

TWO COMPILATIONS: Hearing-impaired students in physics class

Date: Wed, 8 Jul 1998

From: Kathleen M. Andre Harper

In one of our discussions today at the Maryland workshop, the issue of students with disabilities was brought up. Does anyone out there have experience with this in their modeling classes? Specifically, one of our participants knows that he will have a deaf student in his class next year. Are there any tips or experiences we could share with our participants?

Date: Wed, 8 Jul 1998

From: FPoodry@AOL.COM

My school has a program for deaf and hard of hearing students, some of whom get mainstreamed into physics. While I did not have a deaf student in my modeling classes, there are a number of accommodations that should be made.

First, for a totally deaf student who communicates using ASL, there should be an interpreter assigned to work with this student. The interpreter should be given lesson plans and vocabulary lists in advance--sometimes they need to work out signs for specific terms. Also, it is important to discuss with the interpreter the differences between certain related terms like speed and velocity and acceleration, so that they can translate the correct concepts.

Some students with profound hearing loss are able to use hearing aids or a radio transmitter with pickup worn by the teacher during class and an amplifier worn by the student. The radio setup would be very difficult in a modeling classroom, since so many people need to talk.

Deaf students cannot take notes and "listen" at the same time, since they need to rely on their eyes for both. If they are paired with a "buddy" who has a supply of carbon paper, notes can be taken for them.

Often, mainstreamed deaf students know they have to work very hard to succeed, and so they do. I have enjoyed working with them!

Date: Thu, 9 Jul 1998

From: Jerel Welker <jwelker@LPS.ORG>

One additional point regarding hearing impaired students. Many students are very good lip readers. Thus it is important to speak with your face visible to them. Thus you may need to adjust a little when using a whiteboard or chalkboard.

Date: Sat, 11 Jul 1998

From: Reba Wilson

Because I'm a "hearing impaired" student, I've been very interested in following your comments about disabled students in the classroom. I wear two hearing aids. They have been a great help, but they do have faults. For instance, if several people are talking at the same time in the same room, as it would be in whiteboarding, it's almost impossible for me to sort out the voices--I hear bits and pieces of them all, unless I turn my hearing aids down so low that I miss part of the sound of my own group. Maybe you could arrange for the group the hearing impaired student is in to be in a corner as far as possible from the other groups.

The comment about deaf students reading lips applies also to some of us that wear hearing aids, although we don't really read lips. It's just one of the little things that experience teaches us to do, because facial expressions sometimes gives us clues so we can fill in the "blanks."

One of the biggest problems is something that none of you can do anything about. It is simply that there are many different kinds of hearing loss and what works for one of us might not work for another. For me, some voices come through loud and clear, and others I'm lucky to catch a word

now and then. Some of us with hearing loss hear deep voices well and can't hear the upper registers. For others, that's reversed.

The point I want to make is that we're all different. If you try something and it doesn't work, try something else. And don't be shy about asking the student for advice! They, more than anyone, know what would help.

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[Jane's note: Reba IS a student - although she's retired, she has completed coursework for a master's degree in history, with an emphasis on Greek mythology. She tells me she became aware of her hearing loss when she started college in her late teens.]

Date: Fri, 3 Sep 1999
From: "Daniel W. Sutherland" <chmtcher@WEBSPAN.NET>

I will be teaching a class of physical science students of which a third is hearing impaired (my school is a magnet school for hearing impaired students, as well as a public school - it goes along with the school within a school concept). I have an interpreter in the class as well as a science teacher that can also sign.

Does anyone have any suggestions for either of the two questions:

1. Grouping of students during labs - what is the best situation when going through the paradigm labs with hearing impaired kids? Heterogeneous would require the interpreter to be running all over the place in order for communication to happen between the hearing and hearing-impaired kids. I feel homogeneous would cause too much separation.
2. Whiteboarding - I know the interpreter could interpret for the hearing kids, and vice versa, but I am looking for a route that provides the best two-way communication between the presenters and the rest of the class.

Does anyone have any experience with this that could tell me what works / does not work?

Date: Sun, 5 Sep 1999
From: SBrown <browns@ESKIMO.COM>

Yes. I have had several deaf students in both Chemistry and Physics (same kids). None this year, though.

- >1. Grouping of students during labs - what is the best situation when going
>through the paradigm labs with hearing impaired kids? Heterogeneous would
>require the interpreter to be running all over the place in order for
>communication to happen between the hearing and hearing impaired kids. I
>feel homogeneous would cause to much separation.

For the introduction, the interpreter should be at the front next to you. If all the kids have unobstructed sight lines, this is a non-issue. As for lab groups, I mix up the kids. I have several hearing students who take ASL as their foreign language. Obviously, these kids are the best partners -- they are usually willing to help. If no such students exist for you, solicit a few kind students. It helps the deaf students to have one hearing student in the group -- otherwise they will miss out. When I had deaf-only groups the kids would often not "listen" as carefully during the lab when they needed instruction.

During lab, position the groups adjacent to each other. It keeps the interpreter from running his/her feet off. It helps if every one in the class learns a few basic signs (it's not only polite/kind but helps all of them be successful) Writing notes to be understood is the fall-back.

- >2. Whiteboarding - I know the interpreter could interpret for the hearing
>kids, and vice versa, but I am looking for a route that provides the best
>two way communication between the presenters and the rest of the class.

Whiteboarding was interesting to say the least. This is where the quality of interpreter matters greatly. The first interpreters I had (in Chemistry) were excellent with the technical terms. The one we had in Physics was more colloquial when she interpreted to the deaf student. This was problematic when I was questioning him on some finer point. It was difficult to gauge how well the concept was understood.

I know some ASL (very rusty) which is helpful when the interpreter wasn't there (bathroom break or after school). It is distracting for the deaf students to see two people signing, so I had to fight the urge to sign an answer to questions. I found that I wrote more on the board with deaf students -- something I should probably do more often. I know this doesn't work for whiteboarding, but it helps when you are communicating one-on-one with the deaf student.

It is vital that the deaf kids get their say during whiteboarding -- if not, they will be marginalized and tune out the rest of the discussion. When other kids asked questions, I was impressed at how *clear* they were -- If only they put that kind of thought into their questions for hearing students.