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Equitable representation of deaf people in mainstream academia: Why not?

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Abstract. Approximately 5% of people in most countries have deafness or significant hearing loss. This significant minority is underrepresented in mainstream universities across the world. Background information about deafness, relevant technology and its drawbacks, and the use of interpreters are discussed. The barriers to equitable representation of qualified Deaf academics in university settings are reviewed. The experiences of three Deaf academics who teach in mainstream universities are discussed, and suggestions for resolution are offered. Examples are cited for teaching, research and service, the threefold duties of the successful academic. Continuing access difficulties mean that only a few deaf graduates now consider doctoral study; cost and the perception of cost, as well as negative attitudes and lack of knowledge may mean that the few successful graduates have difficulties gaining employment; successful tenure and promotion prospects may also be hindered for the same reasons. We also provide recommendations how barriers for successful Deaf academics can be removed or mitigated.

Keywords: academia, accommodation, deaf, equity, hard-of-hearing, university

Introduction

The importance of diversity within academic institutions has already been recognized, and many universities have examined their hiring and promotion policies to enable more equitable representation in their academic ranks. Along with women and visible minorities, people with disabilities have often been included in those equity policies. The essential reason behind the drive towards equitable representation is the recognition that the barriers to success in academia can be understood in terms of prejudice or ignorance. Equitable representation is a way to remedy past wrongs as well as to satisfy the principle of equality that is a hallmark of democratic cultures.

Although people who are deaf, deafened, or hard of hearing form a significant minority in the general population world-wide, their representation in academia has yet to be considered. A discussion of the possible reasons for the general lack of participation by this group is timely. It is likely that this minority will start becoming more visible, because there has been an increase in the inclusion and acceptance of deaf students into undergraduate and graduate university and college programs. Although problems still exist, funding mandates to provide access services may reassure deaf students that their application for university admission now will be judged on academic merit. Their inclusion and acceptance notwithstanding, successful deaf students will notice the conspicuous absence of relevant role models. Where are the successful Deaf academics?

In accordance with conventions in the Deaf/deaf studies field, throughout the paper, we refer to Deaf with a capital "D" to signify that an individual identifies with the Deaf community and culture through use of sign language and cultural practices, regardless of precise clinical measures of hearing threshold. The word "deaf" with a lower-case "d" signifies the audiological condition of ("medical") severe to profound hearing loss, equivalent to an average loss of 70 decibels or greater in the ear with the least hearing loss.

The authors are three deaf, female faculty members who work in different mainstream universities in which there are no other Deaf academics or students. Our professional fields are diverse: Human factors engineering/ergonomics, psychology, and environmental science. We all sign and prefer using ASL or Auslan to communicate. (In Australia, we use "Auslan", or Australian Sign Language, whereas in North America, we use "ASL", or American Sign Language. Those two languages are culturally and lexically distinctive with their own grammar and syntax. Each is as capable as any spoken language of conveying virtually any concept regardless of abstraction.) We have many other similarities in the ways we negotiate our way through the academic environment. We also have differences. Two of us became deaf as adults, two of us were deaf at the time of taking up our faculty appointment, and two of us use ASL/Auslan-English interpreters regularly on campus. We collaborated to examine our common and idiosyncratic experience, and we each served as "researchers" for understanding and drawing out details of each other's experience of being Deaf scholars in mainstream academia. We began by making a detailed list of the activities in which we had been involved or in which we were currently involved; each of us separately made comments under

the headings provided by the list of activities. Because one of us had achieved her position before becoming deaf, it was also possible to compare the Deaf-hearing experience, as well as to draw upon her own before-after experience. In this article we present the organization of those observations that indicated a shared experience (see also Campbell, Rohan and Woodcock, in press ; Rohan 2005). Save for gender, we represent diverse experiences cutting across disciplines and national boundaries, and thus the emergence of common themes suggested that interpretation and analyses were warranted. We offer this paper to initiate consideration, discussion, and response.

Deafness and being deaf

From a medical perspective, deafness can be acquired at any time of life. Approximately 95% of children who are deaf at birth are born to parents who have no hearing loss whatsoever. Deafness after birth may be acquired suddenly as a result of viruses, disease and injury, or progressively as a result of hereditary and idiopathic causes (see Woodcock and Aguayo 2000, for a review of the many causes of hearing loss and deafness). It is conventionally estimated that 4–5% of the national population has a hearing loss that affects communication to an extent that some adjustment can be prescribed. Some of these can manage with amplification (i.e., "hard of hearing") whereas about 1% of the population do not hear sufficiently to allow for conversations on the telephone even with hearing aids (i.e., "deaf"). For example, unpublished analysis (Woodcock and Pole 2005) of Statistics Canada's Canadian Community Health Survey (CCHS 2000/2001) identified 1.2% of the population as having an uncorrected hearing problem, and an additional 2.5% as having a corrected hearing problem. Many of those who do not benefit from or decide not to use "correction" technology (hearing aids, cochlear implants etc.) will commonly learn and use sign language to be actively engaged in employment and social life.

