Empirical Articles

Deaf College Students' Perceptions of Communication in Mainstream Classes

Michael Stinson, Yufang Liu, Rosemary Saur, and Gary Long
National Technical Institute for the Deaf, Rochester Institute of Technology

Fifty deaf and hard-of-hearing students who were mainstreamed in postsecondary classes rated their classroom communication ease with hearing instructors, hearing peers, and deaf peers. A subgroup of these students participated in an in-depth interview that focused on perceptions of communication ease, support services, and attitudes of teachers and students toward deaf students in mainstreamed classes. Quantitative analyses indicated that students more comfortable in using speech in this setting reported being able to receive and send a greater amount and a higher quality of information than did students who were less comfortable in using speech. Both quantitative and qualitative results indicated that students varied considerably in their communication with hearing peers and professors, in their relations with deaf peers, and in their concerns about access. It is a challenge for interpreting and other support services to serve these various needs, especially when it is not unusual for these variations to occur in the same classroom.

In the past 20 years, the number of deaf students being educated in mainstreamed settings has increased significantly at both the secondary and postsecondary levels (Ficke, 1992; Walter, 1992). Fifty-four percent of secondary school-aged deaf students currently attend classes with hearing students (Schildroth & Hotto, 1993). For students placed in these settings, there is concern about whether communication is adequate for effective learning. At the postsecondary level, there has been documentation of the communication difficulties experienced by mainstreamed students. For example, Foster and Elliott (1986) concluded on the basis of interviews with 20 students who had transferred to a technical institution for the deaf that the students experienced communication difficulties even when an interpreter and support services were provided in the classroom. This article focuses on the communication experiences of deaf college students in mainstream classes and how specific communication preferences of the students relate to perceptions about communication experiences.

Communication Ease

One way of viewing the communication experiences that deaf students face in the mainstream setting is in terms of their own perceptions about their ease or difficulty in communicating. Communication ease is conceptualized here as having two dimensions—a cognitive dimension and an affective one. The cognitive dimension is concerned with self-perceptions about the amount and quality of information that deaf students receive and send. The affective dimension is the deaf students' subjective responses about their communication experiences, which may be positive (feeling good, relaxed, comfortable, and confident) or negative (feeling frustrated, nervous, and upset) (Long, Stinson, & Braeges, 1991; Braeges, Stinson, & Long, 1993).
These perceptions deal with communication with hearing peers, with instructors, and also with deaf peers.

Variation in Communication Preference

Deaf students vary in their preferred ways of communication (Gaustad & Kluwin, 1992; Kluwin & Stinson, 1993). From a simplistic viewpoint, some students generally prefer to express themselves using speech and prefer to receive communication through the oral/aural modality. Other students prefer to express and receive communication through signing. But the communication preference continuum is more complex than this, because deaf individuals vary in the way they communicate, depending on the situation. In communicating with hearing peers, for example, some students prefer using speech only. Others may use both speech and sign, while still others may use sign only. Deaf people use a variety of styles and strategies for communication, depending on who is doing the communicating and with whom and on the setting (Long, Stinson, Saur, & Liu, 1993; Newell, Stinson, Castle, Mallery-Ruganis, & Holcomb, 1990). For example, although deaf individuals vary in communicating with hearing peers, they might prefer consistently to communicate with each other through sign.

Kluwin and Stinson's (1993) approach to examining variation in communication preference among deaf adolescents in local public high schools provides an example of grouping students in terms of how they respond in different communication situations. The largest group of students, 40.6%, were those who used both speech and signs and chose whether to speak, sign, or use both, depending on the characteristics of his or her interlocutor. These students seemed to be the most adept at using a variety of modalities in different communication situations. Other groups of students were those who spoke to both deaf and hearing audiences, those who signed to deaf and hearing audiences, and those who reported only interacting (i.e., signing) with a deaf audience. These groups showed a complexity in variation in communication preference that went beyond the simple "oral-manual" dichotomy.

