The gap between geriatric speech-language pathology curricula and clinical practice: A Canadian perspective

L'écart entre le contenu en gériatrie des programmes d'orthophonie et la pratique clinique : une perspective canadienne

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Abstract

Speech-language pathologists (S-LPs) in Canada are faced with increasing demands for their expertise in age-related communication disorders. There are no published Canadian data describing the academic and clinical education of S-LPs and the current clinical practice patterns of geriatric-oriented S-LPs. National surveys were conducted to document the academic and clinical education needs and clinical practices of S-LPs including (a) Canadian graduate programmes in speech-language pathology (S-LP), and (b) clinicians' practices involving older adults. Findings revealed that Canadian universities vary in the scope and type of instruction provided in topic areas such as normal aging and communication disorders of aging. Clinicians are critical of their education and training, and report dissatisfaction with their current knowledge of topics related to geriatric speech-language pathology (S-LP). A dialogue between academics and clinicians is recommended to enhance graduate curricula to meet immediate and emerging needs in geriatric S-LP.

Abrégé

Les orthophonistes au Canada doivent répondre à une demande croissante dans le secteur des troubles de la communication liés au vieillissement. Il n'existe aucunes données canadiennes publiées sur la formation universitaire et clinique des orthophonistes et sur les tendances actuelles de l'exercice clinique en gériatrie. Des enquêtes nationales ont été menées pour évaluer les besoins de formation universitaire et clinique ainsi que les pratiques cliniques des orthophonistes, y compris ceux : (a) des programmes d'études supérieures canadiens en orthophonie; (b) des cliniciens œuvrant auprès d'adultes âgés. Les résultats montrent que l'étendue et le genre de formation offerte par les universités canadiennes varient dans le domaine du vieillissement et des troubles de la communication liés au vieillissement. Les cliniciens se font critiques envers leur éducation et leur formation, et jugent que leurs onnaissances en gériatrie sont insuffisantes. Il faut un dialogue entre les universitaires et les cliniciens pour améliorer les programmes d'études supérieures afin de répondre aux besoins immédiats et futurs de la clientèle desservie par les orthophonistes.

Key Words: curriculum, geriatric, education, clinical, speech-language pathology, Canada

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An ever-growing segment of the Canadian population is getting older and living longer. It is projected that by the year 2031, adults 65 years of age or older will make up close to 24% of Canada's population (Public Health Agency of Canada, 2004). Similar patterns are evident in the United States (US Census Bureau, 2000). These figures, coupled with the increasing prevalence of dementia and other age-related progressive degenerative neurogenic communication disorders, demonstrate the need to learn more about the education and clinical practice patterns of speech-language pathologists who assess and treat older adults. Although preliminary recommendations have been developed for other allied health professions on geriatric education and clinical practice issues (e.g., Clark, 1999; Ontario University Coalition for Education in Health Care of the Elderly, 1993; Mankin LaMascus, Bernard, Barry, Salerno, & Weiss, 2005; Murakami, Lund, Wright, & Stephenson, 2002), there are no data documenting the educational needs of Canadian clinicians in geriatric speech-language pathology (S-LP), nor are there data describing the current clinical practice patterns of speech-language pathologists (S-LPs) who provide services for older clients.

This study, part of a broader exploration of clinical education and training in communication disorders and professional practice with older adults, is modeled after its companion study of Canadian audiology curricula and clinical practice (Orange, McNeill, & Stouffer, 1997). The objectives of this study were to determine the extent to which Canadian university programmes in S-LP furnish their students with the fundamental knowledge of aging processes, and to assess the adequacy of education and training as perceived by speech-language pathologists practicing in Canada.

Studies in the United States

Nerbonne, Schow and Hutchinson (1980) first identified the scarcity of college and university courses devoted exclusively to gerontology issues in S-LP. They found that only 21% of responding school administrators (n = 39 out of 190) offered a course dedicated to gerontology aspects of communication disorders, with a further 16% planning one in the future. Given demographic trends that showed a growth in the proportion of older adults in the North American population, these researchers predicted a "near doubling of course offerings in the foreseeable future" (p. 408). This projection was not borne out, as Raiford and Shadden's (1985) follow-up study proved. They found that 26% of responding administrators provided gerontology-based course work (an increase of only 5% from the earlier study), and 26% provided clinical field experiences with older adult clients. The limited scope of academic and clinical training experiences devoted to normal aging and to the communicative disorders of older adults was attributed to certification requirements, cutbacks in faculty and funding, lack of faculty background in gerontology, and disagreements over the need for academic and clinical training in normal aging and communication.

Clark, Ripich and Weinstein (1995) examined curriculum content, educational philosophies, teaching approaches, and intervening factors in the manner in which geriatric-related content is incorporated into communication sciences and disorders programmes. They found that an infusion approach was favored, wherein geriatric content is blended into existing courses. Reasons cited for the relatively weak presence of geriatric S-LP content in course work included a curriculum crowded with national certification requirements, budgetary restraints, and the failure of the American Speech-Language and Hearing Association (ASHA) to mandate geriatric education into the curriculum.

Webb, Wulkan, Krikos and LaPointe (1985) questioned ASHA convention delegates who volunteered to take part in their study that looked at knowledge of aging processes, as well as clinicians' practice patterns. Results showed that 68% of respondents had no training in geriatric S-LP, and only 23% had clinical practicum experience with older adults. The researchers concluded that, although clinical training with older adults is not associated with increased knowledge about normal aging, such experiences could help clinicians obtain employment in geriatric settings. There is mounting evidence supporting the crucial use of geriatric-related academic and clinical education and training experiences to advance the knowledge and expertise of other health care professionals (Clark, 1999; Holland, Roberts, Van Stewart, & Wright, 1994; Owens, Padula, & Hume, 2002).