Although the focus of this paper is on adults who use ASL/Auslan, we acknowledge that people who have a mild or moderate hearing loss or deafness that affects only one ear also face barriers (e.g., Tidwell 2004). Without the minor or moderate adjustments (such as the use of amplification technology or positioning for optimal communication), they may be even more excluded than are those who have communication access using sign language. They may be impeded by unrealistic expectations of the efficacy of amplification technology (e.g., hearing

aids and cochlear implants are not like spectacles and do not return hearing to "normal") and the tendency for others to forget or resent ongoing adjustment needs (Colella 2001). Their communication frustrations are often overlooked.

Many high-functioning Deaf professionals are expert lipreaders and can speak oral languages fluently. However, these skills are not useful in all situations, and fluency in sign languages provides an efficient means of communication and access in the community, in education, and in the workplace. Language interpreters who translate between sign languages and spoken languages are an indispensable part of Deaf students' and Deaf professionals' lives.

Because their innate functionality, will, and ability to contribute are not impaired, Deaf people do not necessarily consider themselves to be "disabled." For deaf and late-deafened adults who are fluent in sign language, deafness is a linguistic and often a cultural difference, with feelings of "disability" often only occurring when there are communication breakdowns while interacting with hearing people.

Technology

Providing technology to bridge the communication barriers between deaf and hearing people is a long standing aspiration, particularly because technology may be viewed as entailing a capital investment rather than the open-ended operating expenditures associated with live interpreters. In addition, some may feel that such technology will reduce the conspicuity of the Deaf person. Some people respond badly to this conspicuity. For example, one of the authors once was asked to reposition the interpreter out of view, explaining that "after all, it's only for you – and it's just distracting for everyone else." However, electronic technology does not always work well in terms of language translation and interpretation.

The usefulness of some technological research developments may be questionable to the extent that there has been no prior demand from potential consumers of the product. For example, engineers have produced such technology as the demonstration data glove that can translate handshapes or a limited vocabulary of signs to printed letters or words (McGuire et al. 2004) and attempts to use commercial products such as automatic speech recognition (ASR) for speech-to-text translation between deaf and hearing people (Stuckless 1994). ASR is still not effective for real time, continuous speech, unlimited vocabulary,

and speaker-independent input (for a fuller analysis, see Woodcock 1997).

Unlike ASR, using Communication Access Real-Time Translation (CART), the human reporter can process speech in an intelligent way even if it violates rules of grammar, pronunciation or logic. Unlike note takers (who type summarized notes on a conventional QWERTY keyboard), real-time reporters are advanced court stenographers who input proceedings on a steno chord keyboard attached to a computer. A computer program then translates those chord keystrokes using a translation dictionary. Real-time reporting is used to caption live television such as news and sporting events. We have used real-time reporting successfully in research contexts, for PhD oral defences, and have seen it used for university functions such as guest lectures, convocation, and other major gatherings. Nevertheless, it has its downsides.

Technically, CART requires remaining in one position. Our research may take us out to remote lakes, up roller coasters, or to busy shopping centres where CART simply is not feasible. Even in a straightforward meeting, it may be impossible to identify who is speaking, because the reporter typically starts a new line when a new speaker starts (e.g., >>). In contrast, a sign language interpreter conventionally identifies a new speaker by pointing or identifying them (e.g., "bearded man in blue shirt"; "student in back row"). In addition, facial expression, tone of voice or any other non-verbal language information is not transmitted using CART. However, it is well known amongst psychologists and linguists that non-verbal language is an intrinsic part of language (e.g., see Argyle 1975), and has been shown to be a primary means of expressing emotions, conveying attitudes, and showing personality; it also facilitates the verbal communication (e.g., indicates turn taking). This means that the deaf user is not gaining full access to the communication situation if solely relying upon CART technology.

Sign language interpreting is a remarkably effective and portable communication "technology" costing about the same as CART on an all-day basis, less for shorter assignments. Functional fluency in sign language may be attained by a motivated learner in one year or so, as has been the experience of both first and second authors. Both found language acquisition was expedited by using interpreters in work contexts. After only six months, language receptivity was sufficient to enable access to faculty meetings; expressive fluency was slower. Of course, sophisticated fluency in sign language – especially for communicating complex stories and for understanding the lightning-quick and idiomatic fluency of native signers – requires much longer. The importance

and value of sign language as a functional communication tool is signified by the model Swedish law mandating parents of deaf children to learn Swedish Sign Language (Sneed and Joss 1999).

