

MULTIMEDIA CASE-BASED INSTRUCTION FOR THE ONLINE ENVIRONMENT Empowering Health Care Practitioners in the Care of Older Adults

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The availability of user-friendly technological tools is allowing instructional designers and subject matter experts to create innovative online instruction. This article describes the implementation of a multimedia case-based approach that employs narrative to create a fully online course on complex continuing and long-term care for older adults. This article describes aspects of the course and details of the cases developed to teach abstract and complex issues in dementia care. It also explains how these cases were linked to important themes of the course to help learners meet the learning objectives.

INTRODUCTION

In North America, long-term care organizations who care for frail older adults are facing more demand than ever before. This is due to the aging population and the fact that individuals are living longer with more complex health needs that require specialized care. In fact,

because the population of those 65 and older is experiencing considerable growth, with millions of baby boomers entering older cohorts (Canadian Institute for Health Information, 2019; Eifert, Adams, Morrison & Strack, 2016), there is growing need in health care to foster education and practice change that can address the unique needs of this growing

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demographic. A significant proportion of this population live with multiple comorbidities such as diabetes, osteoporosis, and hypertension and are receiving health care services in long-term care (LTC) organizations or in their home in the community (Ontario Long-Term Care Association, 2019; Rosella et al., 2014; Statistics Canada, 2015).

In Canada, a diagnosis of dementia is strongly associated with a move into a nursing home (Statistics Canada, 2018). Consequently, the demand for skilled caregivers able to meet the care needs of older adults with multiple chronic conditions has increased, which has motivated educational institutions to offer training to satisfy the growing demand. George Brown College (Toronto, Ontario), a leading Canadian postsecondary institution has responded to this demographic shift by designing an interprofessional postgraduate certificate program in complex continuing and long-term care in collaboration with Ryerson University and Baycrest Centre Learning, Research and Innovation in Long-Term Care. This program will be offered to prepare learners in health and social service programs, current and future practitioners, with the skills necessary to work with older adults who require long-term care (George Brown College, 2018). It is designed as an online program that targets current and future interprofessional learners and practitioners. This paper focuses on one of the courses within the certificate program.

Course Design

Coordinating Dementia Care for the Older Adult is an online course that was created by an interdisciplinary team of subject matter experts from education and health practice settings along with a postsecondary instructional designer. This course was designed to enhance learners' practice skills, relational care techniques, and clinical reasoning abilities that are needed to coordinate care for older adults who live in long-term and complex care settings.

The design team collaborated to bring expertise in experiential learning, multidisciplinary perspectives to the learning activities and course content. Authentic scenarios were integral to the design, used to develop and enhance the curriculum. Cases, stories, events and scenarios were designed to simulate real life experiences and situations learners are most likely to encounter while working with frail older adults with dementia in the complex continuing and long-term care setting. To this end, cases employ narrative, an approach used increasingly in gerontological practice because of its ability to foreground residents' life stories, personal preferences, and the priorities of the "person" in care (Astell, Savundranayagam, Kelson, Purves, & Phinney, 2018; Kitwood, 1997). Narrative is also used increasingly in teaching practitioners in LTC settings (Clarke, Hanson, & Ross, 2003; Villar & Serrat, 2017). Engaging learners through stories has been shown to help them learn deeply about a person and also to reflect more than the medical perspective.

Using Cases in Course Development

A case can be considered as a story or a description of a situation involving an issue or problem. Teaching with cases involves providing learners with stories about issues that they need to analyze in order to offer solutions or options to deal with the situation (Erskine, Leenders, & Mauffette-Leenders, 2011). The stories are usually complex and reflect realistic situations to engage learners in exploration, analysis, synthesis, and problem solving (Anderson & Schiano, 2014). Stories are effective at engaging learners because they are entertaining (Herreid, 2007). According to Herreid, learning in the context of stories facilitates information processing, application of knowledge, and complex learning. Information processing is facilitated when the attention of the learners is captured, and the new information embedded in the stories is connected to their prior experiences. The application of knowledge and complex learning takes place

when learners are able to bring back solutions that they have applied to similar situations in the past, and apply to the new situation, while knowing they are able to adapt solutions applied in the stories to a new situation in real-life (Schank, 1982).

