the ERCC training scored herself lower overall on the "Self-

Evaluation" after ERCC training. The mean total for Janet on the "Self-Evaluation" before training was 4.42 whereas the mean total after ERCC training was 4.37. Janet's self-perception of implementing resident-centred care behaviours decreased slightly after ERCC training.

Comparison of demonstrated behaviour in observations. Frequency of observations for both participants increased from before to after the ERCC training. Elizabeth was observed demonstrating six resident-centred care behaviours total in the pre-observation period, of which half of these behaviours were from the Interactions with Resident (IWR) subcategory (two behaviours included engaging the resident in conversation other than about the task at hand, and one behaviour included addressing the resident by preferred name). In the post-observation period, she demonstrated 21 resident-centred care behaviours, of which 11 of these behaviours were from the Activities of Daily Living (ADL) subcategory (six behaviours included explaining procedures to the resident), two from Interactions with Resident subcategory (including answering a question from the resident and addressing the resident by preferred name), and eight from Awareness of Resident (AOR) subcategory (five behaviours included encouraging the resident to use her strengths). There was a notable increase in observed behaviours for Elizabeth overall as well as within the ADL subcategory.

In contrast, Janet was observed demonstrating the most resident-centred behaviours of all participants in the study. In the observation prior to ERCC training, she demonstrated 34 resident-centred care behaviours, of which 15 were from Activities of Daily Living (eight behaviours included explaining procedures to the resident), 12 were from Interactions with Residents (four behaviours included addressing resident by preferred name), and seven were from Awareness of Resident (three behaviours included promoting comfort for the resident). After the ERCC training, she demonstrated 41 resident-centred care behaviours, including 18

from Activities of Daily Living (10 behaviours included explaining procedures to the resident), 9 from Interactions with Residents (four behaviours included engaging the resident in conversation other than about the task at hand), and 14 from Awareness of Resident (five behaviours included respecting preferences of resident). Notably, she increased in the number of demonstrated behaviours in Activities of Daily Living, decreased in Interactions with Residents, and doubled in Awareness of Resident.

ERCC course evaluation. Since Janet took the ERCC training, she also completed the mid-experience and final "Evaluation" of the three subcategories program content, computer-based method, and peer. Janet commented at midterm: related to the program content "Great content…fun to discuss," related to the computer-based method that "quite fast paced. Good that we paused to discuss", and related to the peer "good to have someone run the course who does the job." Her mean reported score for each subcategory (on a Likert scale of 1 "strongly disagree" to 5 "strongly agree") was 3.8 for program content, 3.25 for computer-based method, and 3.8 for peer running the course. The total average for her midterm "Evaluation" was 3.56. In contrast, Janet did not provide any comments on the final "Evaluation". Her mean reported score for each subcategory on the final "Evaluation" was 4 for program content, 4 for computer-based method, and 4 for peer running the course. The total average for her final "Evaluation" was 4. Janet's overall satisfaction with the program content, computer-based method, and peer increased slightly from midterm to final "Evaluation."

In summary, the case study comparison of the two participants provided a more in-depth analysis of the overall differences between the control group and intervention group to answer the research questions. Given the small sample size in the study, Elizabeth and Janet provided for a closer comparison of some of the measures within this study to examine the research

questions. Elizabeth provided a comparison, representing any UCP in current practice that was not taking additional training on resident-centred care. She demonstrated an increase in self-perceived behaviours over the course of the study, despite not participating in the ERCC training. The key apparent differences of interest for this study included Janet's lower self-perception of resident-centred care behaviours after ERCC and her slightly increased satisfaction with the ERCC course at the final "Evaluation".

Chapter 5: Discussion

This study began with a robust quasi-experimental, mixed methods research design with the purpose of examining the Excellence in Resident Centred Care (ERCC) program and its contribution to professional learning for unregulated care providers. The computer-based ERCC program was designed for unregulated care providers (UCPs) with the hopes it would provide a more consistent form of training to assist UCPs in learning to incorporate more resident centred care behaviours into practice. This would then in turn, lead to an increased quality of care for residents. Understanding how best to train UCPs for the future will improve outcomes for residents living in long-term care homes.

Data were specifically collected in the form of feedback from UCP participant surveys, including the "Demographic Data", "Self-Evaluations," and "Evaluation" that provided a quantitative and qualitative data set to explore UCP perceptions of the impact of the computer-based ERCC program on their practice. "Observations" of a small group of participants contributed to the data set that allowed an objective exploration of UCP behaviours in practice. Due to difficulties with data collection, there were problems with analyzing the data as intended in the original research design. With a small sample size and only one participant who was observed in the intervention group, it was difficult to analyze the depth of the ERCC training program in creating a change in UCP behaviour, including a comparison between observations and self-perceived behaviours.

The analysis of the data collected warrants further discussion in two key sections that stem from this study. First, the findings in this study contribute to a better understanding of professional learning for UCPs. Second, the findings in this study relate to more general considerations about doing research in the field.

Professional Learning for Unregulated Care Providers

The findings in this study contribute to a better understanding of how best to provide professional learning for UCPs in the future. From this study, it is clear there are important considerations surrounding the content of professional learning for UCPs, the transfer of knowledge to practice in professional learning for UCPs, and the use of technology in professional learning for UCPs.

Content. The first hypothesis of this study examined *whether the computer-based ERCC training program would lead to an increased level of resident-centred care knowledge for UCPs*. Participants who completed the ERCC program demonstrated knowledge of resident-centred care on both the midterm and final tests, with an increase in overall mean mark on the final test. The midterm and final tests provide learning for future training programs and modifications to the ERCC program. Possible gaps in knowledge were identified by examining the questions most frequently answered incorrectly. The questions stem from the modules of the ERCC program that include "Resident Centred Care", "Infection Control", "Restraints", "Geriatric Safety" and "Pain." Interestingly, these possible gaps in knowledge were similar to results found in the self-perceived behaviours and observations of UCPs. This provides a broader understanding of the impact of the ERCC program on the content required in UCP professional learning.

Related to the ERCC Module "Resident Centred Care", a possible knowledge gap noted in this study from the midterm test is what providing person-centred care looks like in practice. This is consistent with findings from UCP self-perceived item scores on the "Self-Evaluation." The correct answer on the midterm test was about using the resident's strengths and abilities which compares to the item "encourage residents to use their strengths" on the "Self-

Evaluation." This item was scored on average low for the intervention group, as compared to other 18 items on the list, with a mean of 4.25 for the intervention participants after the ERCC program, down from 4.5 before the ERCC program. The "Observation" data show that "encourage resident to use his/her strengths" was in the middle for most frequently observed behavior on the list of 14 observed items. The incorrect answers that were more frequently selected on the knowledge evaluation involved two responses about enacting activities of daily living in a timely manner. Interestingly, the Activities of Daily Living (ADL) subcategory was always reported as the lowest for perceived resident-centred care behaviours by UCP participants, suggesting UCPs find it more difficult to demonstrate resident-centred care related to ADLs. However, the knowledge test suggests that UCPs think of providing care related to ADLs as more resident-centred. The observations also demonstrate that items within ADLs were most frequent from UCPs and encouraging resident strengths was less frequent. Overall this suggests that UCPs may not understand how to demonstrate resident-centred care within ADLs as compared to other areas, and they also may not know how to define resident-centred care within the context of ADLs.

A second possible knowledge gap related to the ERCC module "Infection Control" and when to use gloves was also evident on the midterm test. Infection control is a focal point of the Ontario government's capital redevelopment plan for LTC homes and bringing all homes up to the current standards (OLTCA, 2015). It is documented that health care providers overuse gloves for inappropriate tasks, and use them inappropriately for multiple tasks (Flores and Pevalin, 2007). This is congruent with the incorrect responses to the knowledge test question where participants selected answers where gloves were not appropriate. UCPs may require supplemental learning on this topic outside of ERCC as evident from this knowledge gap since

this is a topic covered in the module "Infection Control". The program from Public Health Ontario (2016) entitled "Just Clean Your Hands" is an "evidence-based, multifaceted program established in Ontario in 2008 to improve compliance with hand hygiene best practices in health care settings," and has been used since 2009 in long-term care homes.

Another possible knowledge gap identified from the midterm test was from the module on "Restraints" and specifically when it is appropriate to use restraints. The knowledge test question was application focused, suggesting that UCP participants may have had difficulty understanding the principles learned in the ERCC program about restraints and how this would be applied in practice. Since there were no items on the surveys or observations specific to restraints, it cannot be verified if UCPs are implementing appropriate use of restraints in practice (indicating knowledge transfer to practice) or if the gap is truly knowledge based. The topic of restraints is currently of importance since restraints are one of the quality indicators that long-term care homes currently report on in Ontario (OLTCA, 2014).

The possible knowledge gap stemming from the module "Geriatric Safety" was about how to ensure resident safety in practice. The finding of this possible gap is consistent with UCP self-perceived item scores on the "Self-Evaluation." The correct answer on the midterm test is about focusing attention on the resident which compares to the items "explain procedures to residents" as well as "regularly check on residents" on the "Self-Evaluation". The item "explain procedures to residents" was scored low by UCPs compared to other items before ERCC training with a mean of 4.13, and increased to a mean of 4.75 after ERCC training. The item "regularly check on residents" was scored one of the highest for the intervention group before ERCC training with a mean of 4.88, compared to a mean of 5 for after the ERCC training. The "Observation" data show that "explain procedures to resident while completing them" was the

most frequently observed behavior on the list of 14 observed items. Overall this suggests that UCPs perceive themselves as well as do demonstrate implementing measures related to safety. The knowledge of UCPs in this case matches the behaviours in practice. However, the knowledge test was limited and asked a very specific question about which multiple choice option indicates safety. Two answers were appropriate if considered in context. Since UCP participants were observed and perceived implementing safety related behaviours frequently, does the possible knowledge gap demonstrated stem from UCPs misunderstanding that one of the answers was the most correct over the other?

Pain was a final possible knowledge gap identified on the knowledge tests. Training on safety and pain are both of importance to current practices in long-term care according to what was reported previously with increased falls and pressure ulcers in LTC homes in Ontario (Health Quality Ontario, 2014). Similar to the question on restraints, the knowledge test question on pain was application focused, suggesting that UCP participants might have had difficulty understanding the principles learned in the ERCC program about pain and how this would be applied in practice in the question. This question compares to the "Self-Evaluation" and "Observations" items "incorporate strategies to promote comfort for residents."

The "Self-Evaluation" item was scored lowest by UCPs compared to the other 18 items for the intervention group, with a mean of 4.5 on the pretest before ERCC training and mean of 4.25 on the posttestafter ERCC training. In comparison, the control group was on average high compared to the other items, with a mean of 4.8 on the pretest and 5 on the posttest. Though the difference is not significant, UCPs perceived implementing less comfort strategies after taking the ERCC program which included the module on "Pain". Does this mean that after UCPs had

more knowledge from the module about pain and what comfort strategies would include, did they notice they were not incorporating comfort strategies in their practice?

In summary, content (specifically what possible knowledge gaps have been presented) is one way in which the findings from this study contribute to future professional learning programs for UCPs. Additionally, the findings contribute to a better understanding of how to facilitate knowledge transfer to practice within UCP professional learning contexts.

Transfer of knowledge to practice (both observed and self-perceived). Three of the original hypotheses focused on the topic of knowledge transfer to practice. The second and third original hypotheses of this study were *whether the computer-based ERCC training program would lead to an increased demonstration of resident centred care behaviours by UCPs as well as an increased demonstration of self-perceived resident centred care behaviours by UCPs at the completion of the course in comparison to UCPs who did not receive the training*. The use of self-perceived reporting alongside objective observation was necessary to answer this question best. However, there were limited observations of participants overall due to the limited number of participants who volunteered to the administration team to be observed. As well, as previously discussed, only one participant who was observed was from the intervention group.

Observations. There was a large variance in the number of observed resident-centred care behaviours by UCPs. The number of behaviours demonstrated by the UCPs who did not take the ERCC program did not significantly change over the course of the study. Janet, the participant who took the ERCC program and was observed demonstrated a vast number of resident-centred care behaviours compared to the participants in the control group, including an increase of resident-centred care behaviours in both Activities of Daily Living (ADL) and Awareness of Resident (AOR). In comparison to other participants observed, Janet

demonstrated each resident-centred care behaviour on the "Observation Checklist" at least once before and after the ERCC program. The ERCC program was effective for this participant in increasing both the frequency and the variety of resident-centred care behaviours demonstrated in an interaction with a resident.