Fundamental barriers: obstacles in acquiring qualifications

Two of us were already deaf prior to doctoral studies and have made some common observations about barriers at that level that impede equitable representation of Deaf scholars. With doctoral qualifications now a requirement for most academic appointments, Deaf students must not only survive their undergraduate experience but also must maintain enthusiasm for their subject through graduate school. On top of this, they must find a doctoral advisor and committee who, at the very least, do not have negative attitudes towards deafness.

Deaf students' access to mainstream classrooms in universities customarily takes the form of sign language interpreting or various forms of transcription. However, Deaf students rarely will have 100% classroom access. At the most basic level of classroom access, qualified sign language interpreters are in short supply and may not be available at scheduled class times. Service administrators may not understand the huge differences in interpretation skill that are a function of training and experience, and may not care about interpreter certification, and instead book interpreters on the basis of their availability (and, of course, the less qualified and experienced interpreters may be more available). Unqualified interpreters often lack the skill to communicate course material effectively; unprepared interpreters will not understand the course material well enough to do so. If text transcription is offered, it is rarely of the standard produced by CART services performed by a trained court reporter. Because other methods produce *text*, non-users (including access budget managers) often fail to appreciate the difference between verbatim transcription and summarized and error-prone note taking. Even if interpreting and text transcription are provided, students are unlikely to receive communication access for spontaneous and informal meetings with peers and advisors outside of the classroom. In all courses, but especially in advanced-level studies, these spontaneous and informal meetings often are what sparks or sustains student interest in a subject.

If Deaf students have negotiated their way through undergraduate courses, and have reached the postgraduate level, the problem of finding appropriate interpreters increases exponentially. Not only must they

maintain their enthusiasm for a topic, often without the support of peers and advisors in informal interaction, they are likely to spend valuable time booking and preparing interpreters. Even with preparation, ASL/Auslan-English interpreters, like all language interpreters and translators, often feel out of their depth with the technical language and jargon of the field – and may even refuse bookings for this reason. Thus, in graduate school, the Deaf academic learns that extra preparation is a fact of life.

Postgraduate studies that lead to doctorates require research. Research involves additional communication obstacles. If fieldwork takes place outside the home country, a student will have additional difficulty finding an interpreter. This may force the student to lose independence and rely on colleagues to communicate important aspects of the research. One of us carried out graduate research fieldwork in a developing country, and although most day-to-day fieldwork and collaboration with local scientists could be done using her lipreading and oral skills, an interpreter was needed for workshops and regional meetings. Communication difficulties could have been solved with more time with local interpreters to enable training in relevant scientific concepts and learning of each other's sign language – but this type of activity would not be funded.

The Deaf student may be steered towards less communication-intense research settings and methods by lack of information on access resources, or subtle or direct cues from authority figures. Student enthusiasm is likely to wane if the research question is not where her academic interests lie, and as the student's attitude towards her work becomes increasingly negative, the potential for dropout will be high. If the Deaf student drops out, hearing advisors, administrators and student contemporaries who continue on to become academics themselves may make incorrect attributions about the reason for withdrawal that perpetuate incorrect and discriminatory attitudes towards upper level Deaf students.

If Deaf students overcome the many and varied obstacles and obtain higher education qualifications, more major obstacles to employment in academia will await them. Like all graduates, they will face the job market and need to maintain positive attitudes to convince employers of their suitability and potential. But Deaf graduates will have the additional burden of convincing potential employers of their ability to do the job. For example, how will they convince the academic institution that they can function as a teacher in the higher education classroom?

Because of our different communication styles, the two of us who were deaf when applying for academic jobs had different experiences

with this – and other deaf and hard-of-hearing scholars may also differ. Although some Deaf people can and do speak no less intelligibly than people with foreign accents, others may require a voice interpreter to lecture. In some fields, a Deaf person might be able to manage with good lipreading skills if there is minimal classroom interaction.

It is a fact that a Deaf academic is likely to teach somewhat differently than would a hearing academic, but one of us was already teaching at the university level when she became deaf and has found that the difference is not large. Indeed, student comments suggest that the modifications are actually positive and widely accepted by students (Rohan 2005). Deaf academics are usually more aware of communication requirements and limitations, not only on our part but *also* on the students' parts. As a result, the Deaf academic can be quite skilled and creative in teaching various concepts to diverse audiences. Nevertheless, the (hearing) academics who sit on hiring committees may have fixed opinions about the "correct" way of teaching, either in general or in a particular subject. If ability to teach is defined by members of the hiring committee as "teaching in the identical way we always have done," then the Deaf candidate who would teach in a different way may not be viewed as able.