The question remains whether there is or will be a demand for geriatric-oriented S-LPs, and whether this demand will be recognized. Results from a study by Mueller and Peters (1981) showed that a significant proportion of nursing home administrators in Wisconsin underestimated the need for these services. The authors concluded that not only should administrators recognize this need, but also that university programmes should place increased emphasis on providing academic and clinical training in geriatric S-LP.

Canadian Standards of Practice

To date, no published studies have examined the nature of the academic and clinical curricula in geriatric S-LP among Canada's graduate programs of S-LP. Moreover, minimal data are available concerning the clinical practice profiles of geriatric-oriented S-LPs working currently in Canada. A recent survey of the Canadian Association of Speech-Language Pathologists and Audiologist members (CASLPA, 1990) found that 42% of speech-language pathologists work with the adult population, with no specific age breakdowns of young versus older adults. Current requirements for new graduates in Canada, as established by CASLPA, do not specify any required geriatric education and clinical practicum. In their guidelines for assessing and certifying clinical competency (CASLPA, 1992), there is mention that the speech-language pathologist "demonstrate basic knowledge of human development throughout the lifespan with a special emphasis on: (1) child and adolescent development, and (2) the aging process" (p. 26). No specific guidelines, however, are put forth on how university curricula should meet students' needs for age-related information.

Two research questions were addressed in the present study: (1) What is the nature of Canadian university curricula dedicated to geriatric S-LP? and (2) What are Canadian geriatric-oriented S-LPs' perspectives regarding current issues of clinical practice and continuing education needs relative to geriatric communication disorders?

Method

University Survey

The department/programme chairpersons of the eight[1] Canadian university speech-language pathology programmes were invited to participate in the survey in 1997 based on the 1996-1997 academic year. Each was

mailed a survey package consisting of a cover letter, questionnaire, and postage-paid return envelope (available from the authors on request). Follow-up was conducted by telephone and e-mail.

Survey of S-LPs

S-LPs in Canada in 1997 who worked with clients aged 65 years and over formed the respondent pool. The CASLPA membership list of S-LPs was used as the primary source of respondents including those who identified geriatric-related interest areas (e.g., aphasia, dementia, cognitive-communication, etc.) These selection criteria yielded the first respondent pool (n = 530). Additional respondents (n = 281) were selected based on place of employment (e.g., general or chronic care hospitals) where no interest area was identified. At the time of the survey, membership in CASLPA was proportionately lower in Quebec and Ontario. Consequently, the membership databases of the two provincial associations were used to identify S-LPs who worked with geriatric clientele (n = 274 for Ontario and n = 288 for Quebec). A French version of the questionnaire was developed and distributed to all S-LPs in Quebec (available from the authors on request). A final sample frame included 1464 potential respondents. Survey packages were mailed via postal delivery with reminder card follow-up procedures in keeping with methods advocated by Streiner and Norman (1989) and Dillman (1978). As with the university survey, all questionnaires were coded numerically to ensure confidentiality. Group data only are reported.

Results

University Questionnaire

Six of the eight university chairpersons responded to the survey, for a response rate of 75%. Two follow-up mailings and two phone calls were made to each of the chairpersons of the two programmes who did not respond to the initial mailings. Based on the available data, it is not possible to draw conclusive statements about the state of geriatric S-LP education in all Canadian programmes. However, representation from each region allows for preliminary discussions on the availability of geriatric S-LP in Canadian university S-LP programmes.

Program philosophy and importance of providing gerontology content

Four of the six responding university chairpersons indicated that geriatric S-LP content should be incorporated into existing graduate courses. One chairperson stated that it should be offered as an elective seminar, whereas the others thought a separate course on geriatric S-LP, either required or elective, should be taught. None indicated geriatric S-LP content should be incorporated into existing courses on aphasia or motor speech disorders.

All responding universities believed that it was either *Fairly important* or *Very important* for their department/programme to offer coursework in both geriatric S-LP and normal aging and communication. Clinical practica in geriatric S-LP was rated as *Very important* by one chairperson, *Fairly important* by four respondents, and *Of some importance* by one chairperson. The importance of clinical practica related to normal aging and communication was rated low overall. Only one university chairperson gave such experience a *Very important* rating, two gave it a *Fairly important* rating, two a midpoint rating, whereas one chairperson reported that such experience was fairly unimportant.

Teaching approaches and curriculum content

Three university chairpersons indicated that their programmes offered single courses containing geriatric content. One programme offered a pyramid approach (where a series of courses pertaining to aspects of aging progressively expands the students' knowledge base), while two programmes offered a unit approach (whereby several courses include one or more units on aging effects). One university programme incorporated both unit and infusion approaches. The infusion approach is one in which gerontology content is incorporated into each unit within a specific course. For example, the effects of aging on approaches used in assessments would be covered in the assessment section of a course. Table 1 highlights the format of graduate-level single courses and seminars in geriatric S-LP in Canadian programmes. Note that the geriatric content in courses such as aphasia and motor speech are not included herein.

Curriculum content in geriatric S-LP was explored by means of a checklist, wherein chairpersons of programmes were asked to indicate whether or not various sub-topics pertaining to normal and disordered aging were included in their curriculum. Results showed that, under "Normal aging", all universities offered coursework in biology, cognition, language and linguistics, and hearing. Five respondents indicated that they offered neuroanatomy, physiology, and psychology, whereas attitudes toward aging was covered in four, sociology and models of aging were covered in three, and philosophy of aging was offered by only two of the responding programmes.

