TEACHER PARTICIPATION IN EARTHQUAKE CURRICULA

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ABSTRACT

In the development of curricula to educate the K-6 children of the United States in Earthquake Awareness, a series of alternative projects has been developed by various federal, national, state, and local organizations. These projects/curricula should, at least in part, be designed and written by the teacher-practitioners who have, and will be using, these materials in the classrooms. The National Science Teacher Association-Federal Emergency Management Agency 1988 K-6 Curriculum Project is an example of such a program involving numerous teacher-participants. Selected characteristics and aspects of the development of this curriculum are contained herein.

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Mr. Jeffrey Callister has been and continues in the position of instructor of Earth Science and Geology at a public high school and an instructor in Earth Science and Geology at two community colleges. He is also on the staff of the State University College at New Paltz in the Education and Geology departments. The author of numerous publications, most recently Mr. Callister was one of three major authors of Earthquake: A Teacher's Package for K-6 and largely responsible for the grade 5 and 6 materials and a major proportion of the approximately 70 audio visual blackline masters. In the week following this conference, Mr. Callister will be one of three "Train-the-Trainer" people for FEMA to teach a 3 day workshop related to Earthquakes: A Teacher's Package for K-6 in St. Louis, Missouri.

To assure maximum use and minimum waste of our precious and limited time and resources the development of pre-college curricula in earthquake disaster preparedness should be produced, at least in large part, by those teacher/practitioners that will be implementing the curricula in the classrooms. I will state some reasons why I strongly believe in this concept using the 1988 curriculum project by FEMA/NSTA, called Earthquakes: A Teachers Package for K-6, as an example.

Earthquakes: A Teachers Package for K-6 is a good example because it is the result of the vision of Marilyn MacCabe from FEMA, reflected in how the grant was written, and the tradition of insistence on teacher involvement at NSTA as implemented by Phyllis Marcuccio.

This curriculum has 6 units: Defining an Earthquake, Why and Where Earthquakes Occur, Physical Results of Earthquakes, Measuring Earthquakes, Recognizing an Earthquake, and Earthquake Safety and Survival. It is divided into 3 grade levels (K-2, 3-4, and 5-6).

Because those developing the curriculum felt that students learn holistically, this curriculum includes lessons and materials from language arts, mathematics, social studies, art, and music as well as earth science and geology. Most of this curriculum is a series of student involvement activities based on the central theme of earthquakes. Each unit has background reading, a scope and sequence chart, materials list, instructional resources, references, and blackline masters designed for reproduction and production of overheads.

Pre-college teachers should comprise a large part of the teams that produce earthquake curricula for a number of reasons:

1. User teachers feel comfortable using materials produced by colleagues.

2. Pre-college teachers have students that are readily available to test out ideas and materials in the early design and writing stages of a curriculum project. In the development of Earthquakes, the authors found that many of our "great ideas" just did not work in the classroom.

3. Pre-college teachers have the colleague contacts needed to provide the all important function of field testing. You can't use people that just want their name in print. Pre-college teachers know which of their colleagues are going to do a quality job.

4. The appropriateness of vocabulary for grade level will be maintained by the pre-college teachers. For example, "lateral" or "sideways plate boundary" is acceptable terminology for grade school instead of transform fault (p. 45). The vocabulary used, in large part, should be those words already commonly used in present day school curricula and texts. The use of some alternate synonym or new buzz word (such as hypocenter versus epicenter) will be discouraged with use of pre-college teachers (p. 28).

5. Pre-college teachers will select and create activities appropriate for the various age levels. This is important since teachers selecting curricula are more likely to select appropriate as well as familiar materials and activities for their students. Teachers are only going to use materials they feel will work.

6. Pre-college teachers will select and design activities that use materials and supplies that already exist in most schools. This is so important because curricula that demand materials that are expensive, very specific, or not readily available will cause teachers NOT to elect to use such curricula. When curricula are photocopied, or otherwise passed along, special kits, materials, etc. are often not transferred thus, a part of the curriculum becomes useless.

7. During trial testing, students will pass along suggestions to teachers for alternate procedures and materials. In the Earthquakes development process, students suggested the use of a plastic bag of hot water instead of a "fancy" immersion heater (p. 52). Another student suggested the use of quart milk containers instead of gutter sections (p. 84). Without the vast number of uninhibited, open-minded students the entrenched ideas of adults would dominate most curriculum projects.

8. Finally, the importance of reducing pre-college teacher burnout is a further reason why these individuals should be used in curriculum development projects. If many pre-college teachers are not allowed to use knowledge, content background, writing and investigation development skills they will either leave the profession or become a poorer teacher. Working on curriculum projects is a stimulating and satisfying activity that meets the needs of skillful, pre-college classroom teachers. With the graying and early retirement of a vast proportion of the pre-college teacher profession, working on curriculum projects can be one of the ways to keep the skilled practitioners in the classrooms.

REFERENCES

FEMA/NSTA. (1988). Earthquakes. Washington, DC: FEMA-159.