These considerations aside, one of the major hurdles Deaf graduate students in mainstream fields of study will need to cross is the problem of accommodation costs *after* they complete their doctorates. Thus, even if Deaf students have proven themselves academically over a number of years and successfully defended their dissertations, their potential for obtaining faculty positions and succeeding in academic careers is hindered by concerns about the cost – both perceived and actual – of the accommodation to which they are entitled under Human Rights legislation.

Barriers to appointment of deaf academics: cost and perceptions of cost

"Accommodation" concerns the removal of barriers that adversely affect an individual or group within society, and the provision of adjustments in the workplace that respond to the needs of employees. It is, however, possible for employers *not* to provide such accommodations if the cost results in "undue" or "unjustifiable" hardship, but the onus is on the employer to *prove* undue hardship. Nevertheless, there is no agreed-upon formula or suitable legal precedent for what is and what is not reasonable. The result is that neither the Deaf scholar *nor* the

academic institution has any real guidance about what is and what is not reasonable, especially when the costs are ongoing (as is the case for interpreter access). Even the most open-minded department head would be challenged in this situation. If a Deaf person is employed in a faculty position, the institution is then legally obligated to provide whatever accommodations are necessary or be prepared to argue in court that the costs constitute undue hardship.

We choose *not* to discuss actual dollar figures of our accommodations because of the temptation for readers to narrowly focus on this issue to the exclusion of other important issues including equality, the provision of role models, and the attitudinal shift that occurs when there is an appreciation and acknowledgement of diversity that results in inclusiveness and openness. Furthermore, the actual accommodation should be considered of benefit for *everyone* at the academic institution, not just the Deaf academic. However, we can report that the actual cost is nowhere near an amount that would rise to the level of "unjustifiable hardship" for an academic institution of any significance.

At present, in both Canada and Australia, government funding schemes support access costs (e.g., interpreter cost) for *students* who are in need of accommodation in the higher education environment. However, the Deaf academic does not have access to such schemes, and funding for costs of necessary equipment (e.g., TTY, strobe fire alarm, doorbell flasher) and for interpreters may fall to the university that employs the Deaf academic. Depending on the University's budgeting practices, accommodation costs may actually be borne by the specific faculty or department to which the Deaf academic is appointed. In other universities, costs may be paid in part or in full from a central fund, so that the budget of the faculty or department in which the Deaf academic is employed is not limited by accommodation costs.

At present, selection committees are economically discouraged from appointing a suitably qualified Deaf person because there is no external funding or cost sharing across departments or universities. Potential for intangible contribution aside, a Deaf candidate for a faculty position may be viewed as diminishing valuable tangible resources. Further, the selection committee may be reluctant to ask about costs of accommodation because of the risk of discrimination charges (and selection committees have reported having this type of discussion). All of these factors favour a suitably qualified, non-deaf candidate over the deaf person.

Unfortunately, Human Rights legislation in Canada and Australia has yet to be considered in terms of responsibility for funding costs of employment beyond the most basic. This means that there is no prec-

edent for more complex cases, and the law is interpreted in ways that may not be beneficial for the Deaf academic. For example, a Canadian national granting council (NSERC, personal communication Kathryn Woodcock, 7 August 2003), who conducted a brief policy analysis on the issue of funding for academic researchers' interpreting costs, concluded that although interpreting was an eligible expense under their grant program, ASL interpreting requirements would not be considered for additional funding in addition to the awarded grant funds although such a process has been established in the United States under the National Science Foundation (National Science Foundation 2002) despite the accommodation obligations of employers under the laws in that country.

Even when an appointments committee selects the Deaf candidate, success on the job entails a great deal of ongoing planning and negotiating. This has a psychological, emotional and time cost. However, our experience is that the many and varied obstacles in the education and employment competition have afforded us a rich repertoire of coping skills. Not the least of these are resourcefulness, a thick skin, patience and a sense of humour – character traits that could be thought to augur well for success in academia.