All six university chairpersons reported that geriatric content was infused into disorder-specific courses such as aphasia, dementia, motor speech disorders and hearing disorders. Five respondents indicated that aging in voice and acquired/traumatic head injury was covered. Four reported that aging issues in dysphagia was taught, whereas right brain injury and aging with pre-existing illnesses/disabilities were taught in three and two programmes, respectively.

Table 1

Profile of geriatric speech-language pathology courses offered by responding universities

Total number of courses offered		5
Course titles	1. Neurocognitive disorders 2. Research methods for aging research 3. Principles of aging 4. Geriatric communication disorders 5. Communication disorders in the geriatric population	
Offered by S-LP department/programme?	Yes	3
	No	2
Level of instruction	Master's	4
	Doctoral	3
Length of course	One term/semester	5
Course status	Required	1
	Elective	4
How frequently offered	Annually	4
	Irregularly	1
Number of scheduled lecture/seminar/lab and/or clinic hours per week	2 hours lecture/seminar	1
	3 hours lecture/seminar	4
	1 hour lab	1
Years course has been taught	1 year	2
	4-5 years	2
	10 years	1
Format of course	Lecture	2
	Seminar	4
Method of evaluation	Tests/exams	1
	Essays	4
	Presentations	2
	Discussions	2

Note: Multiple responses are possible for several items

Aging issues as they influence history taking, standardized assessments and non-standardized assessments were each included in the curricula of all responding programmes. Course work in hearing screening was reported by five of the six programmes.

All six university chairpersons noted that their programmes included geriatric S-LP content relative to intervention/therapy for older adults and their families. Five respondents indicated that counselling and family caregiver education and training were offered, whereas four indicated group therapy, professional in-service and family counseling were provided. Three programmes indicated alternative and augmentative communication content specific to geriatric clients was offered.

Finally, under the heading professional issues, all university chairpersons indicated that their programmes offered course work in inter-, multi- and trans-disciplinary teamwork. Five indicated that the "Role of the S-LP in public education on aging and speech, language, voice, dysphagia and cognitive-communication" was offered, while three stated that the topic "Models of care/service delivery for older adults" was included in the curriculum.

Clinical practicum experiences

Information provided by the clinical coordinator respondents was inexact, largely due to the fact that CASLPA does not require that students obtain a minimum number of clinical hours specifically with older adults. Nevertheless, all six university respondents indicated that students had the opportunity to observe and have direct clinical contact with older adult clients. One-half of the coordinators indicated that this experience was provided in conjunction with specific course work. Five of the six respondents estimated the number of clinical hours obtained by students with clients aged 65 years and older ranged from 25 to 300 hours (the latter figure provided by the university that offers an undergraduate programme), with between 20 and 150 hours spent both in assessment and treatment/counselling. All respondents indicated that clinical hours were obtained at hospitals and rehabilitation facilities. Four respondents indicated clinical experiences were obtained at public health units. Three respondents indicated students obtained geriatric S-LP clinical experiences in chronic care/nursing homes whereas two respondents indicated that students obtained their geriatric S-LP experiences at private clinics.

Perspectives of education in geriatric S-LP

The opinions of university officials were solicited regarding the ability of their programme to offer students course work and clinical practica experience with older adults. Table 2 presents the responses to a series of opinion statements rated on a Likert-type scale (*strongly disagree, disagree, neither agree nor disagree, agree, strongly agree*). Overall, with the exception of one university, officials were satisfied with the extent to which they were able to provide academic and practical experience in geriatric S-LP.

Barriers to integrating geriatric speech-language pathology topics into the curriculum also were explored. Besides one university respondent, whose programme offers a required course in geriatric communication disorders, five respondents cited one or more barriers, including crowded curriculum and professional association/governing body requirements (mentioned four times), faculty member(s) lack agreement on curriculum (mentioned twice), budget constraints and faculty member(s) lack of time (mentioned once each).

Survey of S-LPs

A total of 710 completed questionnaires out of 1465 were received. The objective of the study was to gather data only on S-LPs currently practicing with geriatric clients. However, 113 of those who participated in the survey reported that they only worked with older adults in the past while 102 S-LP respondents stated they never practiced with older adults. Data from these two groups of clinicians were used in some analyses. However, the approximately 70% of respondents (n = 495/710) who identified themselves as having at least a portion of their caseload devoted to older adults (i.e., geriatric S-LPs) were the primary focus of inquiry. Not all of the respondents answered every question in the questionnaire.

Demographic information

Table 3 outlines the demographic characteristics of the 495 geriatric S-LPs. The majority of respondents came from Ontario and Quebec (62%), with about two-thirds living in large urban areas. Respondents were predominantly female (92%). Almost one half of respondents (46%) were aged 30-39, while 39% were aged 40 years and over.

Table 2

Chairpersons' opinions regarding the current and future state of geriatric S-LP curriculum in their programmes

Statement: "In our view, the department/ programme: ..."	Level of agreement [a]					
	1	2	3	4	5	DK
Provides sufficient course work in geriatric speech-language pathology	0	1	0	5	0	0
Provides sufficient clinical practicum experiences in geriatric S-LP	0	1	0	5	0	0
Balances curriculum content to cover all clientele, with no special emphasis on one age group over others	0	1	1	2	2	0
Provides state-of-the-art education to enable students to meet the communication and associated needs of older adults in the coming decades	0	0	2	3	1	0
Maintains sufficient resources (e.g., faculty, clinical staff, and materials) to meet the existing demand for job-ready graduates in geriatric S-LP	0	0	2	4	0	0
Plans to place more emphasis on course work dealing with the assessment and treatment of older adults within the next ten years	1	0	0	1	2	2
Plans to place more emphasis on clinical practicum experience dealing with the assessment and treatment of older adults within the next ten years	1	0	1	1	1	2

