A Time and a Place for Authentic Learning

Challenge students to solve everyday problems in meaningful contexts, and the learning will take care of itself.

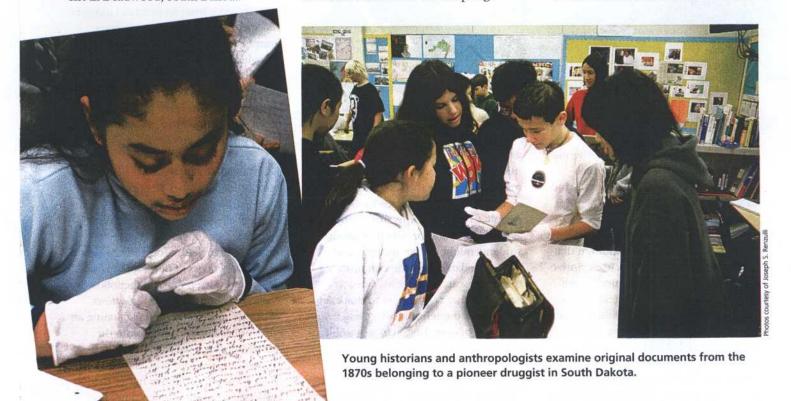**Joseph S. Renzulli, Marcia Gentry, and Sally M. Reis**

Each week, all the students at the Bret Harte Middle School in Oakland, California, leave their classrooms to participate in interest-based enrichment clusters. Under a teacher's guidance, one group of students is identifying, archiving, and preserving documents from the 1800s that were found in a suitcase belonging to the first pharmacist in Deadwood, South Dakota.

Another group with strong interests in media, technology, and graphic arts is converting the archives into digital format and making the students' research available on a Web site.

These crossgrade clusters are scheduled on a rotating basis during the fall months. They usually last for eight weeks, generally meeting weekly for a double-period time block, with a new series scheduled in the spring.

A medium-sized school might typically offer 15 to 20 clusters. The number of students in each cluster varies depending on student interest in the topic and teacher requirements for effective student participation. Teachers develop the clusters around their own strengths and interests, sometimes working in teams that include parents and community members.

Numerous schools across the United

Photos courtesy of Joseph S. Renzulli

Young historians and anthropologists examine original documents from the 1870s belonging to a pioneer druggist in South Dakota.

States have developed the enrichment cluster concept to deal with what many education leaders believe is a crisis in our schools. The focus on test preparation has squeezed more authentic kinds of learning out of the curriculum, thereby minimizing the one aspect of U.S. education that contributes to the innovativeness and creative productivity of the nation's culture, economy, and leadership role in the world. Improved test scores are important, but it's the

application of knowledge in authentic learning situations—not perpetual memorization and testing—that characterizes a progressive education system.

What Is Authentic Learning?

All learning exists on a continuum that ranges from deductive and prescriptive learning on one end to inductive, self-selected, and investigative learning on the other. The essence of inductive or high-end learning is applying relevant knowledge and skills to solving real problems. Such learning involves finding and focusing on a problem; identifying relevant information; categorizing, critically analyzing, and synthesizing that information; and effectively communicating the results.

Real-life problems share four criteria. First, a real-life problem has a personal frame of reference. In other words, the problem must involve an emotional or internal commitment on the part of those involved in addition to a cognitive interest. Second, no agreed-on solutions or prescribed strategies for solving the problem exist. If they do, the process would more appropriately be classified as a training exercise because its main purpose would be to teach predetermined content or thinking skills.

Third, real-life problems motivate people to find solutions that change actions, attitudes, or beliefs. A group of students might gather, analyze, and report on data about the community's television-watching habits, causing people in that community to think critically about the television-viewing habits of young people. Last, real-life problems target a real audience. For example, students working on a local oral history project—a biographical study of Connecticut residents who died in Vietnam—initially presented their find-ings to their classmates, mainly to rehearse presentation skills. Their authentic audience consisted of members of a local historical society, members of veterans groups, family members of servicemen and service-women, attendees at a local commemoration of Vietnam veterans, and community members who had read about the research in the local newspaper.

Enrichment clusters are *not* mini-courses. There are no predetermined content or process objectives. The nature of the problem guides students toward using just-in-time knowledge, appropriate investigative techniques or creative production skills, and professional methods for communicating results. In this type of learning, students assume roles as investigators, writers, artists, or other types of practicing professionals.

Authentic learning is the vehicle through which everything from basic skills to advanced content and processes come together in the form of student-developed products and services. The student's role changes from lesson-learner to firsthand inquirer, and the role of the teacher changes from instructor and disseminator of knowledge to coach, resource procurer, and mentor. Although products play an important role in creating authentic learning, students learn principally from the cognitive, affective, and motivational processes involved.

