Who’s Teaching Who?
Reciprocal Teaching and Learning between Pharmacy Students and the Elderly

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Background
- Increased use of teaching techniques that mimic real-life experiences in teaching / training health professionals:
  - Role play
  - Case studies / simulated patients
  - Inquiry-based / problem-based learning
- Goal:
  - Self-directed learning
  - Develops problem solving skills. Encourages students to identify, classify, and apply clinical knowledge to resolve health-related problems

Community-Based Learning
- Experiential learning - real life, not simulated patient or paper case study
- Applied – forces students to integrate knowledge learned
- Teaches soft skills - communication, active listening, professional etiquette
- An underutilized approach to teaching / student learning
- Promotes student engagement
- Enhances students' ability to apply / integrate knowledge learned
- May be interprofessional / interdisciplinary - develop teamwork skills
Research Study #1 – Pilot study

- September 2015 – new teaching/learning strategy in PHM5302 Special Patient Populations (a didactic lecture-based course)
- University Grants Program: Quick Start Public Engagement Grant
- Objective: Assess the potential value in having final year pharmacy students interact with, teach, and learn from seniors and new immigrants
  - At the Seniors Resource Centre (SRC / Seniors NL) and the Association for New Canadians (ANC)
  - Presentation followed by open sharing / group activity (informal, food involved)
  - At the SRC, students taught then learned from the seniors; and seniors learned from the students then taught them
- Positive feedback from all involved (seniors, immigrants, students, group facilitators)

Research Study #2 – Current Study

- Involvement of community-dwelling seniors (Seniors NL, nursing homes)
- University Grants Program: Teaching and Learning Framework Fund
  - Significantly larger grant applied for and awarded
- Objectives:
  - Expand on the pilot study with respect to seniors in the community
  - Independent seniors plus seniors with varying levels of dependency (nursing homes)
  - Ensure sustainability for this activity within the pharmacy curriculum for future years
  - Course redesign finalized
  - Equipment purchases for this course activity (to ensure self-sufficiency)

Current Study – why needed?
“Patients as partners”

- Seniors should actively participate in their own health care decisions
- Nursing home pharmacist comments:
  - A common theme we hear in conversation with our nursing home patients is a loss of independence. They are unaccustomed to being relying on trained healthcare staff for everyday tasks (grooming, medication administration...). This can create stress and a reduced quality of life.
  - This project works to combat this issue. In addition to providing seniors with education and evidence-based medical care, this process allows all involved to learn from our seniors, who are ultimately the experts in their own health.
  - It will help our patients maintain/regain that sense of independence, autonomy and purpose that they may feel had been lost.

Healthy Aging & Seniors-Centred Care

- Community support
  - “Aging in Place”
- Patient-centred care i.e. Seniors-Centred Care
  - Seniors should be partners in their own care
  - Seniors are often very knowledgeable about what works for them healthwise
  - Health professionals should listen to and learn from seniors
  - Empowering for seniors
Educational Frameworks

Project Alignments with Educational Frameworks

- MUN Teaching and Learning Framework (TLF)
  - Promotes MUN’s Core Values in teaching & learning
  - Follows the guiding principles for the teaching & learning community at MUN
- Community of Inquiry Framework
- Koeb’s Experiential Learning Cycle
- Cultural Competency Framework
- Informed Shared Decision-Making Framework

Project Alignment with Memorial Univ. Teaching and Learning Framework (TLF)

- This project fits within Memorial University’s Teaching and Learning Framework (2011), beginning with the Foundational Statement (p.7) that “teaching and learning....connects learners and educators to each other (in this case, students-seniors-professor), our community and our world (in this case, community-dwelling seniors from various cultural backgrounds), in the service of knowledge generation and exchange (in this case, primarily between pharmacy students and seniors).”
- This project creates opportunities for engagement between students and the community at large (TLF Strategic Plan 2014-2017)