Note: Data presented are the number of respondents who provided each rating.
[a] Level of agreement rated on the following five-point scale:

1 = Strongly disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly agree
DK = Don't know/No response

Table 3

Demographic characteristics of the S-LP respondents

Parameter		All respondents (n = 710)	Geriatric oriented S-LPs (n = 495)
Geographic location	West	29%	28.5%
	Central	62	62
	East	9	9.5
Community size	< 99,999	39	39
	100,000 +	61	61
Employment setting	Hospital	41	54
	Private practice	8	7
	Public health	22	18
	Rehab. centres	13	14
	Schools	8	0
	Other	8	7
Country of education*	Canada	65	63
	United States	27	30
	Other	8	7
Age	20-29 years	19	15
	30-39 years	44	46
	40-49 years	28	28
	50+ years	9	11
Sex	Women	92.5	92
	Men	7.5	8

Clinical practice patterns

The respondents typically worked within a hospital setting (54%), followed by public health units and home care (18%), rehabilitation facilities (13%), private practice and other settings (7% each). Respondents varied widely in the proportion of their caseload devoted to older adults. Table 4 shows that one half of clinicians who worked currently with older adults also worked with children. The majority of the respondents reported devoting less than one half of their time to the care of older adults, with a small proportion (11.6%) spending over one half of their time with these clients.

Table 4

Percentage of geriatric-oriented S-LPs who work with each client age group (n = 475)

	Percentage of caseload		
Client age groups (in years)	None	< 50%	> 50%
Children (< 18)	50.5%	18.3%	31.2%
Adults (18-64)	12.8	65.5	21.7
Young-old (65-74)	6.5	81.9	11.6
Old (76-84)	14.5	77.1	8.4
Old-old (85+)	34.5	64.4	1.1

Respondents reported an average of over 10 years of clinical experience, averaging 79% of their careers devoted to the care of older adults. Results of a one-way ANOVA showed that respondents with over 10 years of clinical experience with geriatric clients were more likely to define themselves as specialists versus those with 5 to 10 years and those with fewer than 5 years' experience with geriatric clients, $F\ (2,481) = 15.34$, $p < .01$, $\eta^2 = .06$.

In terms of the preferred age range of clients, 53% of respondents expressed a preference for any age group. Of these, 24% indicated a preference for older adults versus younger adults and children while 16% preferred to work with either younger or older adults.

Education

The majority (62.6%) of respondents graduated from Canadian universities, whereas 29.6% graduated from schools in the United States and 7.9% received their degrees from institutions in other countries. One quarter of respondents who graduated from Canadian universities received their degree from universities in Ontario, 18% from Quebec, 6.9% from Nova Scotia, 6.7% from Alberta and 5.7% from British Columbia. Table 5 shows that a high proportion of respondents from Quebec, the Atlantic provinces and Ontario worked in the province or region in which they graduated (86.8%, 48.9% and 46.9%, respectively), whereas one half of clinicians who resided in Western Canada completed their final degree at a non-Canadian university. The vast majority held a Master's degree (84.4%), whereas 9.2% held an undergraduate degree. Respondents with a PhD accounted for 1.8%, whereas less than 5% indicated graduating with another degree (typically a Master's equivalent).

Quality of education

Respondents were asked to rate their overall current knowledge of geriatric S-LP on a 5-point Likert-type scale, where 1 indicated *Not at all knowledgeable* and 5 indicated *Extremely knowledgeable*. They were then asked to rate this knowledge at the completion of their highest degree in S-LP. Overall, geriatric-oriented S-LPs rated their current level of knowledge higher than respondents who worked with older adults in the past or not at all (see Table 6). Conversely, the table also reveals that geriatric-oriented S-LPs were more likely to rate

Table 5

Distribution of geriatric-oriented S-LPs by province/region of residence and graduation

Province/region of graduation	Province/region of residence				
	British Columbia (n = 55)	Prairies (n = 82)	Ontario (n = 228)	Quebec (n = 76)	Atlantic (n = 47)
British Columbia	34.5%	3.7%	1.8%	0%	4.3%
Alberta	5.5%	28.0	2.2	0	2.1
Ontario	7.3	7.3	46.9	2.6	10.6
Quebec	0	3.7	6.1	86.8	12.8
Nova Scotia	1.8	4.9	2.6	0	48.9
United States	45.4	51.2	27.2	4.0	21.3
Foreign	5.5	1.2	13.2	6.4	0

their knowledge level upon graduation as significantly lower versus the other respondent groups.

Perceived quality of graduate education (both academic and clinical) was rated at or below the midpoint of a five-point scale ranging from very poor to excellent. Ratings varied significantly between and within groups surveyed. Evaluations of academic quality were significantly higher for respondents who had worked with older adults in the past versus those who had never worked with older adults, and geriatric-oriented S-LPs (see Table 6). This finding suggests that the stronger clinical experience base of geriatric-oriented S-LPs may make them more critical of their academic background. It also may be the case that those who do not work currently with this population rate their education more favourably simply due to the fact that there is no need to apply such information at this point in their profession.

Clinical practicum quality also was rated rather low, with no statistical difference found by country where degree was obtained. Table 7 shows that those who worked currently with older adults believed that the clinical training they received with older adults was of fair or poor quality. It is interesting to note that respondents with fewer than 5 years of clinical experience had a higher opinion of their clinical training versus those with 5 to 10 years of clinical experience and those with greater than 10 years of experience. These findings suggest that respondents with less experience (i.e., those who graduated more recently) rated their academic and clinical experience more highly, hence signaling an improvement in clinical practica in recent years. The high variability of responses and the low overall rating, however, suggest that satisfaction with academic education and especially clinical practica is not optimal. These findings also indicate that the low ratings of course work and clinical practica furnished by more experienced clinicians are a reflection of the perceived lower importance of such education relative to the more significant influence of clinical experience over time.