Variations in communication preference may relate to students' perceptions of communication ease in the mainstream classroom. For example, students who report being comfortable in using speech with hearing peers may report greater communication ease in mainstreamed classes than students who report being uncomfortable in using speech with hearing peers in these settings. One objective of the current study was to identify two groups of college students who differed in self-reports of the extent to which they used speech rather than another method such as an interpreter when communicating with hearing students and teachers in a mainstream setting and to examine how this variation related to perceived communication ease and background characteristics.

Variations in deaf students' preferences for communication method in the cross-registered classroom may also relate to how these students perceive various aspects of communication in this setting. A second objective of this study was to determine whether the two groups differed in other self-reported communication practices in the classroom, such as the extent to which deaf students perceived hearing teachers and students addressing them through speech, as opposed to other methods, such as an interpreter or paper and pencil. There is certainly some relationship between the expressive and receptive communication practices of deaf individuals in given situations, but the extent of this relationship may vary, depending on the individual and the setting. For example, many students who in mainstream class settings are comfortable using their speech with hearing persons may also find that hearing persons communicate directly with them through speech rather than through paper and pencil or an interpreter. However, other deaf students who report using speech to communicate with hearing peers use an interpreter to understand teachers and hearing peers in class. This investigation also considered whether groups varying in expressive communication with hearing persons in mainstreamed classes also varied in how they communicated with deaf peers.

Communication Access

Students might also vary in opinions on the important situational factors and resources that influence access to and comfort with communication. Possible im-
Important issues include the communication practices and attitudes of the hearing professor, relationships with hearing students, and the quality of interpreting services. For example, among students who prefer using speech, tactics for dealing with a hearing professor in the classroom may be different than among students who prefer using voice and sign or only sign. A third objective of the study was to examine factors influencing communication access, using in-depth interviews with a subsample of the students.

Previous research suggests that issues of importance to deaf students in mainstream classes regarding communication access include understanding their hearing teachers, understanding hearing classmates, and keeping up with the pace of the class (Brown & Foster, 1989; Kluwin & Stinson, 1993; Libbey & Pronovost, 1980; Long, Stinson, Saur, & Liu, 1993). Hearing professors may speak extremely fast, move through material very rapidly, and may be insensitive to the needs of deaf students trying to follow the lecture through an interpreter (Foster & Elliott, 1986). In regard to following the conversations of peers, deaf students report missing information, not catching side conversations and jokes, and failing to grasp the full flavor of a discussion even when an interpreter is present (Brown & Foster, 1989). Foster (1993) found in interviewing deaf employees about hearing coworkers that deaf employees were not included in the conversations because the hearing employees would need to slow the pace of conversation, take turns, and face the deaf employee while speaking. Deaf students in mainstream settings may encounter similar difficulties.

Keeping up with the pace of the class is often a challenge for deaf students. Students using an interpreter must follow the transliterated message, which lags behind the spoken one. Hard-of-hearing students are likely to devote considerable effort simply to comprehending the message through lipreading. For either group, participating in a discussion is often difficult. Difficulties increase when the pace of the discussion is hurried—which may be encouraged by the teacher—or when more than one student speaks at a time (Brown & Foster, 1989).

While deaf and hard-of-hearing students in mainstream settings frequently encounter difficulties such as those described above, specific communication needs vary from student to student. For example, some hard-of-hearing students may be very concerned about how clearly classmates speak because comprehension of speech is important for successful interaction. While most deaf students may not have these concerns, they are likely to be concerned about the interpreter's effectiveness. Issues regarding access in the mainstream classroom primarily concern communication with hearing individuals. Communication with deaf peers is generally not mentioned as a difficulty (Foster & Brown, 1989). Sometimes, however, there may be communication difficulties among deaf peers, such as in some situations where deaf students who do not know sign language interact with those who use it for most communication.

In order to address these issues, both quantitative and qualitative methods were employed. We expected the qualitative descriptions of selected students to complement the quantitative information of all students regarding reactions to the communication demands of the college classroom in the cross-registered setting. We hoped that the interviews would provide rich, vivid descriptions of deaf students' thoughts and feelings about communication in the cross-registered classroom.