Promotion of Memorial’s Core Values

- The project promotes Memorial’s Core Values (TLF p.8) and helps to develop them in our students:
  - collegiality in engaging seniors with respect,
  - inclusiveness in engaging seniors of diverse cultures,
  - responsiveness in being receptive to the needs of individual seniors and the nursing home population,
  - integrity in being honest and ethical in all interactions with seniors,
  - respect in having regard for seniors' knowledge and experience,
  - accountability in accepting responsibility (for their role as pharmacists-in-training. NAPRA Professional competencies 2014)
Principles of the Teaching and Learning Community at Memorial University

- builds relationships and establishes connections between students/educators and seniors (i.e., members of the broader community)
- engages people by requiring purposeful and meaningful participation by students and seniors
- creates synergies by integrating learning from the classroom setting (students), informal learning experiences (seniors), and practical applications (specific health-related topics)
- connecting between teaching/learning and the wider community engagement to promote and encourage knowledge co-creation
- focuses on the learner

Memorial's core values are generic graduate attributes
- Engagement and participation are key principles in developing these core values and are key activities in this project
- “…learnt through the way students engage with the course’s learning experiences... something that is learnt, not something that is taught, with the learner rather than the teacher being in the foreground”. (Bame SC 2007)

Community of Inquiry Framework

Learning in this project occurs outside the classroom, and as such follows the three elements of the community of inquiry framework (originally developed for online education)
- a cognitive presence (researching, thinking, integrating, reflecting),
- a social presence (identifying with the community, communicating purposefully in a trusting environment, and developing interpersonal relationships),
- and a teaching presence which is seen as “a significant determinant of student satisfaction, perceived learning, and sense of community.”

(Garrison DR 2010, Shea P 2010)
Community of Inquiry Framework

- Cognitive presence (researching, thinking, integrating, reflecting)
- Social presence (identifying with the community, communicating purposefully in a trusting environment, and developing interpersonal relationships)
- Teaching presence (seen as "a significant determinant of student satisfaction, perceived learning, and sense of community.")

(Garrison DR 2010, Shea P 2010)

Cultural Competency Framework

- Dialoguing with multicultural seniors at the SRC may help develop students’ cultural competence.
- This cultural competency framework includes:
  - Knowledge of differential effects of treatment in various ethnic groups
  - Awareness of how culture shapes individual behaviour and thinking, and the social context in which specific ethnic groups live
  - Awareness of one’s own prejudices
  - Abilities to transfer information in an understandable way and to adapt to new situations flexibly and creatively

(Seelkman C 2009)

Informed Shared Decision-Making

- “Patients should be involved in making decisions about their health care.”
  (Towle 1999)
- This project encourages and empowers seniors to be participants in making decisions about their own health care, and teaches students about informed shared decision making
- The framework for teaching and learning informed shared decision making includes competencies for the health professional and for the patient
  (Towle A 1999)

Methodology
Methodology

- This project uses applied learning contexts to develop practice and communication skills, self-confidence and professionalism.
- Achieved by having students provide presentations to seniors and interact informally with seniors - as living case studies with insight into lived experiences of wellness and illness.
- Students (4-5/group) present special interest health-related topics to community dwelling seniors, then facilitate round table discussions on the topic/issue, and follow up regarding outstanding client questions (if needed).
- Not just focusing on substantive content, these sessions also focus on practice-related skills:
  - Active listening, critical assessment of patient responses, and the student's ability to elicit information from the client/senior.

