SLOW SCHOLARS CONSIDER THE REALITIES OF SIGNIFICANT SEISMICITY

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ABSTRACT

Washington is a state that has a significant history of and potential for violent natural disaster from such events as fires, winds, volcanic eruptions, tsunamis, and earthquakes. The Kindergarten through grade twelve education system has not made this reality a component of their everyday educational practice. The system currently has other priorities that line up well ahead of earthquakes such as reading, mathematics, writing, HIV-AIDS, drugs, alcohol, violence, driver training, dropouts, school lunches, and money.

A recent significant national conference and subsequent report indicated that "large subduction earthquakes on the Cascadia subduction zone pose a potential seismic hazard, and the potential exists for a great earthquake being of magnitude 8 or 9." A growing effort among the scientific community to inform us about this probable seismicity and a resulting awareness on the part of a few educators is beginning to bring the reality of the earthquake problem to the attention of educational decision-makers.

A thorough knowledge of the structure of education programs and of key characteristics of the education community will play a large role in how well we can assist a significant percentage of our population to prepare for such an eventuality as significant seismic shock.

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INTRODUCTION

Successful design, development, and installation of an earthquake emergency planning and instruction program in all public and private schools will enable the school population to survive a significant seismic event. This task requires both up-to-date knowledge of the school system and some thoroughly considered strategic planning.

A knowledge of the structure of education programs and of key characteristics of the education community are the two most significant variables whose control will increase the probability of successful change within our education system on behalf of earthquake education.

THE STRUCTURE OF EDUCATIONAL PROGRAMS

An educational program such as one that might deal with seismic hazards does not/can not exist only as an instructional episode between teacher and student. Figure A shows the immediate suite of considerations that, at a minimum, make up any effective instructional effort. The elements of Figure A are noted as follows:

1. **Authority** is defined by the legal and policy statements at both the state and local level that permit and encourage an educational program.

2. **Planning and management** sets into motion the considerations necessary for each of the system elements to function successfully independently, and in relationship to each other.

3. **Curriculum and learning systems development** is largely concerned with developing, selecting or modifying program materials to meet the pre-stated instructional goals and objectives.

4. **Staff Development** provides new knowledge and skill through inservice education of the teachers and administrators who will provide direct instruction and supervision for the success of the program.

5. **Instruction** includes the conduct of the programs selected in the curriculum area, and should account for the critical interaction between the student, the teacher, and the content to be learned.

6. **Learning outcomes** is the realization of instruction and the achievement of the pre-stated goals and objectives of instruction.

7. **Delivery systems and supports** includes activities and resources that allow the program to be conducted successfully such as policy development, financial support, transportation, personnel, media, and management functions at the state, district, or building levels.

8. **Evaluation** is a continuing set of activities which includes gathering data about program functions and outcomes, analyzing them, and providing feedback for planning and management considerations.

A system with this many decision points is bound to be slow to change, and any proposed addition to the curriculum takes lots of consideration, and certainly takes lots of time.

KEY CHARACTERISTICS OF THE EDUCATION COMMUNITY

From the amazing variety of variables that one might consider in planning for the successful development and implementation of a new education program, three issues lead the list. First, the education system has well-established priorities at virtually every level. Legislatures and school boards have theirs, superintendents and principals have theirs, and teachers certainly have all of those to face, plus their own. Children, parents and the community have theirs, too, but those need to be discussed at another time. Sometimes the priorities all line up just right and consensus exists on a few of common interest that generate a coordinated response.

Second, teachers have a wide variety of demands for their instructional time. Proponents of virtually very hazardous social issue from substance abuse to AIDS want a piece of the instructional pie. Educators are usually reluctant to make room for things that are imposed from outside their jurisdiction, and it helps a lot if proponents of new initiatives have leverage in the form of the interest of the education community, legal authority, influence, and money. It helps too, if the issue attempting to crash the system is of undeniable personal and societal importance. Earthquakes may qualify on one or more of the leverage issues.