Perspectives on education

Similar to the protocol by Orange et al. (1997), respondents were asked to rate the importance of a wide range of academic topic areas in geriatric S-LP using a 5-point Likert-type scale from 1 = *Not important* to 5 = *Very important.* Sub-topics were arranged under the headings normal aging, disorders specific to the aged, assessment as it pertains to the aged, intervention/therapy for older adults and their families, and professional issues. In addition, the present study instructed respondents to rate the satisfaction of their own level of knowledge of each sub-topic using a similar scale, with ratings ranging from *Not at all satisfied* to *Very satisfied.*

The importance and knowledge ratings given to sub-topics in normal aging (see Table 8) shows that "Cognition" was an area rated as *Very important* or *Important* by virtually all respondents. Areas specific to aging, such as "Models of aging" and "Attitudes/ perceptions toward aging" were given relatively lower importance ratings. The largest discrepancy in ratings was found between the importance and knowledge ratings of "Cognition", where only 8.9% felt *Very satisfied* with their knowledge, and 39.2% reported being *Fairly satisfied.*

Speech and language disorders specific to the aged, which were most often rated as Important, included "Aphasia", "Dysphagia", "Dementia" and "Motor Speech". Dysphagia was rated significantly higher in importance ($M = 4.92$) by those with less than five years of clinical experience. Geriatric-oriented S-LPs reported being most satisfied with their knowledge of aphasia, followed by motor speech disorders and hearing

Table 6

Respondents' reported level of knowledge of geriatric speech-language pathology

Knowledge of geriatric S-LP	Geriatric caseload [a]	Ratings of knowledge of geriatric S-LP [b]						
		n	1	2	3	4	5	M rating (SD)
At time of survey	Presently	494	1.2%	14.2%	43.9%	35.8%	4.9%	3.29 (0.81)
	Previously	113	7.1	38.1	37.2	16.8	0.9	2.66 (0.87)
	Never	101	14.9	68.3	14.9	2.0	0.0	2.04 (0.61)
At time of graduation	Presently	492	14.2	54.5	25.6	5.1	0.6	2.66 (0.96)
	Previously	111	3.6	40.5	36.0	18.9	0.9	3.17 (0.97)
	Never	101	8.9	45.5	34.7	9.9	1.0	2.78 (1.03)

Note: [a] Geriatric caseload = Describes respondents who: work presently with older adults; worked previously with older adults but do not currently work with them; never worked with older adults
[b] Percent of respondents who rated their level of knowledge of geriatric S-LP on a five-point scale;
1 = Not at all knowledgeable, 2 = Somewhat knowledgeable 3 = Knowledgeable, 4 = Very knowledgeable
5 = Extremely knowledgeable

Table 7

Respondents' reported level of the quality of academic education and clinical practicum experiences in geriatric S-LP

Rated quality of education in geriatric S-LP	Geriatric caseload [a]	Ratings of level of quality [b]						
		n	1	2	3	4	5	M rating (SD)
Academic education	Presently	494	12.8%	27.3%	42.9%	14.6%	2.4%	2.66 (0.96)
	Previously	113	3.5	22.1	34.5	32.7	7.1	3.17 (0.97)
	Never	101	12.9	24.8	35.6	24.8	2.0	2.78 (1.03)
Clinical practicum	Presently	494	15.8	25.5	28.5	23.1	7.1	2.80 (1.17)
	Previously	113	8.8	19.5	30.1	28.3	13.3	3.17 (1.16)
	Never	101	24.8	31.7	22.5	13.9	6.9	2.46 (1.21)

Note. [a] Geriatric caseload = Describes respondents who: work presently with older adults; worked previously with older adults but do not currently work with them; never worked with older adults
[b] Percentage of respondents who rated the quality of their education in geriatric S-LP on a five-point scale;
1 = Very poor, 2 = Poor, 3 = Fair, 4 = Good, 5 = Excellent

disorders. The greatest discrepancy between current knowledge and importance ratings was dementia, with 24% of respondents indicating they were *Not at all satisfied* or *Fairly dissatisfied* with their current knowledge.

Ratings of satisfaction with current knowledge were significantly higher for respondents with more than 10 years of experience with older adults than for less experienced clinicians for most disorder areas. This suggests that more experienced geriatric-oriented S-LPs acquire the knowledge of these sub-topics through

Table 8

Respondents' ratings of the importance of and satisfaction with current knowledge by sub-topic for "normal aging"

