



The Challenge

A Publication of the U.S. Department of Education's Office of Safe and Drug-Free Schools

Using Evidence-Based Education to Build Safer Schools

How Research Can Help Decrease Safety and Drug Problems

Using evidence to make education decisions is one of the key tenets of the No Child Left Behind Act of 2001. For years, many schools adopted lessons and materials that were unproven. Under No Child Left Behind, federal support is targeted to those educational programs that have been demonstrated to be effective through rigorous scientific research.

Programs and practices grounded in scientifically-based research are not fads or untested ideas; they have proven track records of success.

But just what is evidence-based education as it relates to safe and drug-free schools? What scientific knowledge do we have regarding school violence and substance abuse prevention and how can we use that knowledge to produce progress in the future?

Grover J. (Russ) Whitehurst, director of the U.S. Department of Education's Institute of Education Sciences (IES), recently addressed those questions at the Office of Safe and Drug-Free Schools (OSDFS) 2003 National Conference.

What is evidenced-based education?

According to Dr. Whitehurst, evidence-based education is education that uses the *best available empirical evidence* in making decisions.

One type of empirical evidence is evidence from scientifically-based research in fields such as psychology, sociology, economics, criminal justice, neuroscience, and especially in educational settings. It is evidence from research that uses conceptual models, research designs, data, statistical analyses, and logical inferences

ED Helps Schools Bring Research to Practice

OSDFS Hosts 2003 National Conference

How can schools make better use of research, evaluation, and data to improve safety, well being, and educational outcomes for students? That was the key question facing more than 1,000 health, education, and prevention leaders gathered in Washington, DC, for the Office of Safe and Drug-Free Schools (OSDFS) 2003 National Conference.

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that are appropriate to the questions addressed and that support the conclusions drawn.

The second type of empirical evidence is performance data—reliable and systematically collected observations and assessments of student, teacher, or administrator performance with respect to established goals and objectives—to compare, evaluate, and monitor progress. This type of evidence is typically collected and used by schools.

Both types of empirical evidence are critical to evidence-based education: Scientifically-based research identifies programs and practices that can be effective when delivered

well to the appropriate students. Performance data indicates whether those programs and practices are working as intended when delivered in particular education settings.

“People need to have a clear understanding of what scientifically-based research is and what it is not,” explained Dr. Whitehurst. “It is not research based on anecdotes, inappropriate generalizations, or flawed comparison group studies.”

Flawed comparison group studies include those in which students who volunteer for a program are compared to students who did not volunteer, or in which students who are required to participate are

compared to those who are not required. With these less rigorous types of studies, it is very difficult to disentangle what appear to be program effects from pre-existing differences between the students in the treatment and non-treatment groups.

Instead, Dr. Whitehurst explained, scientifically-based research that supports the strongest conclusions about program effectiveness typically uses rigorously designed and appropriately analyzed randomized controlled trials—studies that randomly assign students, classrooms, or schools to either an intervention group or a control group by lottery or chance, in order to measure the effects of the intervention. It also uses replication to find out if initial research results hold up in different circumstances.

Of course, in the context of education and the constraints of the classroom, such research is not always possible.

“Sometimes, in education, randomized controlled trials just aren’t possible,” Dr. Whitehurst said. “Quasi-experimental designs and interrupted time series are weaker in terms of the ability to support the strongest conclusions about what works, but are sometimes the best that can be done.”

One area of education that has made progress in carrying out scientifically-based research is safe and drug-free schools. According to Dr. Whitehurst, compared to other education

fields, the field of safe and drug-free schools has an “embarrassment of riches” because the safe and drug-free schools community has made a concerted effort to conduct scientifically-based research to improve the educational environment.

What works to decrease safety and drug problems?

Just what do we know about which school violence and substance abuse prevention programs have a strong base of scientific research to support their claims of effectiveness?

One way to locate information on promising interventions to promote safe and drug-free schools is to consult the 10 lists of “exemplary, model, or effective” programs that have been sponsored by the federal government. (A list of these 10 has been compiled by the Southeast Comprehensive Assistance Center, www.sedl.org/secac). However, these lists should be approached with caution, as there are some major discrepancies across the lists.

For example, the Center found that of the 193 programs identified by the ten lists, only 26 appear as “effective,” “model,” or “select” on three or more of the lists.

Dr. Whitehurst explained that one reason for the discrepancies between the lists is that some lists focus only on drug prevention, others focus only on violence prevention, while others focus on both problem areas.

Recent Meta-Analyses

Research on Prevention

A series of recent meta-analyses attest to the potential of preventive interventions, but also suggest obstacles to effectiveness that can make the implementation of effective interventions difficult.