Self-evaluations paired with observations. UCPs that completed the "Self-Evaluation" of their self-perceived behaviours before and after the ERCC program contributed to demonstrating some interesting findings related to this hypothesis. First, all participants demonstrated a perceived behavior of "respect" to residents in both control and intervention groups in both the pretests before and the posttests after the ERCC program. Participants not only perceived demonstrating respect frequently, this was also one of the most frequently observed items. All participants were observed at least once addressing the resident by their preferred name, which demonstrates respect. The majority of participants also demonstrated respecting preferences of residents multiple times. This may be in part because participants already have a perceived respect for residents from previous learning, experience, or perhaps before they even chose the profession. Given that the role of a UCP is to work with people, it would be appropriate that those drawn to the role would have an underlying moral to respect other people. It is also possible that the UCPs that volunteered to participate in the course were those that are more likely to be most respectful to residents. Further, it is questionable whether a UCP would self-report that they do not respect residents. If a UCP did not actually demonstrate respect, would they be honest in reporting this? It might also be appropriate that a definition of respect, or specific examples, is required to ensure UCPs understand this terminology.

Participants also consistently perceived that they were not able to regularly demonstrate behaviours related to allowing residents to have a say in transferring needs and allowing

residents to choose the time of the day to wake up. The observations are consistent with participant self-perceptions and demonstrate that only one participant (the participant in the intervention group) allowed the resident to wake up/go to bed at the time of their choosing at both the observation periods (before and after the ERCC program). All control group participants demonstrated this only at one observation period, either on the pretest or the posttest observation. In long-term care, residents are cared for by a team of health care professionals that make decisions together about the plan of care. Organizational factors, such as culture of the home, as well as system factors, such as meeting Ministry of Health and Long-Term Care requirements impact what time certain events of the day occur and who makes decisions regarding care. These factors may contribute to why UCPs perceived low frequency of being able to enact resident-centred care in transferring and wake up time. UCPs in practice need more specific actions to support how they can enact resident-centred care related to these items, while still following organizational and system factors.

For further discussion on this question, before the ERCC program, participants perceived themselves as frequently demonstrating Awareness of Resident (AOR) as the highest subcategory of the "Self-Evaluation", then the Interactions with Residents (IWR) subcategory, and finally the Activities of Daily Living (ADL) subcategory. In a similar pattern, the control group continued to perceive the frequency of their behaviours on the subcategories in this order on the posttest. There is, as expected, no change in their perceived behavior. In contrast, after the ERCC program, the intervention group demonstrated a higher self-perceived frequency of behavior in the subcategory Interactions with Residents, followed by Awareness of Residents, and finally the subcategory of Activities of Daily Living. There was a significant difference in the subcategory of Interactions with Residents between control and intervention groups after

ERCC training, specifically with less frequency of behaviour perceived by the intervention group than the control group. The difference in self-perceived frequency of behaviour from the intervention group within the Interactions with Resident subcategory is also consistent with observation data. In the vast majority of participants that were observed (including the one participant in the intervention group), the frequency of behaviour demonstrated in the Interactions with Residents subcategory decreased from before to after ERCC. The Interactions with Residents subcategory was the most frequently observed subcategory before ERCC but the least frequently observed and demonstrated after ERCC.

The ERCC program incorporated exploring role play examples with opportunity to "interact" in both the roles of the UCP and the resident, as well as viewing and discussing additional video examples of UCPs providing care for residents. It is possible this contributed to UCP participants in the intervention group changing how they perceived they interact with residents, having seen examples as well as participated in living the role of the resident.

In addition related to this hypothesis, qualitative analysis of the comments in the "Self-Evaluation" of behavior following the ERCC program indicated that participants recognized the importance of verbal and action examples that demonstrated "caring" for specific resident needs. These examples included: "Allowed residents to make choices when choosing clothing for tomorrow," "Brought warm towels to the residents that were cold," "Knowing that routines need to change to adapt to declining or changing residents," and "Tried to find residents glasses. Gave info to where I think they might be". This suggests that the ERCC program effectively helped UCPs to identify and implement resident-centered care behaviours which is the core focus of the entire program. At the end of every ERCC module, participants are asked to reflect on their own

practice and "identify 3 ways you will use this in your work as a PSW." This likely contributed to the increase in reflective comments evident in this study that demonstrated caring.

The fourth original hypothesis examined *whether there is a relationship between knowledge and behavior of resident-centred care in that those who demonstrate an increase in knowledge will also demonstrate an increase in resident-centred care behaviours*. Only one participant from the intervention group completed both observations and self-evaluation of behaviour. This individual was observed in the field after completing the program. An individual case study of this participant demonstrated that there was an increase in both knowledge and the number of observed as well as perceived resident centred care behaviours.

In summary, UCPs demonstrated resident centred care behaviours similar to what they perceived. To facilitate knowledge transfer to practice within UCP professional learning contexts, this discussion highlights the importance of using both self-evaluation and observations, not only one of these. Further to the current discussion on findings related to UCP professional learning, this study also contributes to knowing better how to use technology.

Using technology in UCP professional learning. The fifth original hypothesis examined *whether participants with prior experience with e-learning strategies would find taking the ERCC computer-based training facilitates knowledge transfer to practice better than those without prior experience*. The most frequent reported uses of computers were for communication including email and social media. UCPs reported less use related to research (surfing the internet) and business and entertainment purposes. Half of the participants were familiar with online courses in that six participants of the total 13 (three in the intervention group, three in the control group) reported using the computer before for taking a course.

Given that about one third of participants received their UCP training from something other than the currently-required PSW certificate, it is not surprising that they were not comfortable with using the computer or that they did not have prior experience taking a course on the computer. Further, since the group of UCPs in this study started with little previous computer experience related to taking a course, it is not surprising that computer-based method was ranked with the lowest satisfaction for contributing to participant learning at the midterm "Evaluation" compared to the program content and peer facilitator model. However, at the final "Evaluation," participants ranked the program content highest, then computer-based method, then peer facilitator model. The content of the program was consistently most important and created greatest satisfaction for UCPs in this study. The slight increase in satisfaction for the computer-based method at the final "Evaluation" from the small number of participants who completed the ERCC program may suggest that UCPs grew to appreciate the computer-based approach.

In a recent questionnaire of 21 PSW students who started the PSW program at a community college in 2015, the most frequently rated method of learning about the program was technology focused—from the website. This was followed by word of mouth methods, and then newspaper and radio. New UCP graduates, now with the mandatory PSW certificate, are clearly using technology more and in different ways than UCP graduates of the past. Given that one third of the UCPs in this study had graduated in the past prior to the mandatory PSW certificate, it is not surprising the difference in the use of computers they reported compared to the trend seen with new UCP graduates.

As demonstrated in the review of Ontario Colleges that provide continuing education programs available to PSWs, the majority of programs are offered and delivered completely

online and using computer technology. These findings suggest that the currently offered ERCC program as well as other professional learning for UCPs using e-learning strategies will be more widely accepted and perhaps easier for UCPs in the future to use for learning. As identified in previous research and evaluations of how best to offer online courses, Luke et al. (2009) highlight that future health care students and workers "will more readily use technology" (p.162). Offering additional support and resources to address students not as comfortable with technology as well as learning in a social context were recommended by Caison, Bulman, Pai and Neville (2008). To enhance knowledge transfer to practice in professional learning programs for UCPs offered using online and computer technology, it was also previously discussed to use a standardized toolkit (Fitzgerald et al., 2009), text and illustrations, and tools for interactivity and participation (Stephens and Mottet, 2008; Stocks and Freddolino, 2000).

In the current study, UCPs overall found the computer-based method to be effective on the "Evaluations" related to learning the program content. At midterm, items from the "Evaluation" about the computer-based method were not ranked amongst the highest for satisfaction from UCP participants. In fact, the two items ranked with the lowest level of satisfaction of the 15 items were related to the computer-based method including "allowed me to learn at an appropriate pace," and "gave me opportunity to practice." The items with the highest satisfaction from participants at midterm related to the program content. In contrast, at the final "Evaluation", the two items ranked with the highest level of satisfaction overall on the 15 item survey were related to the computer-based method including "allowed for deep discussion," and "encouraged me to participate." The item ranked with the lowest level of satisfaction at final related to the computer-based method was "met my learning needs." Overall at both midterm and final "Evaluations," the program content subcategory was ranked the highest. This suggests

that the computer-based method was effective at delivering the content to UCPs. The computer-based method allowed for discussion and participation, but did not meet some participants' learning needs.

The final original hypothesis examined *whether mediator variables such as computer experience, education, success in the course, level of participation in the course, and self-efficacy and self-confidence may influence the knowledge and behaviours of UCPs*. The limited sample size prohibited statistical examination of variables that might have impacted behaviour and knowledge construction of the UCPs. The one intervention participant who demonstrated more observed resident-centred care behaviours than all of the other control group participants did hold a health care aide certificate, scored high on the midterm and final tests, and demonstrated high self-perceived behaviours on the "Self-Evaluation". Given that the majority of courses offered for UCP professional learning by Ontario Colleges are offered with e-learning strategies, it is necessary that these factors be examined further and taken into account for future training programs.

The findings in this study have contributed to a better understanding of professional learning for UCPs related to content, use of self-evaluation and observation to aid knowledge transfer to practice, and finally the use of technology. The findings also lead to considerations and limitations related to research in the field, and common limitations that are encountered. These limitations and learning from field research will be discussed further.

Limitations of Research in the Field

Although the design of the study addressed the research questions and hypotheses, the limited results in the sample size prohibited completing statistical analysis to support some of the findings. In an attempt to add to the topic of professional learning for UCPs, additional data

were reviewed from publicly available data. Limitations in this study include challenges commonly reported within field research and previous studies done within long-term care homes. The limitations of this study include the challenges of participant selection, participant attrition, accuracy of self-reported tools, and fidelity of the program delivery.

Participant selection. Possible participant selection was done by administrators of the LTC home and participants were asked to volunteer. The administrator reported to the researcher that many UCPs were reluctant to volunteer since it would be added time, they were unclear what the benefit was to them individually, and UCPs thought they were being evaluated through the study (despite the "Information Letter" given to participants that explained the contrary). Similarly, White (2012) identified a "general reluctance to participate in research ventures" by nurses in practice, despite having anonymity guaranteed. It is questionable whether those who volunteered to participate would be more likely to demonstrate caring already? Those that volunteered perhaps also did not mind being observed or completing a self-evaluation.

In addition, an issue with participant selection was that the researcher was blind to the control and intervention groups during the observations. It was intended that the 25% of the participants who were observed would be equally distributed between the control and intervention group. The administration of the LTC home who selected volunteers to participate in the study found only six participants that were willing to be observed. Of the six participants who were observed, only one participant was in the intervention group which the researcher was unaware of until the completion of the data collection. All other participants in the intervention group declined to participate in observations when asked by administration. As a result of this disconnect between the intended and actual use of the observation data tools, the original research questions could only be addressed in part.

To minimize the limitation related to participant selection, the use of a control group provided a comparison group also composed of volunteers, thus suggesting that all participants were starting at the same understanding of care prior to the ERCC program. The "Information Letter" that was provided to participants also attempted to outline the benefits and reasons for research, as well as explaining it was not for evaluating individual skills. In the future, the researcher would attempt to secure a meeting with all the LTC home UCP staff prior to the research to explain the research and answer any questions related to concerns about participating. The researcher would also ensure that administration of the LTC home who was selecting the participants to be observed would understand in writing before the study to equally distribute the number of observed participants between the control and intervention group. It is difficult to plan a solution that would work in the future to recruit participants that are willing to volunteer for the observations. Using incentives or observing all participants in the study (instead of only 25%) could contribute to decreasing the negative perception of participants that they are being evaluated during the observations.

Participant attrition. Participant attrition also contributed to the small sample at the conclusion of the study. Attrition is common in research studies involving professional learning within long-term care environments as cited in multiple studies reviewed by Beeber et al. (2010). Tilden et al.(2013) also report that attrition is common due to deficiencies and turnover characteristic in long-term care homes. The loss of participants in this study stemmed from multiple reasons including that tools were not completed on time and there was difficulty in the collection of completed tools. It was anticipated that participants would all complete the "Self-Evaluation" after the ERCC program but in fact, only eight of the initial 13 participants completed the "Self-Evaluation" after the ERCC program. Beeber et al. (2010) also cited

numerous studies involving training in LTC that had a low response rate to surveys, with one study reporting only a 48% response rate.

First, many participants did not complete the "Self-Evaluation" immediately following the recommended shift by the researcher and administration of the LTC home. One reason for this could be that UCPs were busy at the end of shifts with day-to-day responsibilities of charting and shift report to the next shift, that they did not prioritize completing the survey. Burnett et al. (2012) found a similar challenge in nursing participants finding time to participate in the study given "patient care priorities" (p.309).