Barriers to collegiality

Continuing concern over cost

Although the concern may have been overcome to make the appointment of a Deaf scholar, academic colleagues may be disapprovingly aware of the cost of interpreters and other accommodations. To the extent that accommodation costs are paid from departmental budgets, colleagues may resent what they may view as the "siphoning of funds" from others (e.g., Colella 2001). Deaf academics – as we sometimes consciously have done – may restrict their attendance at activities that require accommodation. For example, they may opt out of attending the talks of visiting speakers to the institution or career development seminars, or avoid particular types of research activities or classroom exercises (e.g., Tidwell 2004). In contemplating whether they will benefit or contribute through attending, the Deaf academic will also take cost into account. The three options may be these: Bringing an interpreter, whose presence could give a negative impression of "siphoning of funding"; skipping the event and potentially earning a black mark that

lingers over future tenure and promotion; or attending *without* an interpreter and risking miscommunications and overlooked directives. The latter two choices can actually *harm* long-term equity and accommodation plans for the institution in the long run (e.g., Baldridge and Veiga 2001). It is vital that the Deaf academic's colleagues support accessibility for *everyone* not just for the Deaf academic due to a misguided sense "of kindness" (Colella 2001)), with the understanding that it benefits everyone by enabling *two-way* communication.

Long term career success that generally involves movement from one institution to another also may be influenced by cost considerations. In the event that a university *has* employed the Deaf person and *has* awarded tenure, to what extent will the Deaf person feel encouraged to apply for promotion or seek a new appointment at a different academic institution? Having advocated long and hard to obtain funding for interpreters or other accommodations, will the Deaf academic feel bound to remain at one institution? Will she or he have the motivation to repeat the difficult negotiations for which there is no certain end?

Attitudes and adjustment

Attitude is indisputably a (if not *the*) major barrier that Deaf people face. Indeed, public agencies and corporate human resource managers may present positive attitude programs first, perhaps believing that this will overcome inadequate budgetary allocations for accommodations. Each of us has had experience with discrimination, both direct and indirect. However, we rarely complain openly because we do not want to appear "difficult." We are conscious that some of this discrimination is simply a function of a lack of knowledge, and is often unintentional. Frequently, the bulk of discrimination can be reduced through balanced education and improved awareness, and we all have our ways of dealing with discrimination.

Even so, well-meaning efforts can backfire or be ineffectual. For example, an Ontario social marketing program presented in print and on television (Canadian Hearing Society 2001) profiled the accomplishments of several Deaf people (including one of us) under the campaign slogan "I am deaf, but I am definitely not dumb." Some may simply take this to show that the exception proves the rule. In addition, positive attitude programs may engender favourable attitudes but do little to raise awareness about actual physical barriers to access. At a recent seminar about diversity on campus, the organizer – who advocated a very positive

attitude towards diversity in all its forms – constantly moved across the platform so that she blocked the view of the interpreter. Another committee, planning a symposium on "the inclusive campus" repeatedly chewed pens, covered mouths with hands, and spoke into coffee mugs despite knowing a deaf colleague was relying on lipreading.

Many people do not know basic facts about deafness. They do not know, for example, that lipreading is a non-exact, and energy-draining skill – it is customarily estimated that only 30% of English can be discriminated correctly from lipreading in the absence of other cues (e.g., Demorest and Bernstein 1997). Lipreading is impossible if it is dark, if people are eating, covering their mouths, facing away, or have their backs to the sun (or other strong light source). This ignorance means that Deaf academics may be faced with irrelevant, often very personal questions. We have experienced moments when we have presented our work at conferences or seminars and the questions received are not about our work, but about deafness or the interpreters. As gratifying as it is that by fielding these inquiries we may have improved things for other deaf people, each of us has a professional field in which we are striving to be recognized. The time spent educating students and colleagues about Deaf aspects or interpreters is likely to be viewed as a personal activity rather than constituting service to the academic community, and these activities often require planning and take away from time spent on teaching and research.

However, in our experience, the actual requirements of the Deaf academic are far fewer and less complex than others believe. In fact, people who think we need a great deal of help may expend unnecessary energy in unhelpful directions in "trying to be kind" (Colella 2001) if they do not take the common-sense step of prior consultation with the Deaf academic. For example, after her first (uncomfortable) meeting with a new human resource manager and faculty chair, one of us was surprised by the chair's administrative assistant's question "is the human resource person deaf?" Apparently, this person had been shouting the entire meeting, which must have taken a great deal of energy to perform – and to tolerate by other meeting participants! An (untrained) interpreter was present, but neglected to relay the voice volume information so the error could be corrected. The responsibility for this error lies not only with the interpreter but also with the human resource manager who should have asked the Deaf academic about the appropriate communication tactics *prior* to the meeting.

We recognize, or course, that communicating with Deaf colleagues imposes changes on hearing academics that might be seen as "costs."