These meta-analyses include the following:

► Wilson, S.J., Lipsey, M.W., & Derzon, J.H. (2003). The effects of school-based intervention programs on aggressive behavior: A meta-analysis. *Journal of Consulting and Clinical Psychology*, 71, 136-149.

► Wilson, D.B., Gottfredson, D.C., & Najaka, S.S. (2001). School-based prevention of problem behaviors: A meta-analysis. *Journal of Quantitative Criminology*, 17, 247-272.

► Tobler, N.S., Roona, M.R., Ochshorn, P., Marshall, D.B., Streke, A.V., & Stackpole, K.M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention*, 20, 275-336.

Understanding Evidence-Based Education

New ED Guide Helps Schools Evaluate Evidence of Effectiveness

The U.S. Department of Education's Institute of Education Sciences (IES) has unveiled an important new resource for educators in implementing the No Child Left Behind Act of 2001. *Identifying and Implementing Educational Practices Supported by Rigorous Evidence: A User Friendly Guide* is a resource for identifying and implementing evidence-based practices that may improve educational and life outcomes for children.

"Perhaps the most effective resource we have for improving American schools is scien-

tifically-valid knowledge about which strategies work and which don't work," said U.S. Secretary of Education Rod Paige. "The User Friendly Guide offers education officials and educators concrete, easily-accessible assistance in finding and using strategies that have been validated in rigorous studies. It represents a critical step forward in the implementation of No Child Left Behind and in the

Department's goal of transforming education into an evidence-based field."

The guide is helpful to those working in the field of school violence and substance abuse prevention because it provides very clear steps for evaluating whether a program—including a prevention program—is backed by either "strong" or "possible" evidence of effectiveness, and lists a number of factors to consider when

implementing an evidence-based intervention in schools or classrooms.

The guide was developed for IES by the Coalition for Evidence-Based Policy, a nonprofit, nonpartisan organization whose mission is to advance government policy based on rigorous evidence of program effectiveness.

A copy of the guide is posted on the Department's Web site at: www.ed.gov/rschstat/research/pubs/rigorousvid/index.html.

Another reason is that different lists use different standards. For example, some lists examine only those programs that have been tested with randomized trials, while others allow quasi-experimental designs such as those that attempt to match students who receive and do not receive the treatment on a set of pre-existing characteristics. Some look at evidence from a single study, while others insist upon replication of that evidence. In addition, evidence of short-term effects is sufficient for some lists while other lists require evidence of long-term effects.

In an effort to create a clearer and more consistent set of standards for synthesizing findings from education research, the U.S. Department of Edu-

cation's Institute of Education Sciences has developed a new resource to provide educators, policymakers, researchers, and the public with a central, independent, and trusted source of scientific evidence of what works in education, including what works to promote safe and drug-free schools.

The What Works Clearinghouse, available online at www.w-w-c.org, is developing standards for reviewing and synthesizing research on what works in education and will provide its findings in several free, searchable, user-friendly databases. School violence prevention programs is one of the topic areas to be reviewed. More information about this important new resource will be available in future issues of *The Challenge*.

In addition to such lists, educators can investigate recent meta-analyses of school-based violence and substance abuse prevention programs. [See box, page 2.]

Meta-analyses statistically summarize results across many studies. However, a major limitation of meta-analyses is that the studies summarized in them are often of varying quality.

In addition, Dr. Whitehurst cautioned that meta-analyses allow substantial room for interpretation by authors in the selection, categorization, and analysis of studies. In fact, different and sometimes contradictory conclusions can emerge from different meta-analyses of the same research topic. Therefore, educators should be aware of the limitations of meta-analyses and

understand that conclusions may not always be definitive.

With these caveats in mind, recent meta-analyses of prevention programs support:

- ▶ Interactive prevention programs (those that develop social skills) appear to be superior to didactic programs (those that only enhance knowledge and change attitudes);
- ▶ Short-term prevention programs seem to produce short-term results;
- ▶ Bigger gains seem to be realized for high-risk students;
- ▶ Small-scale prevention programs appear to produce larger effects than large-scale programs;
- ▶ Demonstration programs seem to have greater impact than routine practice programs;

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- ▶ Well-implemented prevention programs seem to realize bigger gains;
- ▶ Overall effects of prevention programs appear to be positive, but small; and
- ▶ Effects seem to be similar for different types of interactive programs.

How do we use evidence-based education to produce progress in the future?

One of the key challenges facing the prevention community today, Dr. Whitehurst commented, is that while research exists about what works to decrease safety and

drug problems, most schools do not use proven prevention programs. For example, one recent study (Ennett, et al., 2003, see below) found that only 14 percent of a nationally representative sample of schools used interactive substance abuse prevention programs that include content which has proven to be effective.