Second, the collection of the completed data was difficult in this study which possibly led to attrition. Though the researcher waited for participants who were observed to complete the "Self-Evaluation" surveys immediately following their shift, some participants asked for more time to complete and think about their responses. A few participants were also sick, had days off, or were on vacation for periods throughout the research. Participants worked varying shifts and were difficult to find on their shifts within the LTC home to complete the data collection tools (given the nature of LTC). Additionally, facilitators involved in the collection of the completed participant surveys were not involved as intended because they worked different shifts from the participants and did not have an office space or common safe area to collect the completed surveys. Instead, the administration of the LTC home participated in collecting the completed surveys, having an open office space to do so but was not present during weekends or evening/night shifts. All participants in the intervention group completed surveys while in the class of the ERCC program, where it was easier to manage the collection as a group at the same time. Since participants in the control group did not take the ERCC program, there was no common shift or day between them when the surveys could all be collected together. All

participants worked on the multiple home areas as well which geographically made it difficult to find participants quickly during a shift in time to connect with them to collect completed surveys. Burnett et al. (2012) also identified that maintaining staff participation in the data collection process was challenging.

Further to the difficulty collecting completed data, the intended design was to observe all participants over the course of one or two shifts. However, it was difficult to find a time when all participants to be observed were actually working. Participants working varying shifts meant that observations and self-perceived reported data allowed for variance in the events of the interactions with residents that influence the frequency of demonstrated behaviours. Although all observations were completed during morning or evening care events as planned, the amount of time spent in a care interaction as well as how much support the UCP provided for a resident depended on the individual needs of the resident. Although the self-evaluation was intended to be done in concert with the observations, for some participants, it was completed three weeks following due to a variety of the circumstances stated previously.

To address these issues related to attrition from difficulty with data collection in the future, the researcher would collect the surveys directly from participants as possible, instead of leaving this responsibility to the facilitators of the ERCC program. Raikkonen, Perala, and Kahanpaa (2007) reported surveys returned directly to the researcher rather than collected within the institution provided a high response rate. The researcher would also be designated a "meeting spot" within the LTC home so that all participants could find the researcher at the end of the shift. If participants were to need more time to complete the surveys outside of when the researcher was present, the researcher would also recommend that future data collection be

completed only on shifts while administration was present to have an office space to provide for a place to collect completed surveys (not during weekends or evening/night shifts).

Accuracy of self-reported surveys. Due to the difficulty in collecting these surveys as identified previously, the researcher was unaware until days or weeks following their completion that there were missed items. Many participants did not fill out the surveys correctly and missed completing items. Similar to Burnett et al. (2012), "inconsistencies in assessments, knowledge deficits, and variations in interpretation of the tool were discovered during the course of data collection" (p.310).

In the future, the researcher would ensure that a meeting takes place with all participants to look over the surveys, provide examples, and answer questions prior to the start of the research study. Burnett et al. (2012) found that experience in the field of work influenced the ability to correctly apply the data collection tool. This suggests that it would be ideal to recruit participants that have experience working as a UCP and to provide experience with the data collection tools prior to the study.

Fidelity of the program. Finally, the fidelity of the delivery of the ERCC program was questionable since it cannot be confirmed if the program was delivered as intended. This is a problem because if the content was not delivered as intended, it would impact knowledge tests as well as the "Evaluation" results from participants. Given the computer-based method of the current ERCC program in this study, there is less chance for issues with program content fidelity as was cited in previous studies (McClelland, Irving, Mitchell, Bearon, and Webber, 2002). A more standardized method including a well-laid out toolkit with activities and handouts for trainers was implemented in the current ERCC program as was suggested by numerous studies (e.g. Marks, Sisirak and Chang, 2013; Fitzgerald et al., 2009; McClelland, Irving, Mitchell,

Bearon, and Webber , 2002). However, the researcher was not present for the delivery of the program, and therefore the researcher cannot be sure of the fidelity of delivery of the standardized computer-based content, activities, and handouts by facilitators. In the future, the researcher could meet with the facilitators to debrief about the fidelity of program delivery after the completion of the ERCC program.

Despite some typical limitations of field research that were discussed, the advantage of field research for this study is that it was the most useful for informing future practice. The findings in this study have contributed to a better understanding of professional learning for UCPs but have also related to more general considerations about doing research in the field in future professional learning contexts.

Recommendations and Implications

As outlined in the literature, unregulated care providers make up a large portion of the employees working with the aging population in long term care. The ERCC program contributes to the growing focus on resident-centred care and this study examined the impact of the program and behaviours of the UCPs working in the care homes. The overall examination provides implications for professional learning for UCPs and the delivery methods that aid knowledge transfer to practice as well as future field research in professional learning contexts. Three key recommendations emerge from this study for future UCP professional learning programs including how to incorporate computer-related strategies, the necessity for promoting ongoing life-long learning for UCPs, and the importance of action research in promoting knowledge transfer to practice for UCPs.

Computer related strategies. Computer-related strategies for future UCP professional learning programs is one key theme that emerges from this research related to knowledge

transfer to practice. It is clear that UCPs currently working in practice have come from varying education and training backgrounds. Using computer-based methods is not as prevalent for UCPs that graduated prior to more recent PSW programs. PSWs of the future will be more prepared to use technology in learning, including ongoing professional learning to continue their education. The key findings from this study indicate that UCP graduates of the past have experience using a computer for social media and email purposes, but little experience with utilizing the computer for taking a course. Given that public data indicate the majority of professional learning for UCPs in Ontario is online, it is important that UCPs feel comfortable using the computer, and for taking a course. Additional assistance and support in computer training for UCPs who do not feel as comfortable with the computer or who have never used the computer for taking a course is recommended prior to them engaging in an online or computer-based professional learning course. Future research should focus on how UCP graduates of the past could become more comfortable with using the computer for tasks outside of social media and email.

Necessity for ongoing life-long learning. Another key theme from this research is the necessity for ongoing life-long learning for UCPs to promote knowledge transfer to practice. As noted previously in the literature, UCPs do not necessarily value continuing education (Stolee et al., 2015), and the majority of UCPs perceive they have adequate training for work responsibilities (CRNCC, 2010). However, many may be unaware of the significance of the changing needs of residents in health care and what this means for their role (CRNCC, 2010). The ERCC program is one opportunity for UCPs to address the necessity for ongoing learning.

Evidence from the small sample in this study indicates that the computer-based ERCC program is successful at leading to an increased level of resident-centred care knowledge as well

as behaviour for UCPs. More specifically, an increase in knowledge was evident through knowledge tests. Increased knowledge was also evident through the words and examples that UCPs provided on post self-evaluations about much more resident specific caring behaviours they perceive in their practice. An increase in resident-centred care behaviour was demonstrated by one intervention participant. Increase in perceived behaviour by UCPs was also evident through the self-evaluations, specifically in the area of interactions with residents. This could lead to better quality of life and improving outcomes for residents living in long-term care homes.

These findings indicate that UCPs did demonstrate knowledge transfer to practice. However, the need for ongoing professional learning to address possible gaps in knowledge also arose from this study. UCP possible gaps in knowledge were identified that suggest further training outside of the ERCC program is required. Important areas that warrant further research on how best to facilitate knowledge transfer to practice for UCPs include infection control, restraints, safety, and pain.

Importance of action research for promoting knowledge transfer to practice. Further to the findings related to the necessity of ongoing learning, another key theme from this research is the importance of action research for promoting knowledge transfer to practice. The difficulties encountered in the collection of data in this study implicate that self-evaluation and observations be integrated in learning within future professional learning programs for UCPs. Further, questions and inquiry must be developed by UCPs within practice as well as during professional learning programs to best facilitate knowledge transfer to practice. This recommendation leads to promoting action research in long term care homes, and specifically for UCP professional learning contexts.

Action research is about improving practice and can be undertaken by those working within a health care environment (Winter and Munn-Giddings, 2013). This study highlighted the importance of using both self-evaluation and observation methods within research to promote knowledge transfer. As previously noted in the literature, self-evaluation is "rich" because it allows learners to revise knowledge and beliefs about self-competence (Butler and Winne, 1995; Winne, 1995a). Self-evaluation also leads to motivation for further action (Schunk, 2012; Butler and Winne, 1995). Self-evaluation in this study gave UCPs opportunity to reflect on practice and potentially identify areas for future action.

The importance of grounding reflection in action is discussed by Lab, Lane, and Aldous (2012). Using self-evaluation in practice to promote reflection and inquiry allows learners to learn from as well as about their work (Winter and Munn-Giddings, 2013). Action research presents opportunities to promote critical, constructive reflection and self-assessment (McMillan, 2012; Winter and Munn-Giddings, 2013). Establishing inquiry processes can be empowering for the subjects involved in the inquiry (McMillan, 2012; Winter and Munn-Giddings, 2013). Further, empowering subjects such as UCPs within the professional learning contexts through action research, could lead to more motivation and being invested in learning such as is discussed in Rogers' theory of "Freedom to Learn" (Schunk, 2012).

Future action research where UCPs are involved in research may be related to key findings in this study. UCPs in this study consistently perceived demonstrating "respect" to residents. UCPs also demonstrated an increase of self-perceived resident-centred care behaviours after the ERCC program, specifically in the area of interactions with residents. These key findings indicate that UCPs potentially used self-evaluation to advantageously revise knowledge and beliefs about their level of behaviour from the pre- to post "Self-Evaluations." It

also indicates that self-evaluation was an effective tool to measure perceived demonstration of resident-centred care behaviours. Further research is required to examine how providing definitions of terms such as "respect" could alter perceived demonstration of behaviours. Winter and Munn-Giddings (2013) identify that the value of action research arises from the quality of reflection it stimulates. McMillan (2012) highlights action research as a powerful professional development activity.

It is also important to highlight that using observation in concert with self-evaluation was an effective method for examining knowledge transfer to practice. Self-evaluation alone only provides a perception of demonstrated behaviour from the participant. The observations allowed a more objective look at demonstrated behaviour. Action research in future professional learning contexts for UCPs could help bridge the gap between theory and practice (Winter and Munn-Giddings, 2013).

Another area to focus on in future action research is the area of activities of daily living. UCPs ranked the lowest on perceived demonstration of resident-centred care behaviours in this area. There were also possible knowledge gaps related to ADLs evident. However, researcher observations determined that UCPs were demonstrating resident-centred care behaviours in activities of daily living. Further action research regarding how best to train UCPs to meet Ministry standards and the demands of the organization while still providing care in a resident-centred manner is suggested. Most importantly, though UCPs were demonstrating behaviours that displayed resident-centred care in ADL tasks, they did not perceive this. Future professional learning programs should focus on bridging this gap.

Summary of Discussion and Implications for Future Research

This study has contributed to learning in two key areas including implications for professional learning for unregulated care providers and considerations for doing future action research involving these care providers. It has determined recommendations to train UCPs of the future and to aid knowledge transfer to practice. Incorporating appropriate computer-related strategies, emphasizing ongoing life-long learning, and integrating research in practice through action research are all necessary to provide appropriate professional learning programs for unregulated care providers and to aid knowledge transfer to practice. Including these strategies in future professional learning programs and contexts will contribute to better prepared UCPs to meet the demands of the aging population and complex care needs present in long-term care. Offering professional learning programs such as the ERCC program utilizing the recommendations found in this study surrounding delivery method and action research may contribute to better ensuring the needs of residents and UCPs are met in the evolving health care system.