However, many of those costs are generally beneficial. The organizational bane of miscommunication could be much helped by conveying important notifications in writing, speaking one at a time during meetings, and not expressing one's views with a mouth full of pens, fingers or food; such changes benefit everyone. In other cases, the beneficial costs can be logistical. A meeting that is scheduled with longer notice in order to book the interpreter can benefit all attendees who then have the opportunity for planning, preparation, and more effective time management. Alternatively, the actual reason for the meeting can be examined, and a decision about whether the face-to-face meeting is actually necessary can be made. The fact that the authors have been able to prepare this paper without meeting face-to-face or speaking on the telephone suggests that communication logistics that require auditory function can be spurious barriers to equity that do not need to exist.

It goes without saying that relationships are extremely important in academia – career successes can be directly linked to strong networking and collegiality (Gersick et al. 2000). However, discrimination and ostracism can form a serious two-way barrier, which not only denies the Deaf person access to internal and external networks, but also denies *their colleagues* an opportunity to forge a new link (their Deaf colleague) in their own networks. The psychological and business management research is very clear about the very detrimental effects of ostracism (e.g., Williams 2001), and denial of networking opportunities (Gersick et al. 2000) on everyone within the working environment, not just the object of ostracism.

Workplace comments from colleagues may be inappropriate and demoralizing, even if unintentional. One need not be oversensitive to be taken aback by the comments: "You'd better be one hell of a teacher to warrant this cost" or "It must be hard for you to wonder every day whether you only got your position because you were deaf and female in a hearing man's field." Even compliments may come with condescending undertones. Dr. I. King Jordan, the first deaf President of Gallaudet University once spoke at a gathering of university presidents, only to have a counterpart compliment his speech – that is, his enunciation, rather than his prepared remarks (Jordan, personal communication Kathryn Woodcock, 8 November 1991).

Nevertheless, receptivity towards the Deaf person may be more related to cost and perceptions of cost than attitude or prejudice. One of us recalls a marked change of reception from initial resistance to a request for interpreting to a warm welcome, positive feedback, and wonderful

treatment of interpreters at a professional seminar when the seminar organizers were relieved of responsibility for interpreter payment.

Adjustment is not reserved for hearing colleagues. Experiencing hearing loss or becoming deaf while in an academic appointment presents the previously hearing scholar with numerous adjustments and unique challenges compared to those coming into their positions as deaf adults. Such people may not have the necessary repertoire of tactics and mechanisms collected and developed over a lifetime, and may be unable to immediately deal effectively with discrimination and prejudice. They may be pressured to retire early, or have requests for assistive devices questioned as though they are luxury amenities. Some may be subjected to unreasonable demands to teach classes requiring a format not amenable to either lipreading or interpreting, perhaps intended to escalate the pressure towards retirement. They also may feel compelled to cope by ''hiding'' their disability or to avoid certain challenges (e.g., see Tidwell 2004). However, because communication is a fundamental part of the academic life, attempts to hide deafness are futile and are likely to cause frustration and misunderstanding on the part of other colleagues and students.

Ironically, after a presentation on inclusion, with examples from the under-representation of deafness, given to the Council of the Canadian Association of University Teachers (Woodcock 2003), several participants from across Canada offered that they believed they had colleagues ''in denial'' about significant degrees of hearing loss. What, they wondered, could they do to get the colleagues to acknowledge and cope more effectively? Based on experiences such as ours, and consistent with others (Tidwell 2004), the first action that seems necessary is to create a climate where such disclosure is trusted to be free of repercussions and where accommodations, including their costs, are considered acceptable and worthwhile. Thus, although Deaf and deafened academics have different experiences in relation to their own adjustment, acceptance and inclusiveness towards those who are already deaf or hard-of-hearing would reassure academics facing acquired hearing loss to be more open about their difficulties, resulting in a greater likelihood of successful accommodation for everyone.

Academic conferences: not just a day at the office

For academics in general, conferences are vital to careers. They not only provide a venue for gathering feedback about ongoing research and

finding out about other new research, but also provide opportunities for networking and collaboration. When presenting at conferences, students and academics must create a positive image for self-advancement and for the reputation of their universities, provinces, and countries. Thus, preparation for such events is critical and time consuming for all academics, but the Deaf graduate student or academic has the added burden of arranging access – a burden that may rise to the level of threats of human rights complaints. Apart from being time consuming, the negotiations required to enable conference attendance can impede research progress because of interrupted concentration. If having also to deal with ignorance, negative attitudes, or discrimination, the experience can be a source of discouragement, not only for the Deaf academic, but also for his or her hearing colleagues.

Few professional societies allocate funds to cover interpreter costs at their conferences and other meetings. Instead, they may offer to reserve front row seats for lipreading, unaware that lipreading is not a good communication strategy in those situations. Societies may baulk at the cost of interpreting, although there are some notable exceptions. For example, the American Society of Limnology and Oceanography (http://www.aslo.org) and the Association of Canadian Ergonomists (http://www.ace-ergocanada.ca) are exemplars in their efforts towards inclusiveness. Some organizations may claim "unjustifiable hardship" by explaining they simply do not have the funds available (this may be because they expect a surplus on the conference to subsidize other society activities). The fear of future negative reception may make us reluctant to instigate the legal challenges required to settle the question of whether the cost is unreasonable.

