Using a Planetarium

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The sudden increase in knowledge concerning space has prompted the consideration of new ways in which we may include this information in an established curriculum at both the elementary and secondary levels. One way is through the use of a planetarium. Not only is the instrument (projector) used to illustrate descriptive astronomy, but also longitude and latitude, spherical concepts in mathematics, and physical laws of motion. Since planetarium use is restricted only by the availability of a trained lecturer, a school may offer this facility to outside groups such as the Boy Scouts or Power Squadron classes.

The Plymouth-Whitemarsh junior-senior high school, located immediately outside Philadelphia at Plymouth Meeting, Pennsylvania, is entering its second year of a program that integrates the use of the planetarium with certain courses at various grade levels. Among the criteria that determine the amount of use and the grade level of presentation are: availability of a planetarium lecturer, curriculum of both the elementary and secondary schools in the district, number of students in each grade, and logistical problems such as the distance from the planetarium to other schools in the district.

The planetarium at this high school was built by Spitz Laboratories of Yorklyn, Delaware, and was placed in a standard size classroom at the time of construction of the junior high building. The dome has a diameter of 24 feet, permitting room for 50 adults, although 30-35 should be considered a maximum number that can be comfortably accommodated if slides are projected on the dome from a projector located next to the lecturer. Because of the increased sensitivity of an individual's senses when he is seated in a darkened room, appropriate seating and air-conditioning are necessary.

Approximately 50 percent of the lectures this year are at the elementary level. Fourth, fifth, and sixth grades come to the planetarium (during their astronomy unit) for a sequence of visits that were scheduled at the beginning of the year. The planetarium director visits each elementary class prior to the first planetarium visit in order to orient the students and to make an estimate of the level of knowledge of the class as to terms and concepts that will be illustrated in the planetarium.

Seventh grade geography classes study longitude and latitude in the planetarium. Each eighth grade earth and space science class visits the planetarium for approximately ten class periods (45 minutes each). A minor elective course in space science is offered to juniors and seniors. Fifty percent of the class meetings of the adult evening astronomy program are held in the planetarium. The proper spacing of visits to the planetarium is important in order to permit class discussion and development of additional background material.

At Plymouth-Whitemarsh, the planetarium director teaches part time in addition to conducting the planetarium program. Next year there will be an additional part-time lecturer available, thereby giving the program greater flexibility. Larger school districts employ full-time planetarium lecturers.

The desirability of a planetarium in a particular school district depends upon many factors that can be weighed only by that district: What type of student makes up the school population? What is the tax situation for financing such an installation? How receptive is the community to such an expenditure? Can the planetarium program be integrated into the curriculum so that the visits are properly timed for a particular class? Is there sufficient inservice time available to acquaint the teachers with the effect of a planetarium upon their teaching program?

There are many advantages afforded the student who is exposed to instruction supplemented by the planetarium. One of these advantages is the ease with which more subject matter can be assimilated in less time with far greater understanding and retention than is possible in a standard classroom situation. # #