Table 1

Programs Offered to UCPs through Colleges in Ontario

Program/Course	College	Entry Requirements	Delivery Method
Excellence in Resident Centred Care	Conestoga	PSW	Online and in class
Children's Mental Health	Seneca	professionals incl PSW	Online and in class
Children's Mental Health	Durham	OSSD	Online
Children's Mental Health	Fleming	OSSD	Online
Children's Mental Health	Humber	professionals incl PSW	Online
Comfort Measures	Fanshawe	?	Online
Cultural Approaches to HC and Healing	George Brown	OSSD	Online
Enhanced PSW - Acute Care	Conestoga	PSW	Online and in class
Enhanced PSW - Community-Based Care	Conestoga	PSW	Online and in class
Enhanced PSW - Palliative Care	Conestoga	PSW	Online and in class
Footcare for Personal Support Worker	Fanshawe	?	In class
Fundamentals of Diabetic Management	Lambton	OSSD	Online and in class
Palliative Care	Durham	OSSD	Online
Palliative Care	Sault	anyone incl PSW	Online
Palliative Care	Canadore	anyone incl PSW	Online
Palliative Care	Seneca	OSSD	Online
Palliative Care	Conestoga	PSW or other HC	Online
Palliative Care	Loyalist	OSSD	Online
Palliative Care Communciations	Fleming	?	Online
Palliative Care for PSWs Certificate	Mohawk	PSW	In class
Thanatology	Durham	OSSD	Online
Thanatology	Conestoga	OSSD	Online
Thanatology	Sheridan	?	Online
Thanatology	Centennial	?	Online
Dementia Care	Cambrian	unclear	Online
Working with Dementia	Confederation	anyone incl PSW	Online
Working with Dementia	Lambton	OSSD	Online
Working with Dementia	Sault	anyone incl PSW	Online
Working with Dementia Clients	Loyalist	anyone incl PSW	Online
Working with Dementia Clients	St. Lawrence	anyone incl PSW	?
Working with Dementia Clients	Algonquin	Multidiscipline certificate	Online
Working with Dementia Clients	Fleming	professionals incl PSW	Online
Working with Dementia Clients	Mohawk	Multidiscipline certificate	Online and in class

Table 2
Delivery Method of Programs Offered to UCPs through Colleges in Ontario

Program/Course Topic	Number of Colleges Offering Program/Course	Delivery Method			
		Online	In Class	Both Online and In Class	Unknown
Excellence in Resident Centred Care	1			1	
Children's Mental Health	4	3		1	
Comfort Measures	1	1			
Cultural Approaches to HC and Healing	1	1			
Enhanced PSW - Acute Care	1			1	
Enhanced PSW - Community-Based Care	1			1	
Enhanced PSW - Palliative Care	1			1	
Footcare for Personal Support Worker	1		1		
Fundamentals of Diabetic Management	1			1	
Palliative Care	8	7	1		
Thanatology	4	4			
Dementia Care	9	7		1	1

Table 3
Reported Uses of Computer on Demographic Data Sheet by UCPs in Control and Intervention Groups

Reported Uses of Computer	Control Group n=5	Intervention Group n=8	Total n=13
	n	*n*	*n*
Email	5	7	12
Social media	4	7	11
Surfing the internet	4	6	10
Banking	4	5	9
Watching TV/music/video	4	4	8
Listening to music	3	4	7
Creating files	4	2	6
Taking a course	3	3	6
Individuals who use computer for two uses	1	3	4
Individuals who use computer for four uses		2	2
Individuals who use computer for five + uses	4	3	8

Table 4
*UCP Self-Evaluation of Resident Centered Care Behaviour **Before** ERCC Training*

Self-Evaluation Item	*n*	*M*	*Mode*	*SD*
Activities of Daily Living (ADL) Subcategory				
Allow residents to choose their meal option	13	4.31	5	1.38
Allow residents to choose their appropriate clothing for the day	13	3.54	4	.78
Allow residents to have a say in their transferring needs	13	2.85	2	1.21
Invite residents to participate in their ADLs	13	4.23	4	.44
Explain procedures to residents as I complete them	13	4.31	5	.86
Regularly check on residents	13	4.92	5	.28
Give enough time for residents to eat meals	13	4.38	5	1.39
Give residents privacy during care	13	4.92	5	.28
Allow residents to wake up at the time of their choosing	13	2.69	2	1.03
ADLs Total	13	4.09		.23
Interactions with Residents (IWR) Subcategory				
Answer questions from residents as you feel appropriate	13	3.69	5	1.80
Treat residents with respect	13	4.92	5	.28
Speak with residents in a private space when needed	13	4.00	5	1.41
Take time to talk to residents outside of the job tasks you do	13	3.85	5	1.21
Address residents by preferred name	13	4.77	5	.44
IWR Total	13	4.42		.56
Awareness of Resident (AOR) Subcategory				
Encourage residents to use their strengths	13	4.62	5	.51
Respect preferences of residents	13	4.77	5	.44
Incorporate strategies to promote comfort for residents	13	4.62	5	.77
Provide glasses and hearing aids for those who require them	13	4.38	5	1.39
Demonstrate awareness of the Resident Bill of Rights	13	4.62	5	.87
AOR Total	13	4.66		.44

Table 5

*UCP Self-Evaluation of Resident Centered Care Behaviour **After** ERCC Training by Control and Intervention Group*

Self-Evaluation Item	Group	Before ERCC			After ERCC		
		N	*M*	*SD*	*N*	*M*	*SD*
Activities of Daily Living (ADL) Subcategory	*C=Control *I=Intervention *All=All participants						
Allow residents to choose their meal option	C	5	4.4	0.55	4	4.75	0.5
	I	8	4.25	1.75	4	4.75	0.5
	All	13	4.31	1.38	8	4.75	.46
Allow residents to choose their appropriate clothing for the day	C	5	3.6	0.89	4	4	1.41
	I	8	3.75	0.46	4	3.25	2.22
	All	13	3.54	.78	8	3.25	1.75
Allow residents to have a say in their transferring needs	C	5	2.2	1.09	4	2.75	1.71
	I	8	3.25	1.17	4	3.25	0.96
	All	13	2.85	.34	8	2.88	1.36
Invite residents to participate in their ADLs	C	5	4	0	4	4.75	0.5
	I	8	4.38	0.52	4	5	0
	All	13	4.23	.44	8	4.75	.46
Explain procedures to residents as I complete them	C	5	4.4	0.55	4	4.75	0.5
	I	8	4.13	0.99	4	4.75	0.5
	All	13	4.31	.86	8	4.63	.52
Regularly check on residents	C	5	5	0	4	4.75	0.5
	I	8	4.88	0.35	4	5	0
	All	13	4.92	.28	8	4.75	.46
Give enough time for residents to eat meals	C	5	4.8	0.45	4	4.75	0.5
	I	8	4.13	1.73	4	4.75	0.5
	All	13	4.38	1.39	8	4.63	.52
Give residents privacy during care	C	5	5	0	4	4.75	0.5
	I	8	4.88	0.35	4	5	0
	All	13	4.92	.28	8	4.75	.46
Allow residents to wake up at the time of their choosing	C	5	2.4	1.14	4	3.25	1.26
	I	8	3	0.93	4	3.75	0.96
	All	13	2.69	1.03	8	3.50	1.07

Interaction with Resident (IWR) Subcategory							
Answer questions from residents as you feel appropriate	C	5	3.6	2.19	4	4.5	0.58
	I	8	4	1.69	4	4.5	0.58
	All	13	3.69	1.80	8	4.38	.52
Treat residents with respect	C	5	5	0	4	5	0
	I	8	4.88	0.35	4	5	0
	All	13	4.92	.28	8	5.00	0
Speak with residents in a private space when needed	C	5	4.4	0.89	4	4.75	0.5
	I	8	4	1.69	4	4.5	0.58
	All	13	4.00	1.41	8	4.50	.54
Take time to talk to residents outside of the job tasks you do	C	5	3.6	1.52	4	5	0
	I	8	4.38	0.74	4	4	0.82
	All	13	3.85	1.21	8	4.50	.76
Address residents by preferred name	C	5	4.8	0.45	4	5	0
	I	8	4.75	0.46	4	4.5	0.58
	All	13	4.77	.44	8	4.75	.46
Awareness or Resident (AOR) Subcategory							
Encourage residents to use their strengths	C	5	4.8	0.45	4	4.75	0.5
	I	8	4.5	0.54	4	4.25	0.5
	All	13	4.62	.51	8	4.38	.52
Respect preferences of residents	C	5	5	0	4	5	0
	I	8	4.63	0.52	4	4.75	0.5
	All	13	4.77	.44	8	4.88	.35
Incorporate strategies to promote comfort for residents	C	5	4.8	0.45	4	5	0
	I	8	4.5	0.93	4	4.25	0.96
	All	13	4.62	.77	8	4.63	.74
Provide glasses and hearing aids for those who require them	C	5	4	2.24	4	5	0
	I	8	4.63	0.52	4	4.5	1
	All	13	4.38	1.39	8	4.75	.71
Demonstrate awareness of the Resident Bill of Rights	C	5	4.4	1.34	4	5	0
	I	8	4.75	0.46	4	4.5	0.58
	All	13	4.62	.87	8	4.75	.46

Table 6

*Differences for UCP Self-Evaluation of Resident Centred Care Behaviour **Before** and **After** ERCC Training by Control and Intervention Group by Subcategory*

Self-Evaluation Subcategory	Group	Before ERCC				After ERCC			
		N	*M*	*SD*	*Sig (2-tailed)*	*N*	*M*	*SD*	*Sig (2-tailed)*
ADL Total	Control	5	3.97	.21	0.15	4	4.28	.58	0.74
	Intervention	8	4.17	.23		4	4.39	.27	
IWR Total	Control	5	4.28	.76	0.52	4	4.85	.19	0.04*
	Intervention	8	4.50	.44		4	4.50	.20	
AOR Total	Control	5	4.75	.56	0.57	4	4.95	.10	0.10
	Intervention	8	4.60	.37		4	4.45	.50	
Self Evaluation Total	Control	5	4.31	.31	0.63	4	4.54	.35	0.63
	Intervention	8	4.38	.20		4	4.44	.21	

*indicates $p < .05$

Table 7
Participant Responses by Category from Activities of Daily Living Subcategory on "Self-Evaluation"

	Participant Responses	Participant Group	Category	Theme
Before ERCC	*"Asking resident what they want to do first."*	Control	Verbal example of caring for residents in **general**	General caring
	"Give directions. If resident is not cognitive then everything is chosen for them."	Control		
	"Encourage residents to participate."	Intervention		
	"Encouraged residents to help with ADLs."	Intervention		
After ERCC	*"Pick their own bedtime."*	Control	Verbal example of caring for **specific** resident needs	Caring by knowing each resident
	"I let residents choose what time they wanted to go to bed."	Intervention		
	"Ask residents what they wanted to eat and let them change items."	Intervention	Action example of caring for **specific** resident needs	
	"Try and meet every residents needs to the best I can."	Intervention		

Table 8
Participant Responses by Category from Interactions with Residents Subcategory on "Self-Evaluation"

	Participant Responses	Participant Group	Category	Theme
Before ERCC	*"Including them in conversations about care/needs."*	Control	Verbal example of caring for residents in **general**	General caring
	"Asking how family members are, or how their day was."	Control		
	"Told resident who I was before entering."	Intervention		
	"Provide privacy to each resident."	Intervention	Action example of caring for residents in **general**	
	"Focus on individual and ask their wants and needs."	Intervention	Verbal example of caring for **specific** resident needs:	Caring by knowing each resident
After ERCC	*"Always identify myself first…then ask if it's okay to do ie dinner, bath, etc"*	Control	Verbal example of caring for residents in **general**	General caring
	"Treated them with respect and dignity"	Control	Action example of caring for residents in **general**	
	"I took time to have a few words with residents about how their day was"	Intervention	Verbal example of caring for **specific** needs of residents	Caring by knowing each resident
	"Always take the time to go around and spend a few minutes with each resident"	Intervention	Action example of caring for **specific** needs of residents	
	"Always make sure w/c's are clean. Always take resident first who needs it the most"	Intervention		

Table 9
Participant Responses by Category from Awareness of Residents Subcategory on "Self-Evaluation"

	Participant Responses	Participant Group	Category	Theme
Before ERCC	*"Giving privacy when needed"*	Control	Action example of caring for residents in **general**	General caring
	"I treat the residents the way I would want to be treated"	Control		
	"Make sure w/c is clean on a daily basis"	Intervention		
	"Being aware of the residents needs and wants as per good conversation/inclusion of resident in care"	Control	Verbal example of caring for **specific** resident needs	Caring by knowing each resident
	"Provide each resident with the care they need"	Intervention	Action example of caring for **specific** needs of residents	
After ERCC	*"I try and always clean the glasses (get dirty)"*	Intervention	Action example of caring for residents in **general**	General caring
	"Knowing that routines need to change to adapt to declining or changing residents	Control	Action example of caring for **specific** needs of residents	Caring by knowing each resident
	"Brought warm towels to the residents that were cold"	Intervention		
	""Allowed residents to make choices when choosing clothing for tomorrow"	Intervention		
	"Tried to find residents glasses. Gave info to where I think they might be"	Intervention		

Table 10

*Frequency of Behaviour Demonstrated in Observations by Participants **Before** (Pre) and **After** (Post) ERCC Training*

Observation Item	Participants (Control Group 1 to 5 and Intervention)											
	Control 1		Control 2		Control 3		Control 4		Control 5		Intervention	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Activities of Daily Living (ADL) Subcategory												
Allow resident to wake up/go to bed at the time of their choosing	1	0	0	1	0	1	0	1	0	1	1	1
Allow resident choice	1	0	0	0	8	0	0	0	0	2	4	2
Invite resident participation	1	0	0	2	1	2	0	2	1	2	1	3
Explain procedures to resident while completing them	2	1	0	7	1	3	0	6	6	5	8	10
Give resident privacy	1	1	1	2	0	1	1	2	1	1	1	2
Interactions with Resident (IWR) Subcategory												
Knock before entering the resident's room	0	0	0	0	2	0	0	0	0	1	2	1
Address resident by preferred name	1	1	1	1	4	1	1	1	3	1	4	1
Announce him/herself before approaching the resident	0	0	0	0	0	0	0	0	0	1	1	1
Answer questions from resident	0	0	0	1	4	0	0	1	0	2	2	2
Engage the resident in conversation other than about the task at hand	5	0	2	0	1	1	2	0	1	1	3	4
Awareness of Resident (AOR) Subcategory												
Encourage resident to use his/her strengths	1	1	0	5	0	3	0	5	1	5	1	4
Respect preferences of resident	4	1	0	1	5	3	0	1	0	4	2	5
Incorporate strategies to promote comfort for resident	2	0	1	2	1	2	1	2	1	2	3	4
Provide glasses and hearing aids for those who require them	0	0	1	0	0	0	1	0	0	0	1	1