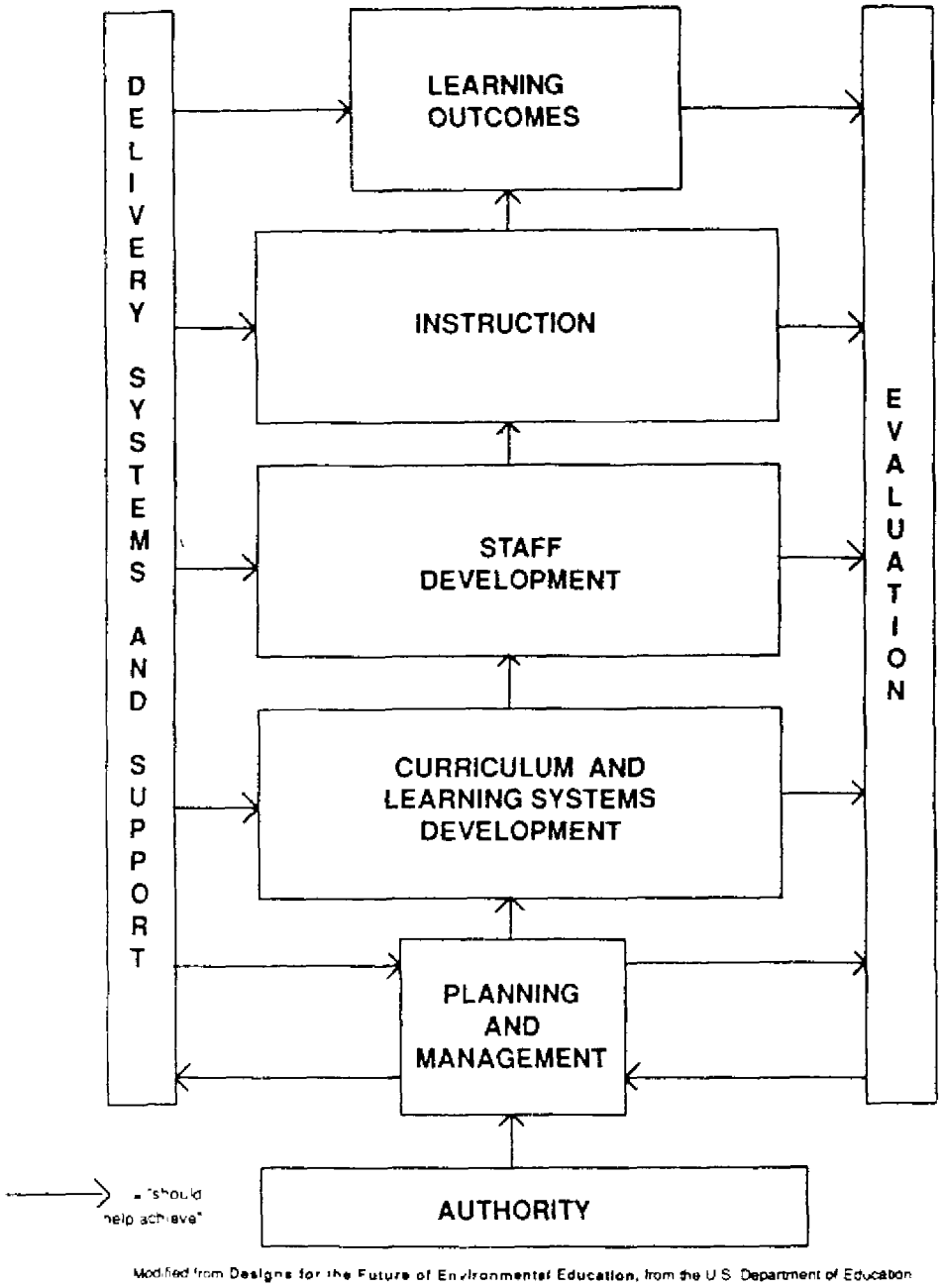
Third, teachers are naturally reluctant to dilute their instructional impact or to endanger their professional reputation. They will rarely teach about topics they know little or nothing about, and will avoid any teaching situation that seems beyond the scope of their perceived responsibility.

Teachers will respond to well organized, active advocates and leadership that is supportive of effective new ideas and programs. They will respond positively to well prepared instructional materials that promise to provide a significant return on the instructional investment. In short, teachers will probably try it if it has the potential to enhance their effectiveness.

CONCLUSION

The State of Washington provides an interesting and valuable model to consider when planning for statewide change as we attempt to educate about a significant seismic hazard. If left only to the education community, the response would be folded into the normal 5-15 year educational change cycle. It would be submerged in the ever burgeoning pile of priorities that society expects to be treated through formal education. Key insights into the education system can allow concerned citizens and responsible public officials access to the decision points and to the decision-makers. It can facilitate the probability of realistic and effective short-term solutions.

FIGURE A



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