Method
Subjects
The subjects were 50 male and female deaf and hard-of-hearing students enrolled in the National Technical Institute for the Deaf (NTID), who were cross-registered in baccalaureate programs at the Rochester Institute of Technology (RIT). They were recruited through flyers that were placed in their departmental mail folders, and those who volunteered received stipends. Their ages ranged from 18 to 36 (M = 22.9 years, SD = 3.9 years). The mean pure tone average in the speech range for the better ear was 93.6 dB (range = 50 dB to 120 dB, SD = 16.3 dB). Their mean reading score as measured by reading comprehension scale on the California Achievement Test was 10.3 (range = 8 to 12.5, SD = 1.1). Their academic majors
Table 1  Examples, number of items, Person Separation Reliability (PSR), means (M), and standard deviations (SD) for the Classroom Communication Ease Scales

<table>
<thead>
<tr>
<th>Example</th>
<th>Number</th>
<th>PSR</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cognitive dimension</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;I understand my teachers' instructions about what is important to learn.&quot;</td>
<td>42</td>
<td>.92</td>
<td>4.10</td>
<td>.59</td>
</tr>
<tr>
<td>&quot;I understand my teachers well enough to join in class discussions.&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Affective dimension</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;When I communicate with my teachers, I am relaxed.&quot;</td>
<td>21</td>
<td>.91</td>
<td>4.39</td>
<td>.47</td>
</tr>
<tr>
<td>&quot;When hearing students don't understand me, I feel frustrated.&quot;</td>
<td></td>
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were distributed as follows: engineering, 34%; science, 16%; liberal arts, 14%; visual communication, 10%; and business, 26%.

Classroom Communication Ease Scale

Each student completed a Classroom Communication Ease Scale that had two sets of items: One set tapped a cognitive dimension, assessing students' understanding in the mainstreamed classroom, and the other set tapped an affective dimension, assessing positive and negative feelings about communication. For each item, there were six alternatives: 1 = never, 2 = almost never, 3 = sometimes, 4 = most of the time, 5 = almost always, and 6 = always. Responses to items were collapsed to four categories: 1 (old 1 and 2); 2 (3); 3 (4); and 4 (5, 6). For the cognitive and affective subscales, total scores were computed by averaging responses to all the questions in the subscale. Examples of the items, Person Separation Reliability (PSR), means, and standard deviations of the Classroom Communication Ease Scale for cognitive and affective subscales are shown in Table 1. Reliability was calculated with the PSR index, comparable to the K-R 20 measure of internal consistency, with values ranging from 0.0 to 1.0 (Wright & Linacre, 1991).

Six additional items at the end of the questionnaire asked about each respondent's preferred mode(s) of communication with teachers and peers. Three items asked about ways that students liked best to communicate (a) with teachers, (b) with hearing students, and (c) with deaf students. Three other items asked about how (d) teachers, (e) hearing students, and (f) deaf students best communicated with them. (With few exceptions the deaf students' teachers in mainstream classes at RIT are hearing and rely primarily on an interpreter for delivery of information.) For these items, the communication methods were speech, sign, voice and sign, writing notes, and using an interpreter. In addition, a seventh item asked about the number of other deaf students typically present in their classes. Students responded as follows: 0 other deaf students, 12 responses; 1–2 other deaf students, 22; 3–4 other deaf students, 16; 5 or more other deaf students, 9.

**Procedure.** The Classroom Communication Ease Scale was administered in small groups of no more than five persons. To ensure comprehension, at the beginning of testing the test administrator offered to read items aloud or read aloud and sign, whenever students requested it. When the administrator signed, the signing generally followed English word order. Most students completed the questionnaire in 20 minutes or less, with few or no questions.