Table 11
*Frequency of Behaviour Demonstrated in Observations by Participants **Before** (Pre) and **After** (Post) ERCC Training by Subcategory*

Subcategory	Participants (Control Group 1 to 5 and Intervention)													
	Control 1		Control 2		Control 3		Control 4		Control 5		Total for Control Group		Intervention	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Activities of Daily Living	6	2	1	12	10	7	1	11	8	11	26	43	15	18
Interactions with Resident	6	1	3	2	11	2	3	2	4	6	27	13	12	9
Awareness of Resident	7	2	2	8	6	8	2	8	2	11	19	37	7	14
Total Observed Behaviours	19	5	6	22	27	17	6	21	14	28	72	93	34	41

Table 12
UCP Evaluation of ERCC Program Content, Computer-Based Method, and Peer at Midterm and Final

Evaluation Item	Midterm Evaluation			Final Evaluation		
	N	*M*	*SD*	*N*	*M*	*SD*
Program Content Subcategory						
The program content was engaging	8	4.63	0.52	6	4.33	0.52
The program content was relevant to my learning needs	8	4.25	0.71	6	4.33	0.52
The program content challenged my thinking	8	4.25	0.71	6	3.83	0.41
The program content promoted discussion	8	4.38	0.52	6	4.50	0.55
The program content made me reflect on my practice	8	4.50	0.76	6	4.50	0.55
Program Content Subcategory Total	8	4.57	0.46	6	4.30	0.37
Computer-Based Method Subcategory						
The computer-based method met my learning needs	8	4.13	0.64	6	3.67	0.52
The computer-based method allowed me to learn at an appropriate pace	8	4.00	0.93	6	4.00	0.63
The computer-based method encouraged me to interact with others	8	4.25	0.71	6	4.33	0.52
The computer-based method encouraged me to participate	8	4.13	0.83	6	4.50	0.55
The computer-based method allowed for deep discussion	8	4.13	1.13	6	4.67	0.52
The computer-based method gave me opportunity to practice	8	4.00	1.07	6	4.33	0.82
The computer-based method promoted a change in my thinking	8	4.25	1.16	6	4.00	0.63
The computer-based method motivated me to change my practice	8	4.25	0.89	6	4.33	0.52
Computer-Based Method Subcategory Total	8	4.42	0.65	6	4.27	0.46

Peer Facilitator Subcategory						
Having a peer run this course met my learning needs	8	4.25	0.46	6	4.00	0.63
Having a peer run this course allowed me to feel supported	8	4.50	0.53	6	4.33	0.52
Having a peer run this course contributed to my satisfaction of the training	8	4.50	0.53	6	4.17	0.41
Having a peer run this course was beneficial to my learning	8	4.50	0.53	6	4.00	0.89
Having a peer run this course motivated me to change my practice	8	4.13	0.83	6	4.33	0.52
Peer Facilitator Subcategory Total	8	4.43	0.56	6	4.17	0.51

Table 13

Comparison of Intervention Group Participant with Control Group Participant

Data Collected	Intervention Group	Control Group
Gender, Age	Female, 52 years old	Female, 55 years old
Previous Post-Secondary Training	Health Care Aide program	Health Care Aide program
Employment Status	Full time	Full time
Shifts Worked	Evenings, nights	Days, evenings
Comfort with Computer	Selected "4-Not comfortable"	Selected "3-somewhat comfortable"
Uses for Computer	Email, taking a course	Email, social media
Taken a Computer-Based Course?	No	No
Self-Evaluation Before ERCC	ADLs (M=4.44) IWR (M=4.4) AOR (M=4.4)	ADLs (M=3.89) IWR (M=3.6) AOR (M=5)
	Total mean of 4.42	Total mean of 4.11
Self-Evaluation After ERCC	ADLs (M=4.22) *"I let residents choose what time they wanted to go to bed"* IWR (M=4.4) *"I took time to have a few words with residents about how their day was"* AOR (M=4.6) *"Allowed residents to make choices when choosing clothing for tomorrow"*	ADLs (M=3.56) IWR (M=4.6) *"Always identify myself first, then ask if it's okay to do ie. Dinner, bath, etc"* AOR (M=4.8) *"Knowing that routines need to change to adapt to declining or changing residents"*
	Total mean of 4.37	Total mean of 4.16
Observations Before ERCC	ADLs = total of 15 IWR = total of 12 AOR = total of 7	ADLs = total of 1 IWR = total of 3 AOR = total of 2
	Total of 34 behaviours observed	Total of 6 behaviours observed
Observations After ERCC	ADLs = total of 18 IWR = total of 9 AOR = total of 14	ADLs = total of 11 IWR = total of 2 AOR = total of 8
	Total of 41 behaviours observed	Total of 21 behaviours observed

Appendix A

Excellence in Resident Centred Care (ERCC) Training Modules

1. Resident Centred Care This module covers: the individual needs of residents, principles of resident-centred care, using a holistic approach to care, and the importance of team work.
2. Infection Control This module covers: the chain of infection, routine practices for infection control, personal protective equipment, and issues encountered when residents are in isolation.
3. Restraints This module covers: using restraints as a last resort, the laws and regulations for using restraints, how to incorporate resident-centred care when using restraints, and monitoring and documentation with restraints.
4. Oral Care This module covers: how oral health relates and contributes to a resident's overall health and well-being, proper oral care techniques, and how to adopt a holistic, resident centred approach to oral care.
5. Nutrition This module covers: the importance of nutrition and hydration for the overall well-being of residents, factors contributing to a resident's nutritional intake, factors contributing to a positive meal time, and becoming familiar with documentation requirements related to nutritional needs.
6. Quality Care Consolidation 1 This module covers: reviewing modules 1 to 5 of the Excellence in Resident Centred Care program, sharing successes and challenges in practice, and evaluating the course delivery to date.
7. Continence Care This modules covers: types of incontinence, continence care products, how to routinely support residents who require assistance with the washroom, and team roles in continence care.
8. Skin and Wound Care This module covers: factors that influence the development and healing of wounds, observation and reporting when monitoring wounds, prevention and care of skin tears, documentation requirements related to skin and wound care, and team roles in relation to wound care.
9. Geriatric Safety This module covers: factors affecting resident safety, challenges of living with sensory changes, and strategies in routine care for residents that enhance safety and contribute to quality of life.
10. Pain This module covers: defining pain, types of pain, factors that affect pain, signs and symptoms of pain, measures to relieve pain, and team roles in caring for a resident in pain.
11. Responsive Behaviours This module covers: a definition of responsive behaviour, the importance of observation when working with residents, the team approach with responsive behaviour, and resident centred care and prevention of responsive behaviour.
12. Quality Care Consolidation 2 This module covers: reviewing modules 7 to 11 of the Excellence in Resident Centred Care program, sharing successes and challenges from practice, and evaluating the course delivery.

Appendix B

Summary of Study Design in Relation to Research Questions

Research Question	Hypothesis	Data Collection Tools	Analysis	Outcomes
1) What are the outcomes of the computer-based ERCC program on unregulated care providers' knowledge and practice?	1) The computer-based ERCC training program will lead to an increased level of resident-centred care knowledge for UCPs	• Midterm Test • Final Test • Self-Evaluation • Observations	<u>Quantitative</u> • Means of final marks • Paired samples correlation • Discussion of potential knowledge gaps based on questions most frequently answered incorrectly • Compare potential knowledge gaps to low means on self-evaluation • Compare potential knowledge gaps to low means on observations	• Increase in overall mean mark on final test • Future professional learning for UCP should focus on content topics of: resident centered care, infection control, restraints, safety, pain
	2) The computer-based ERCC training program will lead to an increased demonstration of resident centred care behaviours by UCPs at the completion of the course in comparison to UCPs who did not receive the training	• Observations	<u>Quantitative</u> • Frequencies of individual 14 items • Frequencies of 3 subcategories • Change in frequency from before to after ERCC • Paired samples t-test for control group in 3 subcategories <u>Qualitative</u> • Case description of two participants	• Tables 10, 11, 13 • Figure 2 • Intervention participant demonstrated increase in frequency and variety of behaviours after ERCC • No significant change in number of RCC behaviours in control group

Research Question	Hypothesis	Data Collection Tools	Analysis	Outcomes
1) What are the outcomes of the computer-based ERCC program on unregulated care providers' knowledge and practice? (continued)	3) The computer-based ERCC training program will lead to an increased demonstration of self perceived resident centred care behaviours at the completion of the course in comparison to UCPs who did not receive the training	• Self-Evaluation	Quantitative ***Before ERCC Training, After ERCC Training*** • Means of 3 subcategories • Means of individual 19 items ***Differences Between Groups After ERCC*** • Means of 3 subcategories • Independent t-tests of 3 subcategories before and after training ***Differences Within Groups Before and After ERCC*** • Paired sample t-tests within 3 subcategories Qualitative • Content analysis of comments • Case description of two participants	• Tables 4, 5, 6, 7, 8, 9, 13 • Figure 1 • Significant difference between groups in IWR subcategory • No significant change in self-perceived behaviours within control or intervention group • All participants demonstrated "respect", some had difficult demonstrating RCC behaviours related to transferring and wake up times
	4) There is a relationship between knowledge and behavior of resident-centred care in that those who demonstrate an increase in knowledge will also demonstrate an increase in resident-centred care behaviours	• Midterm Test • Final Test • Self-Evaluation • Observations	Qualitative • Case description of intervention participant	• Table 13 • Increase in both knowledge and number of observed and perceived RCC behaviours

Research Question	Hypothesis	Data Collection Tools	Analysis	Outcomes
2) How do prior experience and learner variables impact the effectiveness of computer-based training?	5) Participants with prior experience with e-learning strategies will find taking the ERCC computer-based training facilitates knowledge transfer to practice better than those without prior experience	• Computer experience from demographic data sheet • Course Evaluation • Review of Ontario College programs for UCP professional learning	<u>Quantitative</u> • Frequency of uses of computers • Means of individual 18 items • Means of 3 subcategories on Course Evaluation • Paired samples t-test within 3 subcategories from midterm to final <u>Qualitative</u> • Explored similar words from participant comments to items on Course Evaluation	• Tables 1, 2, 3, 12 • UCPs use computers most for communication, less for research and business and entertainment • Half of participants were familiar with online courses • Computer-based method was effective at delivering content, allowed for discussion and participation, but did not meet some participants' learning needs
	6) Mediator variables such as computer experience, education, success in the course, level of participation in the course, and self-efficacy and self-confidence may influence the knowledge and behaviours of UCPs.	• Observation • Self-Evaluation • Midterm Test • Final Test • Course Evaluation	<u>Qualitative</u> • Case description of intervention participant based on analysis in other hypotheses	• Table 13 • Limited sample size prohibited statistical examination of variables • One intervention participant did demonstrate more observed RCC behaviours, held a health care aide certificate, scored high on midterm and final tests, and demonstrated high self-perceived behaviours

Appendix C

Demographic Data Sheet

Please provide the following information for the ERCC study purposes:

Create a Participant ID (first 4 letters ("A) of your mother's maiden name AND last 4 numbers ("#") of your telephone number)								
	A	A	A	A	#	#	#	#

Age		**Gender**	

Currently Taking ERCC Course?	**Yes →**		**No →**	

Please check the line(s) that most apply to you:

1) Previous Post-Secondary Training	
	No training program
	Personal Support Worker program
	Health Care Aide program
	Other (please specify): _____

2) Employment Status	
	Full time (five or more 8-hour shifts a week)
	Part time (less than five 8-hour shifts a week)
	Casual (no regularly scheduled shifts in a week)
	Other (please specify): _____

3) Shifts Worked	
	Days (0600-1400, 0630-1430, 0700-1500)
	Evenings (1400-2200, 1430-2230, 1500-2300)
	Nights (2200-0600, 2230-0630, 2300-0700)
	Other (please specify): _____

Please answer the following questions:

4) What is your comfort level with using a computer? (Please circle the appropriate number)				
1	2	3	4	5
Very comfortable		Somewhat comfortable		Not at all comfortable

5) What do you personally use a computer for? (Check all that apply)			
	Surfing the Internet		Watching tv/movies
	Banking		Email
	Social media (facebook, twitter, etc)		Taking a course
	Creating files (documents, media, etc)		Listening to music
	Other (please specify): _____		

6) Have you ever taken a computer-based course before?			
	Yes (proceed to question 6a)		No (you are done the survey!)
6a) Please indicate course(s) (name or type):			
6b) What did you like about the computer-based course?:			
6c) What did you not like about the computer-based course?:			

Thanks for your time in completing this!