Sub-topic		Ratings							
		n	1	2	3	4	5	M	SD
Attitudes/perceptions toward aging	Importance [a]	494	18.2%	59.7%	3.8%	7.3%	10.9%	2.33%	1.18%
	Knowledge [b]	490	11.8	22.7	53.9	7.8	3.9	2.69	0.92
Biology/Anatomy	Importance	495	0.2	2.8	25.7	40.2	31.1	3.99	0.84
	Knowledge	491	3.5	11.8	33.8	43.0	7.9	3.40	0.92
Cognition	Importance	495	0.0	0.0	2.6	26.3	71.1	4.68	0.52
	Knowledge	492	4.3	13.0	34.6	39.2	8.9	3.36	0.96
Language and linguistics	Importance	495	0.2	0.4	11.1	29.3	59.0	4.46	0.72
	Knowledge	493	2.4	5.7	21.3	48.9	21.7	3.82	0.92
Neurology/Neuroanatomy	Importance	495	0.2	0.0	8.9	36.2	54.7	4.45	0.67
	Knowledge	493	4.7	10.8	29.4	44.6	10.5	3.46	0.98
Physiology	Importance	495	0.0	3.2	24.2	41.6	30.9	4.00	0.83
	Knowledge	493	5.7	16.4	37.3	33.7	6.9	3.20	0.98
Psychology	Importance	495	0.2	1.8	18.4	49.1	30.5	4.08	0.76
	Knowledge	493	4.5	12.8	35.3	36.7	10.8	3.36	0.99
Sociology	Importance	495	1.4	6.9	37.4	37.4	17.0	3.62	0.89
	Knowledge	492	6.7	20.1	40.0	28.3	4.9	3.04	0.97
Hearing	Importance	495	0.0	0.2	11.7	33.9	54.1	4.42	0.70
	Knowledge	493	1.8	5.7	24.5	47.5	20.5	3.79	0.89
Models of aging (e.g., biological, psychosocial)	Importance	490	0.6	5.9	30.2	38.4	24.9	3.81	0.90
	Knowledge	488	14.3	27.7	37.1	18.6	2.3	2.67	1.01
Philosophy of aging (e.g., ethics, euthanasia)	Importance	493	0.2	4.1	24.1	34.9	36.7	4.04	0.89
	Knowledge	491	9.6	22.6	31.0	28.9	7.9	3.03	1.10

[a] Importance Ratings: 1 = Not important, 2 = Fairly unimportant, 3 = Of some importance, 4 = Fairly important, 5 = Very important

[b] Satisfaction with current knowledge rating: 1 = Not at all satisfied, 2 = Fairly dissatisfied, 3 = Somewhat satisfied, 4 = Fairly satisfied, 5 = Very satisfied

their professional practice with older adult clients. The findings also indicate that those with less experience may not be as comfortable with their knowledge of these topics early in their careers. With the exception of aphasia, the overall low average ratings point to an increased need for continuing education and upgrading in these areas for many clinicians, regardless of years of experience with older adult clients.

All aspects of intervention and therapy for older adults (Table 8) were rated as high in importance, with the exception of "Alternative and augmentative communication" (AAC), a sub-topic that received the most neutral responses. "Family and caregiver intervention" was rated as *Very important* by the majority of geriatric-oriented S-LPs; however, satisfaction with knowledge in this area fell below that reported for "Individual therapy". Knowledge of "Group therapy" and "AAC" were sub-topics with which geriatric-oriented S-LPs felt the least satisfaction.

For the most part higher knowledge ratings for all sub-topics under assessment, therapy, and professional issues, were evident among those with 10 or more years of experience. This suggests that geriatric-oriented S-LPs acquire knowledge through years of assessment and treatment, and that increases in perceived knowledge of procedures and issues pertinent to the care of older adults are commensurate with clinicians' own perceived competence following years of exposure to older adults. This becomes even more evident as the value of various sources of geriatric speech-language pathology information is explored.

Information sources

Respondents were asked to evaluate information sources that they used to build their knowledge base for practice with older adults. The highest-rated source of information on a 5-point Likert scale was "Professional experiences", which was rated as *Fairly important* or

Very important by almost all respondents (97%), and also was most often ranked first among all sources of S-LP information. "Undergraduate education" had the lowest overall rating, with only 28% of respondents considering it to be an important information source. Respondents with fewer than 5 years of clinical experience with older adults were more likely to give higher ratings to "Graduate education" (M =4.32) versus those with 5 to 10 years of experience (M=3.94) and those with more than ten years of experience (M=3.79), $F(2, 547) = 15.35$, $p < .01$, $n^2 = .04$. "Professional journals", on the other hand, were given higher ratings by those with more than ten years of clinical experience with older adults (M = 4.11) versus those with 5 to 10 years' experience (M= 3.98) and those with fewer than 5 years of experience (M= 3.76), $F(2, 574) = 8.06$, $p < .01$, $n^2 = .05$. This stands to reason because clinicians with more experience are more likely to rely on the literature and other sources of upgrading and continuing education than are more recent graduates.

Continuing and current education

Respondents were asked to state their opinion of the sufficiency of continuing education opportunities in geriatric S-LP. Only 35% "Agreed" and 5% "Strongly agreed" that sufficient opportunities exist. There were no statistically significant differences in opinions regarding availability by region, community size, or language of survey (English vs. French).

Further, respondents were asked to rate the extent to which they agreed with the following statement: "I would need additional continuing education if I were to continue in geriatric S-LP or if I were to change my scope of practice to serve more geriatric clients." One half of the geriatric-oriented S-LPs agreed with this statement, whereas 27% strongly agreed. Nearly all those who reported working with geriatric clients in the past either agreed (40%) or strongly agreed (55%) that they would need to attend additional continuing education events.

Respondents' ratings on a 5-point Likert scale (1=Strongly disagree to 5=Strongly agree) were quite low regarding the knowledge that current graduates possess in geriatric S-LP. A strong majority (70%) believed that today's graduates possess insufficient geriatric-related knowledge. Further, only 20% agreed or strongly agreed that university curricula provide sufficient course work in geriatric S-LP. Seventy-three percent of respondents believed that more coverage of multi-, inter-, and trans-disciplinary teamwork was needed in the graduate curriculum, and virtually all respondents believed that there will be a growing demand for geriatric-oriented S-LPs in the future.

Discussion

The results from this study are the first to describe the form, content and delivery of graduate-level geriatric S-LP curricula in Canadian universities. The findings also illustrate for the first time the unique perspectives held by clinicians working in Canada regarding their preparation for and practice in geriatric S-LP. In concert with results from a companion investigation in audiology (Orange, McNeill, & Stouffer, 1997), the findings of this study complete an initial inquiry into Canadian university curricula and clinical practice issues in geriatric communication disorders.