For purposes of analyses, students were classified into two groups, based on their communication preferences in cross-registered classes as indicated by responses to the questions regarding preferred ways of communication with teachers and with hearing students. The speech-only group consisted of 21 students who reported that they used speech when communicating with both hearing professors and hearing peers, and the mixed communication mode group consisted of 29 students who reported that they used a variety of methods (sign, speech and sign, writing notes or using an interpreter) when communicating with professors and hearing peers. As used here, these preferences refer only to communication in one situation, mainstream classes at RIT. The categorization was not intended as a general classification of subjects' communication practices. Also, the categorization was based only on reported expressive communication, not receptive communication.
Interview

Eleven of the 50 deaf students also participated in an in-depth interview. These students were among the 25 science and engineering students who had completed the questionnaire and were those who had agreed to the interview for an additional stipend. The purpose of this interview was to understand more fully the students’ perceptions of communication in cross-registered classrooms. The interviews were open-ended, and participants were encouraged to pursue their own line of reasoning. Four of the interviewed students reported using speech with both hearing professors and hearing peers on the questionnaire and the other 7 students reported using mixed communication modes.

Procedure. The interviews were conducted in a quiet room on a one-to-one basis. An interpreter also voiced the interview into a tape recorder. Interviews were 15 minutes to an hour in length. The interviewer began by explaining to the student that the goal was to obtain information that might improve the communication access of cross-registered students. The students were also assured that all the comments would be kept confidential.

The interviews included the following topics: positive and negative communication experiences in mainstreamed classes, situations where it was difficult and where it was easy for the student to understand communication, comparison of the student’s experiences in mainstreamed classes as opposed to all-deaf classes, attitudes hearing students had toward mainstreamed deaf students; and relationships of the deaf student with other deaf students. These topics were not covered in a particular order in every interview. A voice interpreter repeated the interviewer’s and respondent’s sign and voice communication into a tape recorder, and verbatim typed transcripts were generated from the audio tapes. The typed transcripts were first coded into a number of categories and then collapsed into three larger categories: (a) communication with hearing professors, (b) communication with hearing students, and (c) communication with other deaf students. All the data of the interview were assigned to one of these three categories by one coder, and these decisions were reviewed by two other coders. Each of the three coders prepared a summary of one of these categories. Following the recommendations of Bogdan and Biklen (1992), these summaries were created by reviewing all comments in a category, grouping the comments into topics within each category, and generating summary statements about each topic that reflected what students tended to report. These statements were substantiated with quotations from the interviews. These summaries also were reviewed by another of the coders for appropriateness of content. Within each category there were (a) comments that frequently occurred among students in the speech-only group, but not among those in the mixed communication group; (b) comments that occurred frequently for the mixed communication group, but not the speech-only group; and (c) comments that occurred for both groups. These three groups of comments were kept separate from each other to show differences in communication practices and attitudes of the two groups, as well as to show their commonalities. For a comment to be assigned to either the speech-only or mixed communication group, it had to occur only for that group and not the other one.

Results

First, we present quantitative analyses that examined differences in the responses of the speech-only and mixed communication groups on the demographic measures and on the communication questionnaire. Then, we present qualitative data regarding perceptions of classroom communication and of resources that may enhance access.

Group Differences in Hearing Loss, Reading Achievement, and Communication Ease

To determine whether the two groups were different in level of hearing and reading comprehension, information on pure tone average for the better ear and on the California Achievement Test were compared for the groups with different communication preferences, and Table 2 presents the pertinent mean ratings and significance tests. Students in the speech-only group had less severe hearing losses \((p < .001)\) and had higher California Achievement Test reading comprehension
scores ($p < .01$) than those in the other group. In analyzing responses to the communication ease questionnaires, we found that students in the speech-only group thought they were able to receive and send a greater amount and a higher quality of information than did students in the mixed modality group ($p < .05$). However, mean scores of the two groups of students were not significantly different on the affective measure of communication ease.

**Group Differences in Self-Reported Communication Practices in the Classroom**

Additional analyses examined whether the groups with different communication preferences differed in other self-reported communication practices in the classroom. The first set of analyses examined whether students in the speech-only and mixed communication groups perceived differences in the way other deaf students communicated with them. For these questions, the four response alternatives were collapsed into two: (a) sign only and (b) other methods (speech voice and sign, writing notes, and using an interpreter). The top half of Table 3 shows the pertinent $2 \times 2$ frequency table and chi-square tests of significance. There was no significant difference in the way other deaf students communicated with the students in the speech-only group versus those in the mixed group. The next set of analyses addressed the question of how members of the two groups communicated with deaf peers. The bottom half of Table 3 shows the pertinent data. Students in the mixed communication group were more likely to communicate with deaf peers using sign than were students in the speech-only group.