Appendix D

Self-Evaluation of Resident Centred Care

ID Number:	Date:	Shift Worked:
		☐ Day ☐ Eve ☐ Night

Please mark an "X" in the column that most reflects how often you demonstrated each item on your shift today. Provide examples or a description in each section to provide further information about your selection. If the item did not occur on your shift today, please select N/A ("not applicable")

Focus	On your shift today, how often did you…	N/A	Never	Rarely	Sometimes	Often	Always
Activities of Daily Living (ADLs)	Allow residents to choose their meal option						
	Allow residents to choose their appropriate clothing for the day						
	Allow residents to have a say in their transferring needs						
	Invite residents to participate in their ADLs						
	Explain procedures to residents as I complete them						
	Regularly check on residents						
	Give enough time for residents to eat meals						
	Give residents privacy during care						
	Allow residents to wake up at the time of their choosing						
	Examples or description of how I incorporated resident-centred care into ADLs for residents today:						
Interactions with Residents	Answer questions from residents as you feel appropriate						
	Treat residents with respect						
	Speak with residents in a private space when needed						
	Take time to talk to residents outside of the job tasks you do						
	Address residents by preferred name						
	Examples or description of how I incorporated resident centred care into interactions with residents today:						
Awareness of Resident	Encourage residents to use their strengths						
	Respect preferences of residents						
	Incorporate strategies to promote comfort for residents						
	Provide glasses and hearing aids for those who require them						
	Demonstrate awareness of the Resident Bill of Rights						
	Examples or description of how I demonstrated awareness of residents today:						

Adapted from: Registered Nurses' Association of Ontario. *Resident questionnaire to evaluate client centered care.*
Registered Nurses' Association of Ontario. *Report card – client centered care: How are we doing?*

Appendix E

Evaluation of Program

ID Number:	Date:

Please mark an "X" in the column that most reflects your agreement with each item.
Provide comments as applicable.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The program content…					
was engaging					
was relevant to my learning needs					
challenged my thinking					
promoted discussion					
made me reflect on my practice					
Overall comments on program content:					
The computer-based method…					
met my learning needs					
allowed me to learn at an appropriate pace					
encouraged me to interact with others					
encouraged me to participate					
allowed for deep discussion					
gave me opportunity to practice					
promoted a change in my thinking					
motivated me to change my practice					
Overall comments on computer-based method:					
Having a peer run this course…					
met my learning needs					
allowed me to feel supported					
contributed to my satisfaction of the training					
was beneficial to my learning (ie having a peer facilitate vs a registered staff)					
motivated me to change my practice					
Overall comments on peer facilitator model:					

Appendix F

Observation Checklist

ID Number:	Date:	Shift Worked:
		Day ☐ Eve ☐ Night

Please place a check mark in the "frequency" column every time each item is demonstrated by the UCP. Provide comments and examples as necessary.

Focus	During morning/evening care, how often did the UCP…	Frequency	Comments/Examples
Activities of Daily Living (ADLs) – MORNING OR EVENING CARE	Allow resident to wake up/go to bed at the time of their choosing		
	Allow resident choice (clothing, hair style, transferring needs, washing, oral care, grooming)		
	Invite resident participation (dressing, grooming, transferring, oral care)		
	Explain procedures to resident while completing them		
	Give resident privacy		
Interactions with Resident	Knock before entering the resident's room		
	Address resident by preferred name		
	Announce him/herself before approaching the resident		
	Answer questions from resident		
	Engage the resident in conversation other than about the task at hand		
Awareness of Resident	Encourage resident to use his/her strengths		
	Respect preferences of resident		
	Incorporate strategies to promote comfort for resident		
	Provide glasses and hearing aids for those who require them		
General comments and examples of overall resident-centred care:			

Adapted from: Registered Nurses' Association of Ontario. *Resident questionnaire to evaluate client centered care.*
Registered Nurses' Association of Ontario. *Report card – client centered care: How are we doing?*

Appendix G

Midterm Test

CONESTOGA
Connect Life and Learning

CONESTOGA COLLEGE INSTITUTE OF TECHNOLOGY & ADVANCED LEARNING
SCHOOL OF HEALTH & LIFE SCIENCES AND COMMUNITY SERVICES

EXCELLENCE IN RESIDENT CENTRED CARE

Midterm Test
PSW1010

MODULES 1 to 5

INSTRUCTIONS

1. *You have 20 minutes to complete this test*
2. *Read each question carefully*
3. *Answer all questions*
4. *Relax and good luck!*

THIS TEST BOOKLET IS THE
PROPERTY OF THE SCHOOL OF HEALTH AND LIFE SCIENCES AND COMMUNITY SERVICES
CONESTOGA COLLEGE

ID Number:	**Date:**

Case Study:
Madge lives in Conestoga Long Term Care Home. You are the PSW caring for Madge today and you have come to assist her with morning care. Madge requires a table tray on her wheelchair that is put on in the morning. Today she is sleeping when you enter, but immediately wakes up and yells at you to "Get out of my room!"

Part 1: Multiple Choice (10 marks)
Select the most correct answer from the options below

Question	Answer
1. To provide person-centred care for Madge, as a PSW you need to recognize: A) Madge has strengths and abilities that she can use daily B) You need to keep to your schedule with Madge or another resident's care might be missed C) Madge needs to be fed, clothed, and bathed on a daily basis D) If Madge becomes confused, she would lose her ability to have meaningful relationships	
2. Madge communicates through her behaviour. As a PSW, you understand that: A) Madge's behaviour can be best controlled with medication B) Madge's behaviour has meaning C) Madge's behaviour is done on purpose to manipulate the staff D) Madge's behaviour is disruptive and happens during the evening shift	
3. When providing personal care for Madge, it is important to: A) Make sure the lights are on B) That you complete the task as quickly as possible C) Give Madge a choice and chance to participate in her care D) Stay focused on the task at hand to ensure a thorough job has been done	
4. When providing care for Madge, you should always wear gloves when: 1. You are washing her back and shampooing her hair 2. You are helping her put toothpaste on her toothbrush 3. You are assisting her to the washroom and might come in contact with her body fluids 4. You are brushing her dentures A) 1,2,3 B) 2,4 C) 3,4 D) 1, 3, 4	

Question	Answer
5. To practice appropriate infection control throughout your shift with Madge, you should wash your hands: A) Before preparing, handling, and serving food to Madge B) After using the washroom on break C) Between contact with different residents D) All of the above	
6. Restraints should always be used: A) As a measure of last resort B) When you cannot keep a close eye on Madge who is at risk of falling C) If Madge is bothering other residents and you have warned her not to do this D) Never, it is wrong to use restraints	
7. Even though Madge has a restraint, you can still provide resident centred care by: A) Promoting Madge's independence whenever possible B) Understanding Madge's needs and personal preferences C) Talking to Madge you are applying the restraint D) All of the above	
8. When providing oral care to Madge (who has dentures), it is important to: A) Line the sink with a towel or face cloth and partially fill it with cool water B) Line the sink with a towel or face cloth and partially fill it with hot water C) Fill the sink three quarters full D) Leave the sink empty and run the water continuously to provide clean water for cleaning	
9. Madge will need oral care done: A) Every morning after breakfast B) Twice a day only C) With morning care, evening care, and when she requests D) At bedtime	
10. To provide care that is resident centred, team members must: A) Have good time management and friendship B) Delegate and have distinct roles C) Use team work and effective communication D) None of the above	

Part 2: Short Answer (15 marks)

Answer the questions below in the space provided

11. Suggest 2 interprofessional team members you would likely collaborate with today for Madge's care. Explain why you might collaborate with these team members specifically. **(4 marks)**

Example 1
Team member: _____

Collaborate for: _____

_____

Example 2
Team member: _____

Collaborate for: _____

_____

12. List 3 things you could report about your interaction with Madge to your supervisor? **(3 marks)**

1. _____
2. _____
3. _____

13. You want to ensure Madge's care is holistic and resident-centred. Give an example of what Madge's need might be in each area listed below AND how you will ensure you provide resident-centred care for each of these areas of need. **(8 marks)**

	Need	**Resident-Centred Care Strategy**
Physical		
Emotional		
Social		
Intellectual		

Appendix H

Final Test

CONESTOGA
Connect Life and Learning

CONESTOGA COLLEGE INSTITUTE OF TECHNOLOGY & ADVANCED LEARNING
SCHOOL OF HEALTH & LIFE SCIENCES AND COMMUNITY SERVICES

EXCELLENCE IN RESIDENT CENTRED CARE

Final Test
PSW1010

MODULES 7 to 11

INSTRUCTIONS

5. *You have 20 minutes to complete this test*
6. *Read each question carefully*
7. *Answer all questions*
8. *Relax and good luck!*

THIS TEST BOOKLET IS THE
PROPERTY OF THE SCHOOL OF HEALTH AND LIFE SCIENCES AND COMMUNITY SERVICES
CONESTOGA COLLEGE

ID Number:	**Date:**

Case Study:
Mrs. C lives in Conestoga Retirement Home and you are the PSW caring for Mrs. C today.

Part 1: Multiple Choice (10 marks)
Select the most correct answer from the options below

Question	Answer
1. When assisting Mrs.C to the washroom, you can maintain her dignity and self-respect by: A) Being quick and efficient B) Not responding when she voices her embarrassment C) Doing as much as possible for her so she doesn't have to touch her incontinent brief or her clothes D) Identifying yourself and explaining what you are going to do before you do it	
2. As a PSW, your roles with Mrs.C might include: 1. Assisting her to the washroom and changing her brief 2. Completing a skin assessment 3. Fitting Mrs.C for appropriate adaptive devices 4. Reporting any of Mrs.C's concerns to an appropriate team member A) 1, 2 only B) 1, 2, 3 C) 2, 3, 4 D) 1, 2, 4	
3. Mrs.C is incontinent of urine. This is a normal part of aging and should be expected as she gets older: A) True B) False	
4. You notice a red spot on Mrs.C's hip. Your next step as a PSW is to: A) Tell a registered team member immediately B) Check to see if the area blanches. If it does not blanch, roll Mrs.C on her side to get her off the area and check it again in 20 minutes to see if it blanches C) Rub the area with moisturizer to get circulation moving D) Do nothing as it has likely been there for awhile	

Question	Answer
5. Mrs.C has a skin tear. It is important to: A) Clean it thoroughly and then rub the area dry to promote circulation for better healing B) Make sure the dressing surrounding the area is securely taped to Mrs.C's skin with paper tape C) Have a registered team member apply an appropriate dressing after the area has been cleansed and patted dry D) None of the above	
6. Mrs. C requires proper fitting foot wear. This is important because: A) If shoes do not fit properly, Mrs.C is at an increased risk for falls and tripping B) An improper fit can lead to skin breakdown and ulcers on Mrs.C's feet C) It helps Mrs.C maintain her safety D) All of the above	
7. For Mrs.C's safety, it would be important to: A) Reduce background noise and focus attention on Mrs.C B) Not move Mrs.C's clutter because then she won't be able to find it C) Approach Mrs.C from behind so she doesn't get startled D) Speak in a louder tone so Mrs.C can hear you clearly	
8. Which of the following behaviours might indicate that Mrs.C is in pain? A) Resistive behaviour B) Moaning/groaning C) Rapid shallow breathing D) All of the above	
9. What factors might affect Mrs.C's pain? 1. Mrs.C's age and past experience with pain 2. The support Mrs.C has from family 3. The amount of rest and sleep Mrs.C has 4. Mrs.C's cultural background and beliefs A) 2, 3, 4 B) 1, 2, 4 C) 1, 2, 3, 4 D) 1, 2, 3	
10. What is a responsive behaviour? A) Can be seen as agitation, pacing, refusal or physical outbursts B) Looks like resistance C) A way that Mrs.C demonstrates communication D) All of the above	

Part 2: Short Answer (15 marks)

Answer the questions below in the space provided

11. Suggest 2 interprofessional team members you would likely collaborate with today for Mrs.C's care. Explain why you might collaborate with these team members specifically. **(4 marks)**

Example 1
Team member: _____

Collaborate for: _____

_____

Example 2
Team member: _____

Collaborate for: _____

_____

12. List 3 things you would report about Mrs.C's pain to your supervisor? **(3 marks)**

1. _____
2. _____
3. _____

13. You want to ensure Mrs.C's care is holistic and resident-centred. Give an example of what Mrs.C's need might be in each area AND how you will ensure you provide resident-centred care for each of these areas of need. **(8 marks)**

	Need	Resident-Centred Care Strategy
Physical		
Emotional		
Social		
Intellectual		

Appendix I

Information Letter for Long-Term Care Administration

Your long-term care home is invited to participate in a research study for the upcoming delivery of the Excellence in Resident Centred Care (ERCC) course. The purpose of this study is to examine the impact of a new training model on the quality of care offered to residents in long-term care, which is to add to the research on information about transfer of knowledge to practice. The current study explores whether the new training method for the ERCC program leads to a change in behaviour and knowledge exhibited by unregulated care providers (UCPs). This involves a closer examination of the influence of the training provided.