According to Ha and Lopez (2014) when learners are given the opportunity to apply knowledge, they become confident that they will be able to do so in real-life, the author posits that the confidence grows stronger when the learning becomes more complex.

Teaching with cases is not a new approach, Harvard University has used it for almost a century (Erskine et al., 2011). However, according to Erskine et al., in more recent years, the approach has expanded to a wide range of institutions and disciplines that include law, medicine, business, engineering, education, social work, and others. The case-based method is grounded in instructional approaches that call on learners to solve problems in authentic, real-world environments (Joannsen, 2011; Roca, Reguant, & Canet, 2016). These approaches are rooted in constructivist learning theory (Hannafin, Hill, & Land, 1997), a perspective that considers learning as the result of learners' engagement with real-world experiences and knowledge construction (Jonassen, 2000).

Traditionally, the case teaching method was reserved for face-to-face classes in brick and mortar institutions. However, with the expansion of e-learning and its integration into almost all educational areas, teaching and learning with cases is now an important and growing part of online learning. According to Worm (2013), there is no doubt now that the case approach can be implemented online and in the classroom, achieving the same results. Additionally, the case method whether in a classroom setting or online environment, has been implemented using written cases (Mauffette-Leenders, Erskine, & Leenders, 2007).

With the availability of user-friendly technology packages such as Vyond, Video Scrap, Articulate Storyline, Camtasia, among others, educators are now able to create complex

multimedia stories with higher levels of difficulty (Erskine et al. 2011). These programs allow audiovisual representations and dialogue as well as changes in scenery and time. Of particular relevance for dementia care, learners have access to characters' facial reactions, body movements and other nonverbal forms of communication. In these ways, these technologies help to create cases that present a simulation of a reality. This is important because richer case representations that attract and maintain learners' attention allows for more meaningful interactions and learning (Choi, Lee, & Jung, 2008). Moreover, multimedia elements used in cases have become essential components when teaching in the online environment (Batthish et al., 2013).

Course Components

The course was structured into nine modules. Each of the modules offer learners expository instruction, practice activities and a case with multiple stories to teach different topics and reach the proposed learning objectives. The purpose of the expository instruction and practice activities is to facilitate the connection between what learners already know and what is being taught in order to provide them with the foundation for more complex learning activities (Driscoll, 2005). Additionally, expository content helps learners to understand the facts, concepts, rules and principles (Baeten, Dochy & Struyven, 2013) needed to achieve higher order learning such as problem solving (Dupuis & Persky 2008).

Creating Cases: Using the Story of "Susan" in Course Design

Instructional design guidelines were followed to create the cases used in the course, along with decisions involving course inputs (course objectives and content), course outputs (learning activities), and learning management system tools (Romero, 2016). Figure 1 shows the inputs, output and learning management system tools. Using the video animation tool

Component of the story	Input	Outputs/Knowledge	LMS Tools
Functional Abilities	<ul style="list-style-type: none"> Objective Information Relational awareness Biographical data Previous assessment 	<ul style="list-style-type: none"> Reflection of known information pertaining to Susan Complete SBAR Create an action plan 	<ul style="list-style-type: none"> Discussion Boards Reflection Journals

FIGURE 1
Inputs, Output, and Learning Management System Tools

The case of Susan						
Biography	Safety vs. QOL	Ageism, Stigma & Labelling	Baseline Information	Changes in behaviour	Functional Abilities	Capacity for Decision Making

FIGURE 2
Components of One of Susan's Case

called Voyond, stories were created with multimedia elements. The tool allows educators to bring static images to life; it gives characters expression, the ability to see nonverbal communication, sound, and movement.

As depicted in Figure 2, there was one overarching case that follows Susan across years that is tied to the complex issues that arise in the sector. In order to bring real life experiences to learners, the case of Susan was broken down into multiple stories based on practice experiences shared by the subject matter experts. The use of stories, the narratives within cases was also a key part of the development of the course. Every narrative has several components which include; setting, characters, and poses a challenge for learners.

The cases were developed around a central character named "Susan." Susan is a composite character, and her stories portray experiences associated with a "typical" long-term care resident that learners might encounter in a real-world care setting. A healthcare worker may have the opportunity to work with a LTC resident over weeks, months, or years. This creates the need for practitioners in this setting to learn more about the personal narrative of a

resident which is different than a patient in an acute care setting.