Additional analyses examined whether the students' preferences regarding expressive communication with teachers and hearing peers were related to their preferences regarding receptive communication with these same people. In this analysis, the response alternatives were again collapsed: (a) speech only and (b) other methods (voice and sign, writing notes, and using an interpreter). The relevant data are presented in Table 4. Students in the speech-only group preferred their instructors and their hearing classmates to

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**Table 2** Mean scores ($M$) and standard deviations ($SD$) of deaf students using speech-only or mixed communication modes on reading comprehension, pure tone average, and cognitive and affective Classroom Communication Ease scales

<table>
<thead>
<tr>
<th></th>
<th>Speech-only (n = 21)</th>
<th>Mixed communication (n = 29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading comprehension</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Pure tone average</td>
<td>11.02</td>
<td>0.98</td>
</tr>
<tr>
<td>Cognitive scale</td>
<td>82.83</td>
<td>13.30</td>
</tr>
<tr>
<td>Affective scale</td>
<td>4.31</td>
<td>0.64</td>
</tr>
</tbody>
</table>

**Table 3** Frequency of communication methods students selected in response to questions about preferred ways of communication with deaf students

<table>
<thead>
<tr>
<th>Communication group (n = 49)</th>
<th>Modality</th>
<th>Other modality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ways deaf students communicate with you:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech only</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Mixed communication modes</td>
<td>15</td>
<td>13</td>
</tr>
</tbody>
</table>

Chi-square value ($1$) = 1.15 \( p = .28 \)

| Ways you communicate with deaf students: |           |                |
| Stud Speech only                    | 6         | 15             |
| Stud Mixed communication modes      | 17        | 11             |

Chi-square value ($1$) = 4.98 \( p = .03 \)
Table 4 Frequency of communication methods students selected in response to questions about preferred ways of communication with teachers and hearing peers

<table>
<thead>
<tr>
<th>Communication group (n = 47)</th>
<th>Modality</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ways teachers communicate with you:</td>
<td>Speech only</td>
<td>Other modality</td>
</tr>
<tr>
<td>Speech only</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>Mixed communication modes</td>
<td>5</td>
<td>22</td>
</tr>
</tbody>
</table>

Chi-square value (1) = 17.57  \( p = .00 \)

<table>
<thead>
<tr>
<th>Ways hearing peers communicate with you:</th>
<th>Speech only</th>
<th>Other modality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech only</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>Mixed communication modes</td>
<td>8</td>
<td>19</td>
</tr>
</tbody>
</table>

Chi-square value (1) = 7.52  \( p = .00 \)

use speech with them more frequently than did students in the mixed communication group (both \( p \)'s < .01). Thus, for communication with teachers and with hearing peers, there was a relationship between expressive and receptive communication. For communication with deaf peers, there was a relationship between expressive communication preferences with instructors and hearing peers and expressive communication with deaf peers; however, there was not a significant relationship between expressive communication preferences with instructors and hearing classmates and receptive communication preferences with deaf peers.

Interview

The interviews provided information about perceptions regarding communication practices and communication access in the cross-registered classroom. Qualitative analyses of the comments of the 11 students who also participated in the interview appear consistent with the larger group's responses to the questionnaire. The interview data also tended to support the overall conclusion that communication in the mainstreamed classroom is a challenge for all deaf students, regardless of preference of modality. The degree of challenge varies, depending on the characteristics of the students, the type of setting, and the attitude and sensitivity of hearing people. Several other themes also ran through the data:

- Having an interpreter in the classroom was seen as desirable and often necessary by most students, regardless of their preferred modality.
- Good communication among deaf and hearing people in the classroom depends on the awareness and cooperation of all persons involved.
- Facilitating communication is primarily the responsibility of the teacher. However, all hearing persons in the classroom need to learn about and be sensitive to the needs of deaf students.
- Successful deaf students develop strategies that enable them to communicate in a variety of situations, whether it is with the teacher and other students in the classroom or outside of the classroom.