Incorporating resident-centred care into UCPs' practice has been shown to increase quality of life for residents and provides practical significance for the study. Overall, understanding resident-centred care and how best to train UCPs for this could improve outcomes for residents living in long-term care homes.

The Excellence in Resident Centred Care (ERCC) course that you will be offering at your long-term care home will be used for the study. The intervention group in the study will be composed of UCPs who are taking the computer-based modules to complete the ERCC course (as decided by the administration at the long-term care home). The control group will be composed of UCPs who will not participate in the training until after completion of the study.

UCP participants will be asked to complete various evaluations and tools throughout the research study. These will take additional time from the regularly scheduled training time including:

Research Study Tool	**Approximate Time to Complete**	**Intervention Group** (taking ERCC course)	**Control Group** (not taking ERCC course)
• Demographic Data Sheet	5 minutes at the start of study	X	X
• Self-Evaluation of Resident Centred Care	15 minutes at the end of 2 shifts	X	X
• Observation Checklist	Researcher to complete during morning/evening care times	X	X
• Midterm and Final Tests	No extra time outside training	X	
• Evaluation of Program	15 minutes twice in training	X	
• Group Responses in ERCC Module Quizzes	No extra time outside training	X	
Total Time Outside ERCC Program:		65 minutes	35 minutes

Before the ERCC program begins, UCP participants will be asked to complete the "Demographic Data Sheet" and the "Self-Evaluation" of perceived resident-centred care behaviours on one shift. Following this, those in the intervention group will take the 12 modules of the ERCC computer-based program. Those in the intervention group will be required to take all 12 modules of the ERCC program to participate in the study. Following completion of the ERCC program training, participants will be asked to complete the "Self-Evaluation" of perceived resident-centred care behaviours again during one shift.

Resident centred care will be observed in a portion of the participants in both the intervention and control groups by the researcher using the "Observation Checklist" on the same shifts as the "Self-Evaluation" is

completed as outlined above. The first observation will be completed by the researcher prior to starting the ERCC program. The researcher will observe resident centred care provided by the UCP during morning or evening care with a resident. The second observation will be completed by the researcher after the ERCC program is finished. Participants will be aware of the observer during the observation.

The "Evaluation of the Program" will be completed by participants in the intervention group at the end of module 6 and 12 as part of the time assigned for the "evaluation" component of these modules. The "Midterm Test" and "Final Test" built into the ERCC program at modules 6 and 12 will also be completed by participants in the intervention group as part of the time assigned for the "test" component of these modules.

Group responses during discussions and module quizzes will be collected as usual in the program and will be submitted to the researcher in the anonymous format by the facilitator.

As the researcher, I would like to notify you of any risks and benefits involved in the study. There are very minimal potential social, psychological, or emotional risks to this research. UCP participants will be asked to self-evaluate on a number of items that demonstrate resident centred care in their daily practice. UCP participants will also be asked to reveal personal information through this process regarding your performance and implementation of the resident centred care behaviours. Some participants will also be observed for resident centred care behaviours in their daily routine practice. Even following consent to participate in the study, participants may choose not to answer any questions or take part in any components of the study that make them feel uncomfortable. If, at any time, participants feel uncomfortable with the study, they are able to withdraw from participation and choose to have their data withdrawn from the study.

In terms of benefits, this research will provide the opportunity for self-assessment and reflection on the course content and personal behaviour in daily practice as an unregulated care provider which have the potential to inform and improve individual practice. It is hoped that the computer-based ERCC training modules will increase resident centred care behaviours implemented in daily practice. This research will highlight implications for future research regarding effective teaching strategies in long-term care homes. This can be of benefit to both the community within the long-term care homes and society at large.

Confidentiality and anonymity will be maintained throughout the study. Further information regarding these items are in the attached consent form for participants. Please do not hesitate to contact me about any part of this study at any time.

Participants can provide an email if they wish to receive a personal summary of the research findings upon completion of the study. The same summary will be provided to the long-term care home to post it for participants to be able to read.

Participant participation in this study is voluntary; UCPs may decline to participate without penalty. If UCPs decide to participate, they may withdraw from the study at any time without penalty and without loss of benefits to which they are otherwise entitled. If a UCP withdraws from the study, every attempt will be made to remove their data from the study, and have it destroyed. Participants have the right to omit any question(s)/procedure(s) they choose.

Thank you for your time and consideration with this research project. Again, please do not hesitate to contact me with questions or concerns regarding this study at any time.

Sarah Pottier, M.Ed. student, Wilfrid Laurier University; Nursing Faculty, Conestoga College

Consent Form for Long-Term Care Administration
for expedited and full review studies

WILFRID LAURIER UNIVERSITY

INFORMED CONSENT STATEMENT

Knowledge Transfer to Practice in Unregulated Care Provider Training

Your long-term care home is invited to participate in a research study for this upcoming delivery of the Excellence in Resident Centred Care (ERCC) course. The purpose of this study is to examine the impact of a new training model on the quality of care offered to residents in long-term care, which is to add to the research on information about transfer of knowledge to practice. The current study explores whether the new training method for the ERCC program creates a change in behaviour and knowledge exhibited by unregulated care providers (UCPs). This involves a closer examination of the influence of the training provided. The researcher, Sarah Pottier, is a current Master of Education student at WLU.

INFORMATION

Participants will be recruited and selected by the administration team at the long-term care home. Participants will be included in the study if they meet the criteria of being employed as a UCP at the long-term care home. As many as 40 participants will be included in the research. For this study to have a control group, it is necessary that there are participants at the home who have not yet participated in the ERCC training program. Selection for the intervention group will depend on registration in the ERCC course. A second group of participants that are not taking (and have not already taken) the ERCC course will be used as the control group. The researcher will be blind as to which participants have been assigned to each group. At the conclusion of this study, participants in the control group may receive the ERCC training at a later date but they will not be asked to participate in any data collection beyond the initial study.

Participants in the intervention group will attend the 12 module ERCC course. The class will be scheduled as designated by the long-term care home where you work. The control group will not participate in the ERCC training. Training in ERCC will be provided after completion of the research study for the control group.

Participants will be asked to complete various evaluations and tools throughout the research study including:

- Demographic Data Sheet
- Self-Evaluation of Resident Centred Care
- Observation Checklist
- Midterm and Final Tests (for intervention group as part of the ERCC program)
- Evaluation of Program (for intervention group)

Data will be retained for 7 years following publication of the results and will then be destroyed by Dr. Mueller, the researcher's thesis advisor.

RISKS

There is only a minimal potential social, psychological, and emotional risk to this research. Participants will be asked to self-evaluate on a number of items that demonstrate resident centred care in their daily practice. Participants will also be asked to reveal personal information through this process regarding their performance and implementation of the resident centred care behaviours. Some participants will also be observed for resident centred care behaviours in their daily routine practice. If, at any time, participants feel uncomfortable with the study, they are able to withdraw from participation and choose to have their data removed from the study.

BENEFITS

In terms of benefits, this research will provide the opportunity for self-assessment and reflection on the course content and personal behaviour in daily practice as an unregulated care provider which have the potential to inform and improve individual practice. It is hoped that the computer-based ERCC training modules will increase resident centred care behaviours implemented in daily practice. This research will highlight implications for future research regarding effective teaching strategies in long-term care homes. This can be of benefit to both the community within the long-term care homes and society at large.

CONFIDENTIALITY

Participants will be asked to create a participant ID at the start of the study, and to use this ID on every piece of data collected in the study. This will allow for only the researcher to match up the collected data from the tools while maintaining anonymity of data. Only the administration team and facilitator at the long-term care home will have access to the participant's names. The researcher will have access to the data until the course is completed and marks are released. Data collected from the research will be kept in a locked filing cabinet that only the researcher will have access to.

CONTACT

If you have questions at any time about the study or the procedures, (or you experience adverse effects as a result of participating in this study) you may contact the researcher, Sarah Pottier, at pott9480@mylaurier.ca. This project has been reviewed and approved by the University Research Ethics Board. If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Dr. Robert Basso, Chair, University Research Ethics Board, Wilfrid Laurier University, (519) 884-1970, extension 4994 or rbasso@wlu.ca

PARTICIPATION

Participant participation in this study is voluntary; UCPs may decline to participate without penalty. If UCPs decide to participate, they may withdraw from the study at any time without penalty and without loss of benefits to which they are otherwise entitled. If a UCP withdraws from the study, every attempt will be made to remove their data from the study, and have it destroyed. Participants have the right to omit any question(s)/procedure(s) they choose.

FEEDBACK AND PUBLICATION

The results of the research will be shared with the nursing faculty and Chair/Manager of Continuing Education at Conestoga College as well as the Research Institute for Aging and Schlegel Villages. Participants can provide an email if they wish to receive a personal summary of the research findings upon completion of the study. The same summary will be provided to the long-term care home to post it for participants to be able to read.

CONSENT

I have read and understand the above information. I have received a copy of this form. I agree to have this research study conducted at the long-term care home where the ERCC program is running.

Administration's signature: _____ Date: _____

Investigator's signature: _____ Date: _____

Appendix J

Information Letter for Facilitators

You are invited to participate in a research study for this upcoming delivery of the Excellence in Resident Centred Care (ERCC) course that you are facilitating. The purpose of this study is to examine the impact of a new training model on the quality of care offered to residents in long-term care, which is to add to the research on information about transfer of knowledge to practice. The current study explores whether the new training method for the ERCC program leads to a change in behaviour and knowledge exhibited by unregulated care providers (UCPs). This involves a closer examination of the influence of the training provided.

Incorporating resident-centred care into UCPs' practice has been shown to increase quality of life for residents and provides practical significance for the study. Overall, understanding resident-centred care and how best to train UCPs for this could improve outcomes for residents living in long-term care homes.

The Excellence in Resident Centred Care (ERCC) course that you will be facilitating will be used for the study. The intervention group in the study will be composed of UCPs who are taking the computer-based modules to complete the ERCC course (as decided by the administration at the long-term care home). The control group will be composed of UCPs who will not participate in the training until after completion of the study.

As part of the study, participants will be asked to complete various evaluations and tools throughout the research study. These will take additional time from the regularly scheduled training time including:

Research Study Tool	**Approximate Time to Complete**	**Intervention Group** (taking ERCC course)	**Control Group** (not taking ERCC course)
• Demographic Data Sheet	5 minutes at the start of study	X	X
• Self-Evaluation of Resident Centred Care	15 minutes at the end of 2 shifts	X	X
• Observation Checklist	Researcher to complete during morning/evening care times	X	X
• Midterm and Final Tests	No extra time outside training	X	
• Evaluation of Program	15 minutes twice in training	X	
• Group Responses in ERCC Module Quizzes	No extra time outside training	X	
Total Time Outside ERCC Program:		65 minutes	35 minutes

Before the ERCC program begins, participants will be asked to complete the "Demographic Data Sheet" and the "Self-Evaluation" of perceived resident-centred care behaviours on one shift. Following this, those in the intervention group will take the 12 modules of the ERCC computer-based program. Those in the intervention group will be required to take all 12 modules of the ERCC program to participate in the

study. Following completion of the ERCC program training, participants will be asked to complete the "Self-Evaluation" of perceived resident-centred care behaviours again during one shift.

Resident centred care will be observed in a portion of the participants in both the intervention and control groups by the researcher using the "Observation Checklist" on the same shifts as the "Self-Evaluation" is completed as outlined above. The first observation will be completed by the researcher prior to starting the ERCC program. The researcher will observe resident centred care during morning or evening care with a resident. The second observation will be completed by the researcher after the ERCC program is finished. Participants will be aware of the observer during the observation.

The "Evaluation of the Program" will be completed by participants in the intervention group at the end of module 6 and 12 as part of the time assigned for the "evaluation" component of these modules. The "Midterm Test" and "Final Test" built into the ERCC program at modules 6 and 12 will also be completed by participants in the intervention group as part of the time assigned for the "test" component of these modules.