Evaluations: Mixed-Methods Research

Student Assessment

- Formative
  - Prepared PowerPoint presentations and handouts - prior to session with seniors - feedback given & needed changes made
- Summative
  - Reflective journal entries (graded)

Qualitative

- Reflective Journal Entries
  - Entries purposely allowed to be free-flowing & open-ended
  - Reflective not descriptive - focus on "what did I learn from this experience?" not "what was this experience?"
- Foster lifelong learning & scientific inquiry in students

Quantitative

- Validated Questionnaires
  - Reflected Aging Semantic Differential (R-ASD) - assesses change in student perception of seniors.
  - Attitudes Towards Pharmacists - assesses change in seniors' perception of pharmacists.
- Tailor-made Questionnaires
  - Public Engagement Feedback forms. Adapted & specific. (students, seniors)

Pre- vs Post Experience
This project engages students in Kolb’s Experiential Learning Cycle (McLeod 2013):

- by providing a concrete experience (new encounter between students and seniors)
- and requesting a reflective observation (required on-line reflective portfolio after the new encounter),
- it is hoped that students will modify their concept of seniors and how best to interact with them (abstract conceptualization),
- and apply this new understanding to future interactions with seniors (active experimentation).

Course Alignments and Learning Outcomes

- Learning outcomes for these community-based sessions align with the Association of Faculties of Pharmacy in Canada (AFPC) educational outcomes (http://www.afpc.info/node/39)
- In addition to being based on those outcomes identified in the Integrative and Applied Learning Value Rubric created by the Association of American Colleges & Universities (AAC&U) (Rhodes & Finley, 2013). https://www.aacu.org/value/rubrics/integrative-learning
Qualitative Findings

Student Journal Entries: Five Core Themes

These core thematic categories include:
- the value of social interaction and sharing patient narratives
- the diversity and interconnectedness of patient-specific issues
- the opportunities for learning from patients
- the challenging nature of real-life practice settings
- The value of community-based learning opportunities

The value of social interaction and sharing patient narratives

- Many students commented on the overlap between their formal conversations/presentations and the informal interactions with seniors:
  - informal discussions with seniors prior to presentation
  - conversations that students had during the social mingling that occurred after their formal presentations
  - the questions and answer sessions that followed
  - Seniors provided rich narratives (and taught students - discussed later)
- Students also reported:
  - gaining an appreciation for understanding some of the challenges faced by seniors
  - gaining an enhanced sense of awareness of themselves as soon-to-be licensed health professionals

Some Verbatim Comments (AB)

"...probably one of the most gratifying experiences that I have had over my four years of pharmacy school...very valuable experience...some [questions] were completely unrelated to our presentation topic...forced us to think on the spot...a great chance to apply what we had previously learned about various conditions or medications..."
More Verbatim Comments (AB)

“...lady... feels as though she does not have a pharmacist anymore... has moved into the home... This really stuck with me... taught me that it is very important for me as a pharmacist to try and maintain that relationship with my patients even if they go into a home and are no longer coming to the pharmacy every month for their refills.

...This lady had several questions about her diabetes, which made me realize how valuable a follow-up call could be to a resident in a home like this... In the future, if I work at a pharmacy that provides medications to a home, I will be sure to call the residents periodically to check on them and see whether they have any questions or concerns about their health.”

The Value of the Informal Socialization Time

CM: “... engaged dialogue ... very social atmosphere. Not only was it an opportunity to educate but also an opportunity for us to learn about them. I hope to create more opportunities like this one when I have graduated.”

The diversity and interconnectedness of patient-specific issues

- Professional practice will require pharmacists/students to draw on what they know in order to identify problems before they can be solved
- Unlike in a formal classroom setting, problems are often not clearly identified or named
- Health professional schools (e.g., MUN School of Pharmacy) have taken steps to address this by providing simulated patient care scenarios in skills lab settings for students to learn how to identify and resolve health-related problems
- But real life scenarios such as the community engagement activities in this project are clearly more realistic and unpredictable, providing for a better learning venue

Some Verbatim Comments (RS) - Recognizing Diversity

- “...At times, it seems like people in most medical professions group all elderly people together and may talk to them in a way that appears condescending.
- ...I think it is very important to recognize the needs of every individual person who you are dealing with as a pharmacist. Though some elderly people may have hearing problems their minds are still very sharp. While others can hear clearly but may be experiencing trouble with their memory.
- ...The opportunity to do this presentation really reemphasized this to me as all of the residents were so different from each other and would all have required different styles of care.”