The above are general themes found in the analysis. However, more specific results can be found within the individual communication categories and separated according to the modality preference of the students interviewed.

Communication with Hearing Professors

Students' perceptions of their communication with hearing professors varied depending on their preferred mode of communication.

Speech only. Students in this group tended to rely mostly on direct communication with their professors
(i.e., lipreading and residual hearing) and used an interpreter only as a backup when the communication was unclear or lost (e.g., the instructor turned around while talking to point out something on the blackboard and the deaf student was unable to speech read or hear what was said). These students also tended to emphasize the need for an instructor to have a strong, clear voice and to face students. They were much more likely to speak up in class than those using a mixed modality. Even they, however, selected the opportunities carefully. One student reported: "If I have a really specific question, I'll wait until after class and ask them... Something like more general questions, that would be something I would say in class." In general, speech-only students were comfortable in the mainstreamed classroom and disliked what they perceived as a slow instructional pace in classes in which all students were deaf.

**Mixed modality.** These students tended to make statements regarding the difficulty and frustration of communicating in the mainstreamed classroom. They also tended to depend more heavily on the interpreter than did students in the speech-only group. Despite the interpreter, however, there were problems dealing with the flow of classroom communication: "When the teacher will ask a question and they won't give the interpreter time to finish because they just want the answer really fast. And, they won't give the deaf student a chance to answer any of the questions." Students in this group expressed a preference for all-deaf classes or for instructors who would sign for themselves. These students were also more concerned about the competency of the interpreter and about having one particular interpreter for all sessions of a particular course. They were more at a loss when an interpreter did not show up and were also concerned about what the instructor would do if the interpreter was not present.

**Both groups.** Both groups of students indicated in one way or another that they relied heavily on the professor to be sensitive to their communication needs in the classroom. The instructor who made sure that the interpreter was present before starting class was greatly appreciated. Also noted were instructors who made sure the interpreter had time to deliver the message and who gave deaf students the opportunity to participate by controlling class discussion and being patient with slow communication.

**Communication with Hearing Students**

Another difference between the two modality groups was the way that these deaf students communicated with hearing persons; here, communication was with students both inside and outside of the classroom.

**Speech only.** Students who used speech only tended to emphasize that they had attended mainstreamed schools as they were growing up and had hearing friends. Their major complaints concerned the communication behavior of hearing students in the classroom. Comments ranged from complaints that hearing students mumbled to remarks that they spoke too fast and too softly. Even with an interpreter, communication was often hard to pick up. One student said, "You know, what bothered me is that a lot of hearing students won't use their voice loud enough for the interpreter to hear and that is one thing that really bothers me." Deaf students in this group tended to report strategies for dealing with hearing students that helped to forestall negative reactions. For example, one student reported the following:

Yeah. Because, if you inform them [the hearing students] from the beginning and let them know what kinds of things that you need to make communication clear, everything goes smoothly. If you don't inform them they just won't know. So, you just need to try to confront a hearing person and let them know and say, "Look, I'm hard of hearing. Could you speak a little louder?" Then they know. I've found when I came here that if you inform them first that you're hard of hearing... that really helps.

**Mixed modality.** Students in this group expressed the most frustration in dealing with hearing students. Often it was the fact that hearing students were not patient or willing to repeat; other times it was that hearing students were very short and brief with their communication or appeared to be trying to get away...
from a deaf student. Again, students developed strategies for making communication as clear as possible. One student, for example, reported that "if that person does not know sign language, I prefer to write. That will prevent misunderstanding." On the positive side, some students saw the hearing students as being more cooperative at times than an instructor:

I think that a lot of times, the students cooperate more than the teacher does. The teacher tries to keep things going in class. There are a lot of times that the interpreter will tell the students to talk one at a time. Most of the students cooperate with that, but sometimes the instructor likes to keep the class moving and keep it going fast.