The results of this study reveal that there is considerable variation in the academic and clinical education curricula dedicated to geriatric S-LP in Canadian university programmes. There was agreement in principle among Canadian programme chairpersons about the need to include coursework in both disordered and normal aging, with slightly less importance placed on providing clinical practicum experiences in geriatric S-LP. Three of the six responding university respondents believed that providing students with clinical placements that focused on normal (i.e., non-pathological) aging was important.

The manner in which students across Canada are taught geriatric S-LP curriculum content varies by university attended. Most programmes integrate geriatric-specific information into disorder-specific course work, whereas two programmes offer either elective or required seminars or courses. A single programme requires one course in geriatric S-LP that is offered at the doctoral level. As university respondents were not required to provide detailed information on the amount of time devoted to geriatric-specific information, the extent to which students are exposed to age-related information in their course work is not known. Still, graduate programmes do appear to cover many of the areas in which the communication needs of older adults are addressed, including normal changes in anatomy, cognition, language, and hearing, as well as disorder areas such as aphasia, dementia, motor speech and hearing disorders. Course work in non-traditional areas such as the philosophy of aging and models of aging and the sub-disciplines of dysphagia and aging with pre-existing disabilities are covered less consistently across programmes. Assessment considerations are reported as being covered by all universities, while intervention modalities addressed in the curriculum seem to focus on traditional direct therapy models, with counselling, caregiver training, professional in-service and AAC given less attention overall.

Similar variable findings, on a much larger scale, were evident in two studies conducted in the United States. Nerbonne, Schow, and Hutchinson (1980) found that 21% of the 190 responding programmes provided courses "specifically devoted to gerontological aspects of communication disorders". A follow-up study (Raiford & Shadden, 1985) found an increase to 26% of programmes offering courses with a "primary emphasis" on the sociocultural, physiological and cognitive changes associated with aging. A survey by Clark, Ripich and Weinstein (1995) found that 40% of programmes combined infused and single-course approaches to

geriatric content, 29% used the infusion approach exclusively, and 9% provided single courses only. The authors caution, however, that the focus in the majority of these courses was likely on the disorders of aging and not the normal aspects of aging and communication.

Information on the extent to which graduate students in Canadian university programmes receive clinical education in geriatric S-LP is incomplete and likely unreliable, due largely to the fact that there is no requirement for students to report minimum hours of clinical education practica with older adults. All programmes, however, did indicate that their students have direct clinical contact with older adults. The lack of data was echoed in the three American studies outlined above, where practicum hours spent in the assessment and treatment of older adults are similarly not required.

Most responding Canadian university graduate programmes were satisfied with coverage given to geriatric S-LP information in the curriculum. Despite the commitment to incorporating geriatric-specific information into programme curricula, the demands of a crowded curriculum, professional association/ governing body requirements, and few qualified faculty were reported as the most significant barriers to offering geriatric course work. These same factors were also cited by Clark, Ripich and Weinstein (1995) as accounting for the dearth in coverage of geriatric S-LP issues.

With respect to the clinician survey, it should be noted that comparable data from clinicians in the United States on their academic geriatric S-LP education are rather limited. The studies that addressed the gerontological training for S-LPs (Webb et al., 1985) did not target geriatric-oriented S-LPs in their comparatively small sample (n =77) or focus on clinicians who worked only in acute medical S-LP settings (Shadden, Toner, & McCarthy, 1997).

The majority of respondents in the current study were employed in hospitals, public health and rehabilitation facilities where, on average, older adults comprised less than half of their caseloads. Geriatric-oriented S-LPs typically possessed 8 years' experience with older adult clients and spent a high proportion of their careers providing service to older adults. Most clinicians received their clinical education in Canada; however, a high proportion of respondents in Western Canada received their degrees from universities in the United States. It is not known to what extent these American-educated professionals left Canada in order to pursue their education. Future studies might wish to examine the factors involved in decisions to pursue graduate studies elsewhere.

Overall, geriatric-oriented S-LPs rated their knowledge of geriatric S-LPs as much higher now than when they first graduated. This finding is not surprising, especially given that the majority of respondents indicated that their best source of information was professional experience. Moreover, in light of the few Canadian university programmes that offer courses in geriatric S-LP this finding is not altogether unanticipated. Clinicians were very critical of the quality of their academic preparation and especially so of their clinical practicum experiences. There are positive signs for the future, however, as more recent graduates (i.e., those with less than 5 years of clinical experience) rated the quality of their education significantly higher than those with 5 or more years of clinical experience (although still averaging at the *Fair* point on the scale).

The high variation among all respondents' ratings, particularly for evaluations of quality of clinical practica, also points to a need to re-examine the scope and depth of clinical education provided to students. It further serves to emphasize the importance of a life-long learning philosophy that has its foundations in graduate education, and continues throughout one's professional career. Findings by Webb et al. (1985) showed that a minority of American educated clinicians (18%) completed an academic course on aging, and that 23% had completed at least one practicum placement with older adults.

Respondents were highly dissatisfied with their knowledge of various sub-topics within normal and disordered aging, areas that they perceived as important to the practice of geriatric speech-language pathology. More experienced clinicians reported higher satisfaction levels, especially for topics that were outside the purview of traditional core curriculum areas such as models of aging and the philosophy of aging. Large discrepancies between perceived importance and self-reported knowledge of areas such as cognition and dysphagia signal that graduate education and continuing education programmes are falling short in advancing clinicians' knowledge of geriatric S-LP issues. More experienced clinicians reported that they depend largely on their years of experience and continuing education opportunities to acquire sufficient knowledge to meet the needs of older adults. This suggests that additional knowledge of geriatric S-LP is acquired following formal graduate studies through accumulated clinical experience and continuing education. Few respondents, however, held the opinion that sufficient opportunities exist to upgrade their geriatric S-LP knowledge base through formal continuing education programmes.