We teach students to be patient-specific in thinking and problem solving, making recommendations and developing care plans. This project created an active learning opportunity.
The opportunities for learning from patients

- Students reported recognizing that, while they had previously thought of professional practice as being a one-directional teaching activity (i.e., professional to patient), the experience had triggered the realization that practice settings involve a great deal of interaction and dialogue with people, and is a learning activity for them as well (i.e., patient as teacher).

Some verbatim comments:

Student 1: “I noticed how interested the seniors were… one woman wrote down the recommendation for ginger Gravol instead of taking regular Gravol… It really goes to show that by making little recommendations such as this, pharmacists can make a big difference in improving patient safety.”

Student 2: “We learned a lot from putting together the presentation… we learned a lot from the seniors as well!… One gentleman had injuries from a fall and it was great to hear about his first-hand experience and the tips that worked for him, and we could incorporate these tips into our practice.”

More verbatim comments:

Student 3: “I especially enjoyed the round table discussion… learning them give us their input on their own experiences with memory loss and medication compliance… one lady tells us about how she carries a list of medications in her wallet, in my opinion was a great idea, and in my own practice I will encourage my elderly patients to do the same. Surprisingly, I went to this activity assuming that I would be doing the teaching, yet I learned something too!”

The challenging nature of real-life practice settings

- Students reported feeling exhilarated by their involvement in community settings.
- Students were empowered by their recognition of what they had learned.
- Students were impressed by the energy and enthusiasm of the seniors as well as the quality of the questions that they asked during their presentations.
- Many commented that the experience was a valuable reminder that they would be working in real-life settings in which they would enjoy both considerable autonomy and responsibility in just a “few short months” (Student SC).
- Sometimes the lessons learnt were more about the importance of patient interaction—a skill many students reported as being more important than they had previously realized.
Gaining Awareness About Seniors

“I was not aware of how knowledgeable seniors are about their health and how eager they are to learn new things. This was a great eye opener to my future practice…I was surprised by the amount of questions they asked and how interested they were in the topics that were presented (hypertension and constipation).”

Learning Soft Skills – Communication

“…beneficial giving a presentation in patient friendly language…something we don’t usually get to do,”

“This activity allowed us as students to find an easy way to communicate our knowledge without using medical jargon and complicated sentences. This can sometimes be a challenge as we learn a lot of medical terminology in pharmacy school and it is hard…to alter this to make it easier for patient interpretation. With some practice we were able to adjust our constipation presentation to target the senior audience.”

The Value of Community-based Learning Opportunities

“Spending time with the residents and hearing them speak of the respect they hold for pharmacists was both fulfilling and gratifying…”

“It’s that extra step from learning in a classroom to applying it to real life patients that helps to solidify the material for me…”

A Final Verbatim Comment

“When I walked out of the SRC today I had the biggest smile on my face because I was confident that I had chosen a fulfilling career. Knowing that I may have had a positive impact on (at) least one of those individuals makes all the exams, assignments, and stress of the last four years definitely worth it.”
Student Reflections Summary

Of the Overall Experience
- Motivating
- Meaningful
- Gratifying
- Remarkable
- Memorable
- Rewarding
- Fulfilling

Of the Seniors
- Interesting
- Appreciative
- Supportive
- Respectful
- Humble
- Happy
- Healthy
- Active
- Engaged

Focus Groups - Seniors

What qualities seniors think are important in a pharmacist?
- "Good listener"
- "Knowledgeable"
- "Well-mannered"
- "Friendly"
- "Caring"
- "Takes time"
- "Calls you by name"

Focus Groups - Seniors

Session provided an opportunity for shared knowledge
- "I learned that pharmacists have a much wider role than we tend to think...there is much more involved in terms of advice."
- "I thought it was fantastic...they knew way more than I ever thought they knew. They knew so much about medications...to me they were like doctors."
- "Not everybody has elderly grandparents or elderly relatives that they have contact with so I think it is a very important opportunity to interact with older people and see things from their perspective."