Both groups. Students expressed an appreciation for hearing students who made the effort to learn sign language and tried to adapt to the deaf students' communication needs in general. One student reported on his experience in a laboratory section:

Yeah, well, there was one person who knew sign language. I talked to him ... and that had been good, you know, he's in my lab. That was before. One time there was a teacher and he didn't understand ... So in that situation ... one time the teacher was lecturing and the interpreter was gone, but I had forgotten something. So, after the lecture I asked that student who knew sign language, I asked, "Well, what does this mean? What work should I do here?" So he explained to me in sign language, and I thought that was really nice and he really helped me.

A communication situation both groups felt particularly difficult was the class discussion, especially when the discussion group is relatively large. Deaf students described three group communication behaviors of hearing students that contribute to these communication difficulties: more than one student talking at a time, rapid give-and-take, and discussing too many ideas at the same time. One student described such communication behaviors: "Typically the hearing don't talk or want to talk in any particular order and they'll just throw in their ideas." In such difficult communication situations, deaf students know they miss much. As one student put it:

OK. Maybe, if there is more than one hearing student in a group and more than one student is talking at the same time, I'll get confused because I don't know who's talking and I don't know what they're talking about.

In rapid, unordered discussion deaf students, regardless of their communication preferences, rely more heavily on the interpreter than they might normally; moreover, the deaf students often perceive the interpreter as pressed to keep up with rapid discussion.

Communication with Other Deaf Students

Communication barriers clearly exist among groups of deaf students. Communication with other deaf students is complicated by the fact that they come from a variety of educational experiences and communication environments. These barriers vary according to the preferences of the students themselves.

Speech only. Students in this group tended to report a separation between themselves and students who almost always use sign. The speech-only students tended to have grown up in the oral tradition and found sign language, especially American Sign Language, difficult to understand. Their preference was for signed English. Comments indicated that these students felt rejected and alienated from students fluent in sign. One student commented, "When I first arrived here last year, a lot of people really hated me. A lot of deaf people would spread rumors about me because I don't know sign; they called me 'think hearing.'" Distinctive social groups seem to form based on deaf students' communication preferences. Students in the speech-only group tended to be together because of their shared preference:

I tend to hang out with the more oral students who use that kind of communication. I find that's easier when you find someone who is more oral. So, that kind of difference constantly pulls us away from each other.

Mixed Modality. Students in the mixed group tended to have an easier time communicating with other deaf students. As one student commented, "If I understand the topics, I'll understand them (no matter whether)
they are using ASL or signed English or whatever.”

Another student commented about deaf students who have learned a variety of ways of communicating, referring to these students as “they”: “They grew up different ways. Some of them learn from each other when they interact and they’ll negotiate different ways to communicate.” Students in this group expressed a preference for all-deaf classes. However, some of them were ambivalent because of the slower pace of such classes as opposed to the pace of a typical mainstreamed class with an interpreter. Thus communication comfort was weighted against the flow of information and, perhaps, academic challenge.

Both groups. In general, students found communication with other deaf students easier than with hearing persons. However, some students found communication with other deaf students more of a challenge than might be expected. In this instance, it is the students of mixed modality who have the easier time communicating with deaf peers than do the students in the speech-only group. The advantage, then, that members of one group have over members of the other is clearly tied to context and with whom they are communicating. In the mainstreamed classroom with hearing students and instructor, it is the speech-only group that holds the communication advantage; in social groups with other deaf persons, the mixed modality group has the advantage.

Both groups of students commented that they like classes where there are a number of other deaf students in class who can help. One student described the experience in this way: “Before I started the homework assignment or started studying for the test we will sit down and make sure that we all understand. It will be kind of like a study group.” Other kinds of help that deaf students can offer each other include getting feedback and asking and answering questions about what is going on in class.

Discussion

Varying Needs of Cross-Registered Students

When the questionnaire and interview results were considered together, they showed that the communication needs of cross-registered students in one post-secondary institution varied considerably. Students varied in perceived ease of communication with hearing peers and professors, degree of hearing loss, reading proficiency, and concerns about access. It is a considerable challenge for interpreting and other support services to serve these various needs, especially when it is not unusual for these variations to occur in the same classroom. Meeting this challenge by providing, to the greatest extent possible, the combination of resources that best matches individual students’ needs may be desirable not only from an immediate educational standpoint but also from a lifelong developmental perspective. Deaf individuals will always need a variety of resources in order to contend with the demands of functioning with hearing persons. Deaf persons must learn what their unique needs for resources are and how to obtain them (Saur, 1992). When deaf students and educators work together to identify and implement the particular resources that best suit the student, this learning is facilitated.