Each story exposes learners to various scenarios related to Susan's care, while revealing key aspects of her personality, her likes and dislikes, as well as her medical and social care needs. As such, the opportunity to learn more about a resident, may lead to empathy building across the narratives.

A total of eight stories were developed and each was linked to critical topics and the learning objectives of the course. The first case introduced learners to Susan's life, the aim of the background story or biography was to initiate the immersion of the learners into the case and create a sense of belonging. According to Jonassen (2002), people have a natural ability to represent themselves within stories, and the immersion into the characters is what engages them (Widrich, 2012). Our goal then was to assist learners to become part of the stories they encountered in the modules, to feel and see themselves working with others, empowering learners to solve problems that typically arise in current long-term and complex care settings.

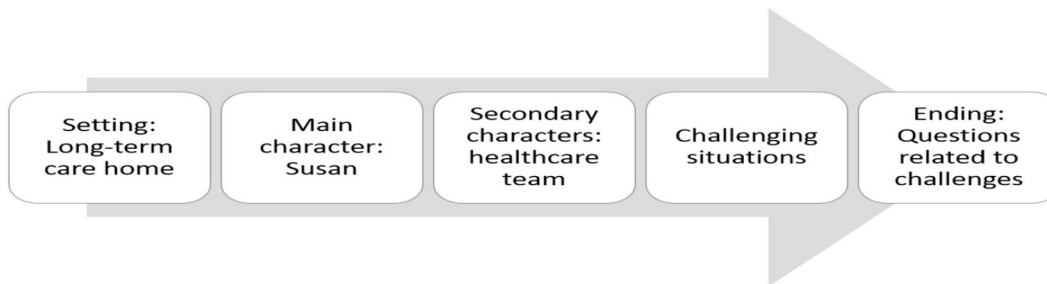


FIGURE 3
Story Setting and Characters

As shown in Figure 3, all the scenarios had the general components of a typical story: setting, characters, challenge/situation, and ending. The plot of each was related to Susan's care, with each story unveiling different challenges or situations that the healthcare team experienced. The end of each of the stories involved the questions that require learners to show critical thinking, analysis, synthesis, reflection, and problem-solving abilities. The stories are set in a LTC home where Susan (the main character) was admitted and where members of a healthcare team who are secondary characters, provide care for her.

Biography

The background story or biography of the main character starts with a supervisor informing the caregiving team that a new "resident," the term typically used to describe someone who lives in long-term care, was admitted to the home. The resident's name is Susan and the team is instructed that they will be caring for her. The supervisor provides the team detailed information about Susan's personal life before being admitted to the facility. The team learns important biographical details about Susan, for instance, that she was a very accomplished business woman who ran her own business for 45 years. She was professionally active even after she retired. The supervisor also explains that in the last few years Susan's dementia had limited her ability to be

independent and that she struggled with her limitations. In this story, learners meet Susan and find out what is important to her in her life. They are also prompted to think about how they might use this information as they provide care for Susan.

Quality of Life

To help learners understand the influence of psychosocial factors like quality of life that are relevant to long-term care, learners are exposed further to Susan's story in the form of an "admission note" to the LTC home. Through this note, learners' find out her social history/personal details that help them to consider issues relevant to Susan's quality of life.

Learners are invited to use the information shared in Susan's admission note to interpret the pros and cons of measures taken by her caregivers to ensure her safety. Her case presents the fact that a few days after Susan's move to the facility a visit by her daughter prompts concerns about her mother's safety. In response, a member of the healthcare team assures her that her mother's safety is the home's number one priority. Consequently, when Susan shows signs of possible risk of falls, the health care practitioner responds with what might be considered as an overtreatment. This story concludes with Susan confined to a wheelchair. Learners are tasked with reflecting on the merits of this decision, whether it is appropriate to meet Susan's needs and main-

tain her safety, or instead is a premature measure that while designed to avoid falls and keep her “safe,” effectively lowers her quality of life.

This scenario illustrates the challenge of assessing what is important to a resident’s quality of life particularly when a resident lives with dementia and has difficulty advocating for themselves. This case also emphasizes the fact that practitioners need to be aware of the fact that residents with dementia continue to experience pleasure and that the ability to experience joy and other positive emotions remains, despite the progression of disease. In this light, the quest to understand quality of life from the perspective of the resident with dementia is presented as central to care provision. With this case, learners are challenged to think about the balance between safety and risk with quality of life.