Even when there is agreement to provide interpreters, either intentionally or because of incompetence, organizers' failure to book far enough in advance may mean no interpreter is present. Slow payment can also be viewed a form of indirect discrimination. Freelance interpreters depend on timely payment for steady income thus slow payment makes the assignment economically unviable to freelancers. By procrastinating in booking or gaining the reputation of slow payment, the access costs are saved and we are denied access without explicitly refusing the request for accommodation.

Often, too, it falls to us to explain how interpreting works, identify sources of interpreters, book and sometimes negotiate rates of pay. Because work-safety concerns require interpreters to work in teams if their assignment exceeds 1–2 hours (to prevent repetitive strain injury to interpreters through work-rest alternation), negative responses can be

intensified. Academic events, both conferences and field work, occur all around the world. Locating interpreters in distant locations is difficult and depends on a network of contacts that may take several days or weeks to work through. There may be no local interpreters and some interpreting may need to be brought in from the nearest available location. Although these arrangements could be made by clerical staff or conference planners, our experience has been that staff and conference planners require much support to do so, requiring on average a dozen email exchanges per function, even if we are not officially doing the booking personally.

Even when booking interpreters is not problematic, we still often need to correspond with the interpreters ahead of time to provide them with materials in advance, or explain to them that other speakers' materials are not under our control. We may need to meet with interpreters prior to the start of the first day's session at least to communicate our signing preferences and possibly to prepare them for the technical vocabulary or subject matter. We may need to spend further time with interpreters on concepts and vocabulary during breaks in the program. Unlike most other participants, we must not just be on time for events, but to meet with the interpreter we must be early. We cannot, like others, use that time for last minute preparation or mental readiness. While keeping up with the latest developments in the field is important, networking is also a high priority for scholarly conference attendance. Between the time spent in short breaks managing logistics and preparing vocabulary with the interpreters, and frequent omission of social events from the society's interpreter booking, the Deaf academic may miss out on many valuable networking opportunities.

Added planning time

Along with the economic costs to the institution, the Deaf academic also assumes additional costs in the form of planning and preparation time. Although every professional needs to plan to ensure success, Deaf academics must prepare even more for each event, thinking through their various requirements (e.g., arranging seating with an event organizer so that the interpreter is positioned optimally; explaining to others what optimal seating means and why).

Comparing notes with colleagues who are not deaf, we seem to spend more time on lecture and tutorial planning. This extra effort is not merely compensatory but is also discernable in the classroom; we often

are considered extremely well-prepared and effective teachers and speakers. As with all academics, our style of teaching in a particular class varies with personality, experience, subject matter, and course set-up. Whether or not we use an interpreter in classes will depend on the design of the classroom, the nature of the course and the teaching strategies, on our individual lipreading proficiency, and our familiarity with the students.

Any academic who has lectured abroad with interpretation to other languages will appreciate the extra preparation involved. Being Deaf in the classroom, we are perpetually "abroad" in a linguistic sense, therefore we may need to prepare every class in much greater detail. This may entail writing the vocabulary and often the entire lecture transcript ahead of time for an interpreter or planning lectures to anticipate every question, to minimize lipreading if there will be no interpreter. We may design activities that minimize informal lecturer–student interaction (and maximize informal student–student interaction) and employ formal lecturer–student interaction that can make use of aids (e.g., overheads) to report group discussion. We sometimes use email in place of office hours for student consultations and colleague questions. Perfecting responses in writing may take longer than the same queries fielded orally. We may take extra measures to be accessible to student contact, to avoid unwarranted attribution of our unavailability to deafness rather than to our busy academic life in research and other non-teaching activities.

Many academic activities are customarily spontaneous, with little advance warning of many meetings and other events. For the Deaf person using interpreters, there is little room for spontaneity: in at least these two developed countries, sign language interpreters are still scarce. Interpreters often are booked up weeks or months in advance, and, interpreter availability is a matter of pure luck the closer to the event the booking is made. We may contact numerous interpreters before finding someone who is available, particularly for conceptually demanding content. This problem is magnified for longer events when two interpreters are required. Because of our consciousness of the cost of accommodations, we may also feel considerable guilt when illness or other crises arise in conflict with an event that has been booked for interpreting, and may drag ourselves from the sick bed to avoid being seen to waste these resources.