Finally, opinions on the topic of the current status of geriatric-oriented curriculum content in graduate S-LP programmes are decidedly skewed toward the negative end of the response scale. Although respondents strongly agree that there will be increased demand for geriatric-oriented S-LPs, there is a concern among the more experienced clinicians that graduates are entering the profession with insufficient background in the issues specific to older adults. This perception may be influenced to some extent by clinicians' recognition of the importance of life-long learning beyond graduate school, and that an education model based on course work on the theoretical aspects of aging along with clinical practica with one or two older adults may be *necessary,*

but not sufficient, to achieving competence in assessing and treating older adults. If the ultimate goal of enriching the geriatric S-LP component of Canadian university curricula is to enhance the quality of care that older adults receive as their numbers continue to rise, then there is an urgent need for academics and clinicians to reach a consensus as to what knowledge and experience are necessary for students to create the foundation upon which to build a life-long approach to learning.

Future Directions

The findings outlined above provide a useful foundation for a discussion of issues that would help inform curriculum standards and clinical practice patterns in geriatric S-LP for future graduate students and clinicians. As an initial step in advancing the development of geriatric S-LP in university curricula, students should be required to log the hours dedicated to serving older adults, just as is done for preschoolers versus school-age children. These data would help advance the development of a comprehensive profile of clinical education in Canada. With such reporting, educators would have a better idea of how to enhance the linkages between academic and clinical education in geriatric S-LP.

The creation of a common set of curriculum development materials designed to integrate geriatric S-LP into academic course work is one potential product of a cooperative endeavor between educators and clinicians. A recent example of work in this area (Orange, Hobson, Cheesman, Vandervoort, & Black, 1997) provides an educational resource for allied health professionals. Case studies are presented that allow students in S-LP, audiology, occupational therapy, and physical therapy to gain exposure to the decision processes involved in the assessment and treatment of older adult clients from an interdisciplinary team perspective. A high percentage of respondents stated emphatically the need to integrate discussions of team approaches in Canadian university geriatric S-LP curricula.

Based on the findings from the current study, there are several crucial topic areas that must be added to university academic curricula and to clinical education and to continuing education programmes to boost geriatric S-LP content. These include aging related topics on biology, cognition, physiology, psychology and neuroanatomy. Less than 55% of respondents in our survey were "Fairly" or "Very satisfied" with their knowledge in these areas.

There is currently a strong growth in the assessment and treatment of dysphagia in the clinical practice of S-LP. Clinicians are being recognized for their contribution in this specialty, paving the way for the opportunity to educate medical and allied health professionals of the significant role that the geriatric-oriented S-LP can play in meeting the swallowing and communication needs of older adults. According to some respondents, if clinicians do their part to make physicians, administrators and the public aware of what can be done for older adults and their caregivers, they may be able to position themselves to generate job opportunities for themselves in settings such as chronic care facilities and nursing homes. Moreover, many respondents noted trends away from direct modes of therapy to "training the trainers". By teaching others how to meet the communication needs of the aging family members and professional caregivers, an entire specialty could emerge as larger segments of the population could benefit from the intervention of geriatric-oriented S-LPs who are uniquely skilled to meet these needs.

Other areas of future inquiry include potential "streaming" of students into specialty modes of clinical practice (i.e., geriatric/adult versus child-oriented) and the development of more widely accessible continuing education opportunities on the subject of geriatric S-LP. Currently, an avenue does not exist in Canada to specialize formally in any one area of practice. The board certification of specialists in the United States is an ongoing activity within ASHA, with leaders in special interest divisions (SID) expanding recognition (e.g., SID 2 – Neurophysiology, and Neurogenic Speech and Language Disorders) or some considering recognition in specialty fields of practice (e.g., SID15 - Gerontology). This precedent could shape the way in which graduate students in Canada are educated and how clinicians will practice in the future.

Shadden, Toner and McCarthy (1997) conducted a survey soliciting the opinions of practitioners on the need for post-Master's education and training in adult medical speech-language pathology practice. Their respondents did not feel that doctoral education was essential to the practice of medical speech-language pathology with adults. Although clinicians may not have to undergo extensive post-graduate studies in order to meet the needs of older adult clients, there is room for the examination of how graduate education and continuing education could be directed to the emerging need for qualified professionals in this burgeoning field. Once the necessary knowledge base for a core curriculum in geriatric S-LP is defined and implemented, university programmes could build components of a life-long learning philosophy. Such an approach could start with university programmes playing a more active role in generating continuing education vehicles through which research on geriatric S-LP issues could be disseminated.

It also can be argued that the spin-off effects of enhanced clinical education at the earliest point possible in students' education could increase the likelihood that they will pursue practice with older adults following graduation. It stands to reason that perhaps this clinical exposure will lead to greater research in the areas of normal aging and geriatric S-LP. Geffner (1997) drew attention to the critical shortages of qualified educators and researchers that exist in speech-language pathology.

She cited findings of a national survey in the United States conducted in 1994-1995 by the Council of Graduate Programs in Communication Sciences and Disorders (CGPCSD) which found that three to ten times as many doctoral-level graduates are needed than exist in adult neurogenics, voice, and fluency. Without fostering an early interest in the geriatric population, it could be argued that shortages of qualified instructors in normal and disordered aging could have widespread effects on the availability of future clinicians who can effectively meet the communication needs of older adults.

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Footnotes

[1] Laurentian University offered a distance education programme in speech-language pathology affiliated with the University of Ottawa at the time the study was conducted.

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