## USING TELECONFERENCING FOR A PLANETARIUM LESSON

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Before coming to West Virginia, I worked for Delaware-Chenango BOCES as their telelearning coordinator. BOCES stands for "Board of Cooperative Educational Services." Such organizations exist throughout New York State for the purpose of pooling resources of school systems and providing services and equipment they might be unable to afford on their own. Examples of the services they provide include distance learning, vocational education, computer services, *etc.* Our BOCES owned a portable Starlab planetarium for loan to member school districts.

Carol Kwiencinski, from Downsville Central School in Downsville, New York, used the portable planetarium with her students. Her students asked her many questions she could not answer, particularly about black holes. As an add-on to her planetarium session, she approached me to do a teleconference with a planetarium director, Mitch Luman of the Koch Planetarium and Science Center, Evansville, Indiana. To set up the conference, we used a speakerphone, which is basically a set of amplifiers and microphones that allow students to speak and listen to a telephone conversation as a group.

Prior to the conference students read information on black holes and devised a list of questions. The day of the conference, students addressed their questions to someone many miles away who had become familiar to them. A tape made of the conference sounded as though the students and Mr. Luman were in the same room.

The key to success of a teleconference is selecting the appropriate equipment, preparing both ends prior to the teleconference, and choosing a dynamic speaker who can make the conversation a "dialog" rather than a lecture.

Teleconferencing could be of great use to a small school or planetarium incapable of having a speaker travel to their facility. Slides and/or videos could be used before, after, or during the teleconference.

With the use of AT&T's Alliance Service, it is possible to link more than one location, enabling several groups or individuals to speak at the same time from many locations. This system is useful in holding committee meetings.

Perhaps teleconferencing can be used to bring more astronomers into classrooms that couldn't afford to have access to them before.

Ed. Note: As of 1989, picture-phone systems capable of transmitting one image every 5 seconds are available at a cost of \$400 per instrument.