Ageism, Stigma, and Labeling

Learners are exposed to content to foster learning about the negative effects of ageism, stigma, and labeling on residents. For example, as the story of Susan continues, her dementia progresses until one day she begins to talk incomprehensibly and repetitively, which frustrates the care team. In this scenario, Susan acts as if she is distressed and is looking and asking for something. Care practitioners are shown as unable to understand and communicate effectively with Susan and they quickly dismiss the change in her behavior. However, one caregiver reflects about the incident and decides to talk to a family member to see what she can uncover. This inquisitive caregiver soon discovers that Susan uses this seemingly incomprehensible phrase when she is hungry. Through this story, learners are encouraged to reflect on the need to attend to all attempts by residents to communicate and also to consider the role of family in supporting the care team when new changes in behaviors occur.

Another behavior that Susan shows in one of the scenarios is hitting, kicking, punching,

and frightening other residents. Hitting, kicking, and punching are examples of “responsive behaviors,” now commonly understood in dementia care as attempts by residents to communicate a need. This need might be physical in nature and may denote a risk to caregivers and others, however, it may be a means to communicate pain or discomfort, or might be psychosocial in nature, such as an attempt to communicate fear, boredom or loneliness. However, when caregivers observe the change in Susan, the case reveals that caregiving staff attribute her behavior to “sundowning,” a period in the late afternoon/early evening when people with dementia may exhibit increased confusion/agitation. Once the label is accepted and acknowledged, the caregiving team then leave Susan to be disruptive.

This scenario foregrounds the importance of new understandings of care and an emphasis on patient-centered language experienced in LTC (Behavioral Supports Ontario & Person-Centered Language Initiative, 2018). The learning here is grounded in the belief that discriminatory behaviors are contradictory to genuine interprofessional, relational care practice. The tendency to label was used to generalize the observed behavior. Once labeled, the team members consider Susan’s behavior as “normal” and move on. Having done so, there is less accountability to explore the change further and Susan’s needs are not met. In the process, learners are encouraged to reflect on the values that are important to help the care team better support Susan and others like her.

Baseline Information

Baseline information is also important for caregivers to learn through Susan’s story in order to help them provide her with the most appropriate care. Baseline information is the initial information that care practitioners receive to get to know a resident, for example, personal history, diagnosis, physical status, ability to do activities of daily living, preferences, and social history to name a few. It also

serves as a basis to understand and monitor for changes in behaviors or conditions.

In Susan's case, a specific responsive behavior worsens over a period of a few weeks and that once, during a break, the team starts to debate about the reasons for Susan's new behaviors. The team offers three reasons to explain Susan's new behavior: sundowning (a label), a medical condition, and the result of an expected decline due to dementia. A secondary character stresses the need to use Susan's biographical information and medical history to understand and interpret recent changes in order to compare her current behavior. The charts and documentation reveal her baseline information that included prior medical concerns, medical and social history, her preferences and personal story.

Observing Changes in Practice

In one scenario, learners are supported to observe changes in Susan's status. Susan is heard yelling continuously from behind a closed door. As the story unfolds, it is suggested that caregivers have come to expect to hear Susan yelling when they walk by her room. In other words, this behavior is considered as a new "normal" and caregivers no longer consider it as significant. One day, however, a care practitioner walks by and observes no noise coming from Susan's room. In this scenario, learners are challenged to think critically and reflect on why the change in Susan's behavior might be a concern. The story suggests that caregivers have a choice; either to walk past the room, hear the noise and decide not to follow up or instead, to consider this change in behavior as significant and follow up.

This story highlights the importance of recognizing a change from baseline in a resident's behavior and that the next step is to reflect on possible causes for the behavior. Learners are reminded to engage with material focused on responsive behaviors, which suggests that they might be a result of an unmet need in a person, as an attempt to communicate a cognitive,

physical, emotional, social or environmental need, or a response to circumstances within the social or physical environment that may be frustrating, frightening or confusing to a person (Canadian Institute for Health Information, 2019).

