A high-tech day in the life of a deaf student

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From the moment her alarm shakes her from slumber every school day, Michelle Gerson is wired. Or, more accurately, wireless.

Gerson, a second-year professional and technical communications major at Rochester Institute of Technology, has been deaf since she was $3\frac{1}{2}$. She relies on various high-tech innovations to get her to class on time, understand instructors, make plans with friends and keep up with family in Rutherford.

What's a typical day in her life like? Read on. ...

9:15 a.m.

Gerson's Sonic Boom Alarm Clock With Bed Shaker rouses her for a 10 o'clock effective speaking class. The device, made by Sonic Alert, consists of an electronic clock unit about 4 inches in diameter, and a small 12-volt vibrating unit that plugs into it and goes between the mattress and box spring.

Gerson also plugs a lamp into the clock to help rouse her. The system, she reports, "has never failed to wake me up - only once when I set it improperly."

10 a.m.

Gerson takes a seat and opens a laptop on her desk. Though she can't hear the professor, she can follow every word thanks to C-Print, a speech-to-text transcription system used at RIT and many other schools. It was developed at the National Technical Institute for the Deaf, which is part of RIT.

As the professor lectures, a trained captionist types the words into a laptop, using abbreviation software. The input is displayed simultaneously on the deaf students' monitors so they can follow the lecture in close to real time.

If Gerson has a question, she types it into her laptop and the captionist voices it for her, then types the answer. After class, a transcript is available on a university's Web site for review purposes.

"C-Print is a beautiful thing, it really is," Gerson says. "The entire class, typed up and on the computer, with practically every word the professor uttered in the course of an hour and 50 minutes. If C-Print is provided in the class, all of us [deaf students] take advantage of it."

Noon

Gerson's pager vibrates, indicating an incoming message.

"Hi, Sunshine - the bursar's office called. You have to sign your loan check! Let me know when you do this. Love, Mom."

While most of the 1,100 hard-of-hearing students on the RIT campus use e-mail and instant messaging to communicate with friends and family, they also have vibrating two-way pagers designed for people with hearing loss.

The devices - slightly bigger than a credit card - are usually kept in a hip holster like a cellphone, says Karen Black, media relations director for NTID.

"It flips open [some models stay open] and you can read your text message. It has an entire keyboard and you use your thumbs to type back your response," Black says. In the halls, she adds, "most of the students are walking with their heads down, typing madly with their thumbs on their pagers."

Gerson has been using Wynd|Tell, a nationwide wireless service available on specific Motorola and RIM pagers. It provides access to e-mail, TTY (teletypewriter) and fax, and can interface with regular phones.

Some students use a BlackBerry or T-Mobile Sidekick with similar features.

"I chose the Sidekick for its technology advantages that I can use every day without having to go onto my computer to contact people," says Ariel Meltzer, a hard-of-hearing RIT student from Mountain Lakes. "It makes my life much more simple.

"It also has a phone, and I can text message my hearing friends who have cellphones. It is very awesome."

12:15 p.m.

Gerson stops into the school library.

Although she can ask the librarian for the material she needs, other deaf students make requests via Interpretype, a new invention by a Rochester entrepreneur that's also been installed in the university registrar's office and student health center, and in the city's public library and international airport.

Basically, it's two networked laptops set up on a counter for instant messaging on location. Hearing students can use it to communicate with the university's deaf librarian, too.

12:45 p.m.

Gerson's pager is vibrating again.

"Hey, want to meet at the Ritz before our 2 p.m. class?" a friend messages.

She quickly types back an affirmative reply.

"Like most people cannot imagine life without a cellphone, I cannot imagine life without a pager," Gerson says.

2 p.m.

Time for Gerson's professional writing class. Here, she follows along with the help of a sign-language interpreter. Though she likes C-Print, she can more easily participate in class discussions without the time delay imposed by the technology.

Meltzer uses a third option: a paid note-taker provided by NTID.

These notes, like the C-Print transcript, are available at the end of the day on a university Web site.

"You can view them and print them out, or just look over them and choose to make your own notes," Meltzer says.

6 p.m.

Gerson gets together with friends to watch MTV's "Real World," which she follows using closed captions. ("Closed" means viewers need a special decoder or a television with built-in decoder circuitry.) The technology allows her to indulge her penchant for reality

TV.

|9 p.m.

Strobe lights start flashing in Gerson's dormitory, but she doesn't panic. Earlier in the day, she'd received an e-mail alerting her to a routine test of the dorm's fire-alarm system. Otherwise, she'd take the flashing as a sign to leave the building.

Midnight

Gerson sets her Sonic Alert to get her up at 7:15 for an 8 a.m. class. Sweet dreams!

Working to level the field

"Technological advances continue at breakneck speed, and continue to close the gap and level the playing field for deaf and hard-of-hearing people in the classroom, workplace and home," says T. Alan Hurwitz, head of the National Technical Institute for the Deaf at Rochester Institute of Technology.

"For example," he says, "with advances like two-way pagers, AIM [AOL Instant Messenger], videophones and real-time speech-to-text captioning, including C-Print, communication is instantaneous, allowing deaf people to participate immediately.

"Without these devices, there is usually a delay, causing the deaf or hard-of-hearing person to be in continuous 'catch-up' mode."

Hurwitz, a former electrical engineer, is NTID's first deaf dean. He consults for numerous organizations related to deaf and hard-of-hearing education and issues, and he also is a vice president of RIT.

Hurwitz adds that retailers - such as Kodak, Xerox, IBM, Microsoft and Wal-Mart - "are finally recognizing there's a huge market among deaf and hard-of-hearing people."

Other examples:

AT&T has adopted a barrier-free design as a protocol for all new-product developments, and is working on a prototype voice-recognition technology that Hurwitz says could be a breakthrough for people with hearing and speech disabilities.

Disney Cruise Lines provides special equipment upon request in its boats' staterooms, such as a blinking smoke alarm, bed-shaker alarm and TTY telephone. Disney World has installed captioning inside many of its rides to enhance its existing services for the deaf and hard of hearing.

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