Wichita State University

Marantz PMD670 sharpens speech pathology capabilities at Wichita State University

When people talk, Tony DiLollo listens very carefully.

DiLollo, an assistant professor of speech-language pathology in the Department of Communicative Disorders and Sciences at Wichita State University, does qualitative research that requires meticulous attention to and reproduction of people's speech.

Attention is no problem. It's the reproduction that has caused headaches for DiLollo.

"When you go out with a little portable tape recorder to record interviews, you get a lot of background noise and sections of the tape are difficult to understand," he says. "There's not much you can do about it except rewind and play it again, and again, and again. People have used DAT tapes and recorders, but those are very expensive and not many people have access to them."

The solution for DiLollo and his department is the Marantz PMD670, a state-of-the-art audio recorder that stores extremely high-quality recordings on compact flash cards similar to those in digital cameras.

"The PMD670 allows me to record an interview, download it to the computer and listen as I transcribe," DiLollo says. "I work with people who stutter, and if a section is hard to understand, it's very easy to play it over and over."

For permanent storage, the files can be burned to compact disks in tracks that can be labeled for easy retrieval of only the data needed for a particular report.

Wichita State University professor Tony DiLollo introduces his students to the PMD670.

"Generally, I'm looking for specific things subjects say," DiLollo says. "I look for common themes that I extract from their narratives, and the easier it is to transcribe, the more reliable the themes are – I know I'm using what they actually said."

The PMD670's portability means the 10 doctoral and eight clinical faculty members at Wichita State can record clients in any setting, from home to hospital to nursing home, when the clients can't get to the campus lab.

"Clinicians are always recording clients' speech to analyze use of language, but they also record responses to do voice or acoustic analysis," says DiLollo. "With this unit they'll be able to collect samples digitally anywhere and then open them in an analysis program."

Professional Solid-State Recorder

PMD670

In acoustic analysis, speech-language pathologists study speech in terms of the different frequencies that make up speech signals. It's an important tool, because it allows the pathologists to pinpoint therapies.

"Each sound is uniquely constructed with frequencies," DiLollo says. "If someone isn't sounding right, acoustic analysis allows us to identify what to work on."

That means that frequency responses in the recording device the clinicians use must be broad enough to accurately depict every sound – a requirement other digital recorders didn't meet.

"I looked at some other digital recorders, but they just didn't have the frequency response that was important for me," says DiLollo. "Not only that, the quality of those recordings was no better – and in some cases worse – than cassette tapes."

He adds that the PMD670 produces hi-fidelity recordings that rival DAT tapes for clarity. "The quality of the recordings is much better than anything else I've found on the market," he says.

The quality is so impressive that the university purchased two units – one for the doctoral faculty to use in research and one for the clinical faculty to use in clinical applications. At present, the faculty is using the devices largely to record people speaking, but DiLollo anticipates many more applications as the staff becomes more familiar with the equipment's capabilities.

"I'm sure we'll do voice analysis, and we may like to move into using the PMD670 to demonstrate progress over time," he says. "We do a lot of report writing for Medicare and third-party reimbursement, and this would be a very powerful way to demonstrate progress. We could record short samples and responses and save different files that represent progress over time."

DiLollo is already introducing the next generation of speech-language pathologists to benefits of technology such as the PMD670. When a doctoral student needed specific high-frequency components of some sounds to use in her dissertation project, for example, he suggested the PMD670. The PMD670 produced high-quality recordings with very little noise, and the higher-frequency components were clearly audible. As a result, the student was able to record the necessary stimuli, download it to a laptop and administer the tests she needed for her work in child language and literacy.

"This student now has exposure to this research technology, and she's seeing the clinical applications," DiLollo says. "When students understand the technology and its applications, they can make good arguments for adopting it when they get into their own workplaces. I'm sure there are hundreds of additional applications that I haven't even thought of yet."

Wichita State University

Founded: 1895

Enrollment: More than 15,000

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Athletics: Division I

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