A Different Approach

Developing an authentic enrichment cluster draws on skills that most teachers already possess, especially if they have been involved in clubs or other extracurricular activities. As you begin the process of developing your own cluster, keep in mind the following:

■ *Reverse the teaching equation.* Your role in planning and facilitating an enrichment cluster differs from the teacher's traditional role. Too much preplanning on your part may push the cluster toward deductive rather than inductive teaching and learning. Enrichment clusters develop just-in-time

knowledge that has immediate relevance in resolving the problem. Students typically move to higher levels of knowledge than grade-level textbooks support.

■ *Reverse the role of students.* Young people working on an original piece of historical research, creative writing, or play production become young historians, authors, scenery designers, and stage managers. Instead of teaching lessons, you will begin to think about how to help a young poet get work published, how to get the shopping mall manager to provide space for a display of models of historically significant town buildings, and how to engineer a presentation by young environmentalists to the state wildlife commission.

■ *Create a unique enrichment cluster.* As long as you follow the guidelines for inductive teaching, there is no wrong way to plan and facilitate an enrichment cluster. Differences in interests, personalities, and styles among cluster facilitators contribute to the uniqueness of this type of learning. Experience in an inductive learning environment will help you hone the skills that will become a natural part of your teaching repertoire both in clusters and in your classroom.

■ *When in doubt, look outward.* To mirror real-world situations, examine conditions outside the classroom for models of planning, teaching, and organizing. Athletic coaches, advisors for the drama club or the school newspaper, and 4-H Club leaders make excellent enrichment cluster facilitators. Similarly, tasks and organizational patterns should resemble the activities that take place in a small business, a social service agency, a theater production company, or a laboratory.

Guidelines for Developing an Enrichment Cluster
Select a Topic
Base enrichment clusters on topics in which you have a strong interest. Make a list of topics that fascinate you. Reflect on your choices, discuss your list with

colleagues—there may be possibilities for collaboration—and prioritize the topics to help you decide on the focus of your first enrichment cluster.

Focus on Key Questions
Develop enrichment clusters around the following six key questions:

■ What do people with an interest in this topic or area of study do?

■ What products do they create, and what services do they provide?

■ What methods do they use to carry out their work?

■ What resources and materials are needed to produce high-quality products and services?

■ How and with whom do they communicate the results of their work?

■ What steps do cluster participants need to take to have an impact on an intended audience?

These questions do not need to be answered immediately, sequentially, or comprehensively at this stage. As your cluster develops, have students discuss the questions and allow them to reach their own conclusions about the activities, resources, and products that professionals pursue in particular areas of study. If you have all the answers ready before the cluster begins, the excitement of pure inquiry will be lost.

Explore the Topic
The most obvious way to learn about the work of a professional is to discuss the key questions with someone working in the field. A cartoonist, landscape architect, or fashion designer will give you the lay of the land and offer some recommended resources. When talking with professionals, keep in mind that you want to learn what they routinely do in their jobs, how they do it, and what they produce. This background material will help you plan the

cluster, but students should also pursue the same questions with professionals after the cluster commences. Such interaction dramatically increases motivation and engagement.

Almost all professionals belong to professional associations. A quick Internet search turns up approximately 3,500 professional organizations. To learn about the work that genealogists do, one teacher went to the Association of Professional Genealogists Web site (www.apgen.org) and found a treasure trove of resources on careers in the field, conferences, publications, places where family records can be found, and local chapters. She also located a direc-

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tory of members by state. Association membership lists can suggest speakers, mentors, or enrichment cluster cofacilitators. By clicking on *Connecticut*, the teacher found the names, addresses, and phone numbers of 13 professional genealogists in the state, one of whom lived in close proximity to the school.

Another way to explore the key questions as you develop cluster content is to obtain resource books on the methodology of a particular field. A visit to the Genealogical Publishing Company Web site yielded an extensive list of potential resources: 423 titles, to be exact. Librarians and college bookstores can also help locate methodological resource books.

In the real world, almost all work is intended to have an impact on at least one targeted audience. In finding target audiences, you will be serving as a referral agent, promoter, or marketing manager of student work. In school, fellow students and parents are obvious audiences for whom students can practice and perfect performances and presentations, but young people will begin to view themselves in a much more professional role when you help

them seek audiences outside the school. The students themselves should make the contacts and be prepared to answer questions.

Local newspapers, city or state magazines, and literary reviews—especially those that target young authors—are excellent places to submit written work. Public buildings and business offices are often receptive to requests to display student artwork. Local or state organizations—such as historical societies, writers clubs, civic groups, environmental preservation organizations, and advocacy groups—also provide opportunities for young entrepreneurs to present their work. Young dramatists can take their performances on the road to senior citizen centers, day-care centers, religious groups, or professional organizations. One group of students who wrote and produced a legal thriller presented a synopsis of the plot at a county bar association meeting.