Functional Abilities

Susan's story moves forward 4 months from her admission to a time when she has adjusted to her new living situation better than expected; her health and well-being have benefited from better nutrition and more social interaction. One of the things Susan is presented as still enjoying is a weekly visit to the hair salon, her practice for the last 20 years. However, a week of outbreak and quarantine on the unit where Susan lives mean that she is unable to get to the salon. As days pass and with no access to a salon, a caregiver decides to try to wash Susan's hair on site. Susan is shown vehemently refusing this attempt, shouting and pushing the well-meaning caregiver away. It seems that in order to wash Susan's hair safely, another caregiver needs to be involved. Together, the two accomplish the task, but acknowledge that it is a care situation they would not like to repeat. They recommend that the care team plan future interventions to avoid this type of negative outcome.

This story is meant to show healthcare practitioners how to respond to a resident who has the potential to exhibit responsive behaviors and how they can work toward deescalating a situation. It illustrates the importance of communication, prompting healthcare practitioners to reflect on how they interact with residents. Depending on the level of cognitive impairment, residents may have communication challenges such as, understanding words or sentences, following directions or participating in conversations. Practitioners are exposed to the fact that; verbal language is not the only way people communicate. With dementia, a resident's ability to understand nonverbal communication is often preserved because phonological and nonverbal

emotional communication systems remain intact. Thus, practitioners need to be aware that residents are sensitive to speech patterns, affect, and nonverbal interactions. This means that awareness of the sound and cadence of one's voice, facial expression, and the speed of movement when interacting with a resident may be factors that improve or worsen the resident's feeling of safety. Practitioners come to understand that, relating well to a resident with dementia is paramount when providing care.

Capacity for Decisionmaking

Yet another critical topic shared through Susan's story is the need for practitioners to respect residents' capacity for decisionmaking, despite living with dementia. Her story illustrates that over the last few months, although Susan has lost her ability to walk and she has increasing difficulty communicating verbally, she nonetheless has the ability to participate in decisions that impact her daily life. Her story highlights this important area of dementia care by showing Susan's caregivers involved in the simple task of positioning her wheelchair. Learners see how the practice of helping her to sit by the window after breakfast, a practice that Susan once enjoyed, triggers a negative outcome: One day when her wheelchair is moved by her caregiver without asking her permission, Susan yells out, shouting her displeasure.

Because capacity to consent can change from moment to moment, determining consent and capacity is a skill that required for good dementia care across settings. The case illustrates that dangers of assuming that a person's previous preferences never change and encourages practitioners to check with residents prior to acting. The practice of obtaining consent for seemingly small interventions is in fact vital and helps to prevent frustration, fear, or reduce the likelihood of triggering a responsive behavior. Learners are also invited to reflect on which forms of communication they might use to understand residents' wishes and ways to

obtain nonverbal signs of consent from residents with dementia.

Consent is a vital topic in dementia care. With respect to the issues of capacity and decisionmaking, it is important for practitioners to know that dementia, of whatever type, is progressive. Over time, as a person passes through early, middle or late stages, and they often require more support to make decisions over time (though keep in mind that abilities fluctuate within each person and from situation to situation). This means that a resident that might be unable to independently consent to an operation, but may be entirely capable of deciding what to wear for the day, or what to have for lunch.

Learning that highlights the need for practitioners to pay attention to subtle differences in behavior is vital to providing care because a diagnosis of dementia tends to make practitioners assume incapacity. In fact, it is never appropriate to assume that a person with a diagnosis of dementia has impaired capacity (Barbosa & Sousa, 2014). One of the dangers in dementia care practice is that residents will be put at risk for being cared for in ways that compromise their independence and rights. This means that it is vital for practitioners to understand the need to assume that a person with a diagnosis of dementia has the ability to consent, unless they know otherwise.

Discussion and Future Research

This article described the application of a case-based approach to create learner-centered instruction in complex continuing and long-term care. It suggested the value of narrative to ground the cases, helping practitioners to further their understanding of the life stories of the people they provide care for, an aspect of care increasingly required in practice settings. Moreover, the use of animation adds key visual and auditory information to facilitate learners' connection to the case and the care context.

This type of multimedia approach has the potential to facilitate learning, allowing future

and current practitioners the opportunity to experience situations similar to the ones they will encounter in their professional jobs. However, the authors believe that more research needs to be conducted to determine the effect of the approach for online learning in practice-based health and social care disciplines. This exploration will be needed to identify potential problems, issues, and concerns in the implementation of the approach from both the perspectives of teachers and learners.

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