Communication Difficulties in Mainstream Settings

The results also point to the apparent unease in the mainstreamed classroom of deaf students who had preferences for a variety of communication methods. Such students tended to perceive themselves as having greater difficulty with communication in this setting. One reason for this difference may have been the greater proficiency of the speech-only group in English in class settings where English is the language for delivery of instruction. For all deaf students in the mainstream classroom there is a gap between personal comprehension and the ongoing classroom discourse (Foster & Brown, 1989; Saur, et al., 1986). This gap seemed to be greater for the students who reported using a mixed communication mode. In considering this conclusion, it is important to keep in mind that the communication classification was intended only for a specific education situation with instructors and hearing students. Students were not classified in terms of how they would communicate outside the mainstream classroom with various individuals. The gap can be attributed, in part, to several factors, including loss of information as a result of the simultaneous interpreting task, limitations in English proficiency, difficulty in participating in discussion because of lag time between
the interpreted message and actual discourse, and lack of access to informal comments and jokes among hearing students (Garrison, Long, & Stinson, 1994; Moores, 1987; Quigley & Kretschmer, 1982; Saur, 1992). Thus, deaf students in the mainstream setting may experience a psychological sense of separation from class and instruction.

Certain physical and social factors also may contribute to the sense of separation. Because of the need to position themselves to see the interpreter and the teacher and to have companionship, deaf students tend to sit together, creating an identifiable entity. In addition, deaf students often go to tutors fluent in sign language for help rather than to their classroom instructors, and this too may contribute to the sense of separation (Foster & Brown, 1989). While we suggest that the sense of separation may have been greater for the mixed modality students, these feelings are likely to occur among all deaf students, especially when they participate in groups primarily comprising hearing classmates.

These conclusions may be applicable to deaf high school students in mainstream settings, as well as to college students. High school students vary in the extent they report using different communication modes, and these students also have varying needs for communication access (Kluwin & Stinson, 1993; Zawolkow & DeFiore, 1986). High school learning environments are different from college ones. Even so, many high school students will struggle with the same communication issues that college students face, such as having difficulty participating in discussion groups.

We have suggested that students in the speech-only and mixed modality groups differed from each other in their perceptions about communication access in the cross-registered classroom. These suggestions, however, are based on qualitative data for only 11 students—4 in the speech-only group and 7 in the mixed communication group. While the differences in perceptions are interesting, these results need corroboration in studies with more students in each group.

Improving Communication Access

Much remains to be done to find ways to improve access to communication for deaf students in the mainstream setting. More needs to be learned about the effects of the classroom teacher. The deaf students believed that the teacher had a key role in facilitating or limiting their communication access and participation. For example on the first day of a sociology class at RIT that included four deaf students, one professor made the following comment:

Many deaf students need to have a clear line of contact between themselves and the interpreter. Many of them depend on speech reading to communicate. When the interpreter is signing for a hearing student, the deaf student usually watches the interpreter. However, when the interpreter is voicing for a deaf student, the hearing students need to look at the deaf students. There is also a lag time that is created because the interpreter needs to listen to me and then interpret. Please be aware of this so that everyone can participate. The interpreter can only interpret one conversation at one time. You can see that these few communication tips will benefit all of us. If you have not had an interpreter in a class before, I am sure she will be able to explain her role. (K. Crawford, personal communication, December 5, 1994)

While continuing support is necessary, a statement like the preceding one may help set the right tone for the class and create conditions where deaf students are likely to enjoy good communication access. We still know little, however, about the actual effect of such teacher actions upon the dynamics of mainstream classes.

We need to learn more, also, about how deaf and hearing students can communicate effectively in small groups, including more about the roles of the interpreter and teacher in controlling the pace of the discussion. Prerequisite for the success of any communication effort is a commitment to be successful. Instructors, hearing students, and deaf students share responsibility to make successful communication happen.

References