Contests and competitions are also great outlets. Most teachers are familiar with science fairs, National History Day, and Math League, but thousands of other competitions take place in such areas as photography, fashion design, inventions, drama, and Web design. Searching for outlets and audiences; writing query letters and submitting work for possible publication, presentation, or display; and receiving replies— both positive and negative—are all part of the creative process and motivate aspiring writers, scientists, and artists.

Write Your Enrichment Cluster Description

The enrichment cluster description should convey, in no more than 100 words, the essence of the experience. Use verbs that emphasize the explorative nature of the cluster by conveying

action and illustrating tasks. For example, in a cluster that involves building and marketing compost bins, you might use such verbs as *design*, *field-test*, *construct*, *advertise*, *market*, *contact*, *display*, and *sell*.

You might also pose questions about potential student interests and possible types of involvement: Do you like to express your feelings by writing poetry or short stories? Are you concerned about finding better ways to protect wildlife? Would you like to try your hand at designing fashions for teens? Each of these questions relates to a topic around which a cluster might be developed, yet they are all open-ended enough to encompass a broad range of activities in specific interest areas.

Launch Your Enrichment Cluster

Although students who have signed up for your cluster have expressed an interest in the topic, it may take them some time to understand the cluster's approach to learning. Displaying products or tools that professionals in your topic area typically use is always a good way to begin. In a cluster on archaeology, entitled *The Trash Heaps of Mankind*, the facilitator showed slides of famous and local archaeological discoveries. She opened a Mystery Box in the front of the room to reveal a trowel, a sieve, a pair of gloves, a dust brush, pegs and string, a marking pen, and a camera. She pointed out that these were the main tools of the archaeologist and that an examination of material found in garbage dumps was one of the ways in which archaeologists analyzed past and present cultures. A short videotape of a dig in the students' own state heightened student interest in the work of practicing archaeologists.

Escalate Content and Process

One of the problems we encountered in our research on enrichment clusters was a failure on the part of some facilitators to escalate the level of content and methodology pursued within a cluster. Indeed, critics may point out that clusters are nothing more than fun and games or that students carry out their work using existing skills rather than acquiring more advanced ones. You can guard against these criticisms by examining each cluster with an eye toward providing authentic and rigorous content within the topic area.

In a cluster on research about political opinion, for example, students evaluated archived news articles and editorials from the World War II and Vietnam War eras to analyze and compare public support for these wars. Students in an ecology and evolutionary biology cluster studied the survival prospects of tropical plants grown in the school's greenhouse and conducted experiments to explore optimal conditions for propagation. Content and process objectives evolve as a result of the investigations that students conduct, and this is one factor that highly differentiates the clusters from regular instruction.

Gathering Original Data

During many years of working with students in authentic learning situations, we have discovered that there is a certain magic associated with gathering original data and using that information to create new knowledge. This knowledge may not be new for all humankind, but it may be original to students and their local audiences. A group of elementary students spent an entire school year gathering and analyzing samples of rainwater for sulfur and nitrogen oxide emissions, the main pollutants responsible for acid rain. The students then prepared a report concerning the extent of acid rainfall in their region of the country. Their teacher helped them obtain a standard rain gauge and a kit for testing acidity.

Additional resources enabled these students to prepare statistical and

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graphic summaries of their data; compare their findings with data from national and regional reports that were easily accessed on the Internet; and design maps showing acid rain trends over time and across geographic regions. The data provided participants with the excitement and motivation to study environmental and health problems associated with various types of pollution. The students found receptive audiences for their work among state environmental protection groups, the U.S. Environmental Protection Agency, and the National Weather Bureau.

Putting It All Together

Most teachers have had a vision, at one time or another, about what they thought teaching would entail. They pictured themselves in classrooms with interested and excited students dramatizing dangerous midnight journeys on the Underground Railroad, conducting

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science experiments to find out how things work, or experiencing the exhilaration that occurs when a student-developed board game unlocks the relationships between a set of numbers and everyday experiences.

Many teachers, however, experience a disconnect between their vision of a challenging and rewarding career and the day-to-day grind of test preparation. What is most ironic about the separation between the ideal and the reality of today's classrooms is that most teachers actually have the skills and motivation to do the kinds of teaching they dream of. Unfortunately, lists, regulations, and other people's requirements have resulted in both a prescriptive approach

to teaching and a barrier to creating a challenging and exciting classroom. Overprescribing the work of teachers has, in some cases, lobotomized good teachers and denied them the creative teaching opportunities that attracted them to the profession in the first place.

Freedom to teach still exists, as does the possibility of making learning enjoyable, engaging, and enriching. You can find both in enrichment clusters, where authentic learning is in the driver's seat. **EL**

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