Quantitative Findings
Public Engagement Surveys

- Administered at 5 separate sites on 12 separate occasions (total of approx. 80 participants)
- Surveys indicated that the sessions helped to:
  - provide seniors with valuable health information (97% strongly agree + agree)
  - provide seniors with a renewed sense of confidence in their ability to interact with health professionals (91%)
  - gave seniors an opportunity to share their knowledge with future pharmacists (89%)
  - helped seniors to further understand the roles of a pharmacists (96%)

Seniors' responses - Attitudes Towards Pharmacists

- Approx. 75 participants for this survey
- Roles of a Pharmacist:

<table>
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<th>Prescription Filler</th>
<th>More than prescription filler</th>
<th>Both equally</th>
<th>Less than health care provider</th>
<th>Health Care Provider</th>
<th>No response</th>
</tr>
</thead>
<tbody>
<tr>
<td>6% (n = 4)</td>
<td>7% (n = 5)</td>
<td>45% (n = 33)</td>
<td>3% (n = 2)</td>
<td>22% (n = 17)</td>
<td>15% (n = 11)</td>
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</table>

Other Seniors' Attitudes/Opinions Toward Pharmacists

- Pharmacists have the education and professional training to do more for patients than just filling prescriptions (94% strongly agree + agree)
- Pharmacists working with other members of a health care team to provide care to patients with chronic diseases would result in better health outcomes (96%)
- If pharmacists were included as members of health care teams, patients' overall quality of life would improve (94%)
- “I consider a pharmacist part of my overall health care team” (98%)
- If pharmacists worked more closely with doctors it would reduce overall health care costs (90%)
- If pharmacists were able to prescribe medications for minor ailments, it would alleviate overcrowding in ERs and walk-in clinics (90%)
Students’ Change in Attitudes Toward Seniors

- Initially, my impression of seniors is they are frail, weak and shy individuals... Today, I met a crowd of energetic seniors who actively listen and ask questions during our presentation which changed my perspective on the aging population...

Students’ Change in Attitudes Toward Seniors

- It helped me realize that not all old folks are grumpy and hard to deal with. It was actually quite the opposite. Most of the seniors that I spoke to were very sociable and friendly.

Insights Summary

- Community-based learning experiences were a valuable addition to didactic teaching
- Pharmacy students became more aware of concrete issues faced by seniors and how different issues relating to special patient populations overlapped
- Pharmacy students recognized that seniors were active and intelligent, and often very much aware and engaged in their own health care
- Some students initially felt nervous, but many reported feeling excited about the possibilities opened up by applying their academic knowledge; as well as feeling more confident about their ability to navigate real-world settings

More Insights

- Students often commented on how their initial expectations about the task at hand changed through their encounter
- Students have gained a new appreciation for the importance of "soft skills" in interacting with patients
- Students are more aware of the need to carefully parse out and identify different, often overlapping, patient-care issues
Summary

These interim findings suggest that the course and associated project offers a productive approach to teaching upper-year students about special patient populations in a setting that promotes critical thinking and professionalism.

In addition, the seniors themselves reported positive outcomes related to their understanding of pharmacists and their capacity to engage in meaningful and collaborative forms of decision making with their pharmacists.

Project Summary

This research project is a teaching innovation integrating experiential learning with community health outreach into a didactic patient care course for undergraduate final year pharmacy students.

Students teach seniors then learn from their “learners”, and seniors learn from students then are empowered to teach their “teachers”.

This project uses applied learning contexts to develop practice / communication skills, self-confidence and professionalism in students.

It fosters students’ respect for the wisdom of seniors, and knowledge of seniors’ health-related issues.

In the words of one student:

“Doing public engagement activities like this one is the reason I wanted to become a pharmacist in the first place. You don’t only get to help people and become a major advocate for their well being just from behind the dispensary counter.”

References

- A Comprehensive Framework for Teaching and Learning at Memorial University, May 10, 2011.
Questions?
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