Planning also includes thinking about future interpreter availability. This entails not only giving interpreters background on our field and maintaining good relationships with them, but also time spent on

relationship management necessitated by the barriers that remain in the system: apologizing to conference organizers for cost and then perhaps apologizing to interpreters if they encounter negative attitudes, as well as intervening with the society or the university to correct slow payment. Whether voluntary or imposed by necessity, the fact that we are organized can be viewed as a professional asset and even an enhancement to productivity. Time spent compensating for barriers, however, is counter-productive.

Conclusions and recommendations

Proportional representation of Deaf people in academia will not be possible until the limits that result from access problems are solved for undergraduate and postgraduate students. When that occurs, more Deaf people with doctorates will be ready to be employed in the tertiary education sector, a trend supported by the increases in numbers of Deaf Academics world-wide (Deaf Academics 2005). Even so, there is universal consensus that most mainstream universities have not resolved access issues within their institutions.

It could be argued that the costs to the institution and to the individual Deaf academic of trying to work over, around and through the communication obstacles should direct a Deaf person to "more amenable" scholarly fields. However, this direction towards disciplines that strongly associated with deafness (e.g., sign language linguistics, deaf education) can be viewed as discriminatory because of the limitations it places on the deaf person who has interests outside those fields, or costly if there is substantial retraining of an established academic already appointed in a "non-amenable" field when she is deafened. It makes sense that people who are deaf prior to choosing a profession would be influenced by pragmatic considerations and are unlikely to pursue a doctorate in operatic performance, for example. (However, well-regarded deaf professional musicians, including Evelyn Glennie, Shawn Dale Barnett, and, of course, Beethoven have successfully performed, published songs, issued popular albums and have their own fan clubs consisting of both hearing and deaf members.) Obviously, disciplines strongly associated with deafness should have a higher prevalence of Deaf academics, not only to occupy the intellect of Deaf academics, but to adequately inform the very substance of those fields.

However, surely institutions of higher education should lead the way in terms of addressing the substantial under-representation of deaf

people, and encourage their Deaf students to pursue studies that best fit their interests and talents. To shepherd Deaf students into a limited set of fields not only is discriminatory, but also means a loss of potential. As we have highlighted, the Deaf person who has negotiated his or her way through the still-problematic education system will have developed characteristics that are highly desirable and predictive of success in the academic environment.

For these Deaf academics to gain employment and promotion, the obstacles that result from negative attitudes need to be corrected. Our colleagues' often justifiable perception of scarce resources has been a predominant impediment to positive attitudes, although third-party funding has improved attitudes. Accordingly, we believe that central funding for the cost of communication access would enable more Deaf scholars to join the academy. True central funding could be allocated at the level of the education system, to be made available to any university or college that employs a Deaf professional in faculty positions. This could have the added benefit of improving performance and productivity of those hard-of-hearing or progressively deafened colleagues who are deterred from coping more effectively because they feel other forms of accommodation would not be supported.

We have also pointed out that the function of the university academic includes many activities outside the classroom. Accommodation funding should cover all of the activities comprised in the essential duties of an academic in his position – faculty meetings, institute service, research fieldwork, scientific or scholarly meetings and conferences, knowledge transfer and exchange, graduate student supervision and examination, classroom teaching and tutoring. Recognizing that it may take many years before availability reaches the level of 1% population prevalence, and even the participation of women faculty continues to lag population prevalence (Acker 2004), it would seem reasonable to plan on making a "sunset review" on the policy of central funding once the participation reaches a level of equity among institutions.

As it now stands, there must be some recognition of the additional workload borne by the Deaf academic. If issues concerning the lack of knowledge about deafness are addressed, it would relieve the psychological strain of dealing with negative attitudes or ignorance and the Deaf academic's workload now invested in managing (or hiding) "disability" (caused by preconceived notions of others) would be free to be used for enhanced academic productivity. In addition, we suggest that because the extra workload that is required because of planning and negotiation of access as well as education about deafness

does not generate tangible work products in terms of courses taught or papers published, it should be considered in the context of service to the university, especially because those efforts will be an important factor in improving equity and accessibility conditions for university members.

Eliminating the cost concerns and relieving some of the concern related to others' attitudes should free Deaf candidates to compete for academic positions with confidence and allow others to remain productive after acquired hearing loss. Assurance of access funding should also encourage Deaf graduate students to think optimistically about doctoral studies and potential academic careers in the field of their choice, rather than limiting their career aspirations to the major corporations and government agencies that conventionally have central equity budgets, federal equity mandates, or both. More role models should, in turn, benefit deaf undergraduates and the positive validation of participation by Deaf people and late-deafened people in society as a whole.

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