As the facilitator, you will have additional role responsibilities for the research study outside of your regular training role including:

Research Study Tool	**Facilitator Role**	**Intervention Group** (taking ERCC course)	**Control Group** (not taking ERCC course)
• List of Participants by Intervention and Control Group	Collect participant IDs and maintain list of which group participants are in (Researcher is blind to the grouping)	X	X
• Demographic Data Sheet	Collect from participants and deliver to researcher	X	X
• Self-Evaluation of Resident Centred Care	Collect from participants and deliver to researcher	X	X
• Observation Checklist	No facilitator role	X	X
• Midterm and Final Tests	Collect from participants and deliver to researcher	X	
• Evaluation of Program	Collect from participants and deliver to researcher	X	
• Group Responses in ERCC Module Quizzes	Record responses during discussions as usual in program	X	

Your consent will be obtained to participate as the facilitator in the research study and to collect and deliver the data collected from participants to the researcher. A particularly important part of your role will be to collect and maintain the participant IDs in a list by intervention and control groups. The researcher will be blind to the grouping so you, alongside any of the administration team at your long-term care home, will be the only one(s) with this information. The researcher will assist with any questions related to how participants should be selected for each group. Additionally, your consent will be obtained to collect the group responses during discussions and module quizzes as usual in the program and provide the researcher with these responses in the anonymous format.

Confidentiality and anonymity will be maintained throughout the study. Further information regarding these items are in the attached consent form. Please do not hesitate to contact me about any part of this study at any time.

In terms of benefits, this research will provide the opportunity for self-assessment and reflection on the course content and personal behaviour in daily practice as an unregulated care provider which have the potential to inform and improve individual practice. It is hoped that the computer-based ERCC training modules will increase resident centred care behaviours implemented in daily practice. This research will highlight implications for future research regarding effective teaching strategies in long-term care homes. This can be of benefit to both the community within the long-term care homes and society at large.

You can provide an email if you wish to receive a personal summary of the research findings upon completion of the study. The same summary will be provided to the institution and they will be asked to post it for participants to be able to read.

Participant participation in this study is voluntary; UCPs may decline to participate without penalty. If UCPs decide to participate, they may withdraw from the study at any time without penalty and without loss of benefits to which they are otherwise entitled. If a UCP withdraws from the study, every attempt will be made to remove their data from the study, and have it destroyed. Participants have the right to omit any question(s)/procedure(s) they choose.

Thank you for your time and consideration with this research project. Again, please do not hesitate to contact me with questions or concerns regarding this study at any time.

Sarah Pottier

M.Ed. student, Wilfrid Laurier University

Nursing Faculty, Conestoga College

Consent Form for Facilitators
for expedited and full review studies
WILFRID LAURIER UNIVERSITY
INFORMED CONSENT STATEMENT
Knowledge Transfer to Practice in Unregulated Care Provider Training

You are invited to participate in a research study for this upcoming delivery of the Excellence in Resident Centred Care (ERCC) course. The purpose of this study is to examine the impact of a new training model on the quality of care offered to residents in long-term care, which is to add to the research on information about transfer of knowledge to practice. The current study explores whether the new training method for the ERCC program creates a change in behaviour and knowledge exhibited by unregulated care providers (UCPs). This involves a closer examination of the influence of the training provided. The researcher, Sarah Pottier, is a current Master of Education student at WLU.

INFORMATION

Participants will be recruited and selected by the administration team at the long-term care home. Participants will be included in the study if they meet the criteria of being employed as a UCP at the long-term care home. As many as 40 participants will be included in the research. For this study to have a control group, it is necessary that there are participants at the home who have not yet participated in the ERCC training program. Selection for the intervention group will depend on registration in the ERCC course. A second group of participants that are not taking (and have not already taken) the ERCC course will be used as the control group. The researcher will be blind as to which participants have been assigned to each group. At the conclusion of this study, participants in the control group may receive the ERCC training at a later date but they will not be asked to participate in any data collection beyond the initial study.

Participants in the intervention group will attend the 12 module ERCC course. The class will be scheduled as designated by the long-term care home where you work. The control group will not participate in the ERCC training. Training in ERCC will be provided after completion of the research study for the control group.

Participants will be asked to complete various evaluations and tools throughout the research study including:

- Demographic Data Sheet
- Self-Evaluation of Resident Centred Care
- Observation Checklist
- Midterm and Final Tests (for intervention group as part of the ERCC program)
- Evaluation of Program (for intervention group)

Data will be retained for 7 years following publication of the results and will then be destroyed by Dr. Mueller, the researcher's thesis advisor.

RISKS

As the facilitator, there are no risks to the research that are outside those encountered otherwise in the facilitator role for the ERCC program. If, at any time, you feel uncomfortable with the study, you are able to contact the researcher and withdraw from participation.

Facilitator's initials pg.1

BENEFITS

In terms of benefits, this research will provide the opportunity for self-assessment and reflection on the course content and personal behaviour in daily practice as an unregulated care provider which have the potential to inform and improve individual practice. It is hoped that the computer-based ERCC training modules will increase resident centred care behaviours implemented in daily practice. This research will highlight implications for future research regarding effective teaching strategies in long-term care homes. This can be of benefit to both the community within the long-term care homes and society at large.

CONFIDENTIALITY

Participants will be asked to create a participant ID at the start of the study, and to use this ID on every piece of data collected in the study. This will allow for only the researcher to match up the collected data from the tools while maintaining anonymity of data. Only the administration team and the facilitator at the long-term care home will have access to the participant's names. The researcher will have access to the data until the course is completed and marks are released. Data collected from the research will be kept in a locked filing cabinet that only the researcher will have access to.

CONTACT

If you have questions at any time about the study or the procedures, (or you experience adverse effects as a result of participating in this study), you may contact the researcher, Sarah Pottier, at pott9480@mylaurier.ca.. This project has been reviewed and approved by the University Research Ethics Board. If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Dr. Robert Basso, Chair, University Research Ethics Board, Wilfrid Laurier University, (519) 884-1970, extension 4994 or rbasso@wlu.ca

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled.

FEEDBACK AND PUBLICATION

The results of the research will be shared with the nursing faculty and Chair/Manager of Continuing Education at Conestoga College as well as the Research Institute for Aging and Schlegel Villages. You can provide an email if you wish to receive a personal summary of the research findings upon completion of the study. The same summary will be provided to the institution and they will be asked to post it for participants to be able to read.

CONSENT

I have read and understand the above information. I have received a copy of this form. I agree to participate in this study as the facilitator and to collect the completed participant data tools and to deliver these to the researcher. I also consent to collecting and maintaining the list of participant IDs by grouping. Additionally, I consent to collect the group responses during discussions and module quizzes as usual in the program and provide the researcher with these responses in the anonymous format.

Facilitator's signature: _____ Date: _____

Investigator's signature: _____ Date: _____

Appendix K

Information Letter for Participants

You are invited to participate in a research study for this upcoming delivery of the Excellence in Resident Centred Care (ERCC) course. The purpose of this study is to examine the impact of a new training model on the quality of care offered to residents in long-term care, which is to add to the research on information about transfer of knowledge to practice. The current study explores whether the new training method for the ERCC program leads to a change in behaviour and knowledge exhibited by unregulated care providers (UCPs). This involves a closer examination of the influence of the training provided.

Incorporating resident-centred care into UCPs' practice has been shown to increase quality of life for residents and provides practical significance for the study. Overall, understanding resident-centred care and how best to train UCPs for this could improve outcomes for residents living in long-term care homes.

The Excellence in Resident Centred Care (ERCC) course that you will be taking will be used for the study. The intervention group in the study will use the computer-based modules to complete the ERCC course. The control group will not participate in the training until after completion of the study.

As part of the study, you will be asked to complete various evaluations and tools throughout the research study. These will take additional time from the regularly scheduled training time including:

Research Study Tool	**Approximate Time to Complete**	**Intervention Group** (taking ERCC course)	**Control Group** (not taking ERCC course)
• Demographic Data Sheet	5 minutes at the start of study	X	X
• Self-Evaluation of Resident Centred Care	15 minutes at the end of 2 shifts	X	X
• Observation Checklist	Researcher to complete during morning/evening care times	X	X
• Midterm and Final Tests	No extra time outside training	X	
• Evaluation of Program	15 minutes twice in training	X	
• Group Responses in ERCC Module Quizzes	No extra time outside training	X	
Total Time Outside ERCC Program:		65 minutes	35 minutes

Before the ERCC program begins, you will be asked to complete the "Demographic Data Sheet" and the "Self-Evaluation" of your perceived resident-centred care behaviours on one shift. Following this, those in the intervention group will take the 12 modules of the ERCC computer-based program. Those in the intervention group will be required to take all 12 modules of the ERCC program to participate in the study. Following completion of the ERCC program training, you will be asked to complete the "Self-Evaluation" of your perceived resident-centred care behaviours again during one shift.

Resident centred care will be observed in a portion of the participants in both the intervention and control groups by the researcher using the "Observation Checklist" on the same shifts as the "Self-Evaluation" is completed as outlined above. The first observation will be completed by the researcher prior to starting the ERCC program. The researcher will observe resident centred care during morning or evening care

with a resident. The second observation will be completed by the researcher after the ERCC program is finished. Participants will be aware of the observer during the observation.

The "Evaluation of the Program" will be completed by participants in the intervention group at the end of module 6 and 12 as part of the time assigned for the "evaluation" component of these modules. The "Midterm Test" and "Final Test" built into the ERCC program at modules 6 and 12 will also be completed by participants in the intervention group as part of the time assigned for the "test" component of these modules.

Group responses during discussions and module quizzes will be collected as usual in the program and will be submitted to the researcher in the anonymous format by the facilitator.

As the researcher, I would like to notify you of any risks and benefits involved in the study. There are very minimal potential social, psychological, or emotional risks to this research. You will be asked to self-evaluate on a number of items that demonstrate resident centred care in your daily practice. You will also be asked to reveal personal information through this process regarding your performance and implementation of the resident centred care behaviours. Some participants will also be observed for resident centred care behaviours in their daily routine practice. Even following consent to participate in the study, you may choose not to answer any questions or take part in any components of the study that make you feel uncomfortable. If, at any time, you feel uncomfortable with the study, you are able to withdraw from participation and choose to have your data withdrawn from the study.

In terms of benefits, this research will provide the opportunity for self-assessment and reflection on the course content and personal behaviour in daily practice as an unregulated care provider which have the potential to inform and improve individual practice. It is hoped that the computer-based ERCC training modules will increase resident centred care behaviours implemented in daily practice. This research will highlight implications for future research regarding effective teaching strategies in long-term care homes. This can be of benefit to both the community within the long-term care homes and society at large.

Confidentiality and anonymity will be maintained throughout the study. Further information regarding these items are in the attached consent form. Please do not hesitate to contact me about any part of this study at any time.

You can provide an email if you wish to receive a personal summary of the research findings upon completion of the study. The same summary will be provided to the institution and they will be asked to post it for participants to be able to read.

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study, every attempt will be made to remove your data from the study, and have it destroyed. You have the right to omit any question(s)/procedure(s) you choose.

Thank you for your time and consideration with this research project. Again, please do not hesitate to contact me with questions or concerns regarding this study at any time.

Sarah Pottier, M.Ed. student, Wilfrid Laurier University; Nursing Faculty, Conestoga College

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RISKS

There is only a minimal potential social, psychological, and emotional risk to this research. You will be asked to self-evaluate on a number of items that demonstrate resident centred care in your daily practice. You will also be asked to reveal personal information through this process regarding your performance and implementation of the resident centred care behaviours. Some participants will also be observed for resident centred care behaviours in their daily routine practice. The observation data will only be used for the research project and will not be shared with the administration. If, at any time, you feel uncomfortable with the study, you are able to withdraw from participation and choose to have your data removed from the study. Participant's initials pg.1

_____

BENEFITS

In terms of benefits, this research will provide the opportunity for self-assessment and reflection on the course content and personal behaviour in daily practice as an unregulated care provider which have the potential to inform and improve individual practice. It is hoped that the computer-based ERCC training modules will increase resident centred care behaviours implemented in daily practice. This research will highlight implications for future research regarding effective teaching strategies in long-term care homes. This can be of benefit to both the community within the long-term care homes and society at large.

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USE OF QUOTATIONS

Group responses from discussion points gathered by the facilitator in the modules may be used in publications that arise from this research. Participant group responses from the modules will be analyzed for themes contributing to the demonstration of knowledge and behaviours of resident centred care. Individual quotations from the research tools (Observation Checklist, Self-evaluation, Evaluation of program) may be used, with your consent below.

Participant's initials pg.2

_____

CONSENT

I have read and understand the above information. I have received a copy of this form. I agree to participate in this study and to allow the researcher to collect the above data.

Participant's name (please print): _____

Participant's signature: _____ Date: _____

Investigator's signature: _____ Date: _____

Additional Consent for quotations:

(Please choose one and sign below)

_____ I agree to allow the researcher to use direct quotations from data collected in the research tools (Observation Checklist, Self-evaluation, Evaluation of program) in any publications that may arise from this research. I will never be identified.

_____ I do not agree to allow the researcher to use direct quotations from data collected in the research tools (Observation Checklist, Self-evaluation, Evaluation of program) in any publications that may arise from this research. I will never be identified.

Participant's signature: _____ Date: _____

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