According to Dr. Whitehurst, schools need to adopt programs that show promise based on rigorous research evidence.

“For programs to work,” he said, “they need strong leadership, trained facilitators, high quality materials, and

local involvement. In addition, schools need to measure performance and progress towards goals.”

He offered several recommendations to the research community to help schools achieve these goals. What is needed, he said, are the following:

- ▶ More randomized trials of violence prevention programs as there have been far fewer studies in this area compared to substance use prevention;
- ▶ New research to boost impacts in prevention programs that show promise;
- ▶ New research to develop coordinated school-wide

programs that merge prevention and youth development;

- ▶ More effectiveness studies;
- ▶ Research on implementation; and
- ▶ Clear and consistent decision support tools.

“The Department’s Institute of Education Sciences stands ready to help both schools and the research community utilize evidence-based education to provide safer, healthier learning environments for young people,” Dr. Whitehurst said.

DID YOU KNOW?

Research indicates that interactive prevention programs are superior to more traditional didactic programs. Yet, only 14 percent of schools (one in seven) offer prevention programs that incorporate elements proven to be effective *and* deliver that content in an interactive manner.

Source: Ennett, S.T., et al. A comparison of current practice in school-based substance abuse prevention programs with meta-analysis findings. *Prevention Science* 4(1): 1-14, March 2003.



Interested in Becoming a Peer Reviewer?

OSDFS Seeks Experts in Safe and Drug-Free Schools

The U.S. Department of Education's Office of Safe and Drug-Free Schools is currently seeking qualified peer reviewers to read and evaluate grant proposals submitted under several discretionary grant competitions.

The OSDFS peer review process uses a Web-based system allowing reviewers to read and score the applications from home.

To serve as a peer reviewer, individuals must:

- ▶ Have relevant education, training, or experience in one or more of the subject areas listed below;
- ▶ Have a basic knowledge of computer functions;
- ▶ Have access to the Internet;
- ▶ Successfully complete a Web-based training course;
- ▶ Participate in three conference calls; and
- ▶ Commit the time necessary to complete the review on schedule.

To register, visit www.osdfs-peerreview.org and click on the New Reviewer Registration link to complete a peer review checklist and submit your current resume.

Areas of Expertise

Health, Mental Health, Environmental, Physical Education

- ▶ Mental Health Services
- ▶ School Counseling
- ▶ Social Services/Social Work
- ▶ Early Childhood Development
- ▶ School Health
- ▶ Physical Activity, Physical Education
- ▶ Wellness/Fitness Training
- ▶ Environmental Health

Drug Abuse and Violence Prevention

- ▶ Alcohol Abuse Prevention
- ▶ Drug Abuse Prevention
- ▶ Violence Prevention
- ▶ School Security
- ▶ School Safety
- ▶ Emergency Preparedness
- ▶ Disaster Response
- ▶ Crisis Planning
- ▶ At-Risk Youth
- ▶ Mentoring

Correctional Education

- ▶ Juvenile Justice
- ▶ Law Enforcement
- ▶ Correctional Education
- ▶ Community Correction/After-Care

Character and Civic Education

- ▶ Government
- ▶ Social Studies Education
- ▶ Constitutional Law
- ▶ Political Science
- ▶ International Studies/Global Education
- ▶ Service Learning
- ▶ Social and Emotional Learning
- ▶ Civic Education
- ▶ Civic Engagement
- ▶ Character Education

Other

- ▶ Curriculum Development
- ▶ Research
- ▶ Evaluation
- ▶ Policy Development
- ▶ Instruction
- ▶ Teacher Education/Quality Training
- ▶ Education Administration—State
- ▶ Education Administration—Local
- ▶ Project Management
- ▶ Alternative Education
- ▶ Family Life Education

Got Ideas?

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our Web site. At the same time, you can update your subscription information to make sure you continue receiving *The Challenge* by mail. To take the survey, visit: www.thechallenge.org/survey.

DID YOU KNOW?

School children continue to be much safer at school than away from school. For example, from July 1, 1999, through June 30, 2000, there were 16 school-associated homicides in the United States. These 16 represent only 1 percent of all homicides of 5-19 year olds that took place during the same period. The other 99 percent happened either at home or out in the community.

Source: Indicators of School Crime and Safety, 2003. U.S. Department of Education: National Center for Education Statistics.

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The two-and-a-half-day conference addressed not only those issues for which the Office has long held responsibility—alcohol, tobacco, and other drug and violence prevention—but also other key issues for which the Office now provides leadership, including character education, civic education, correctional education, health, mental health, and physical education.

In addition, because schools now must be prepared to deal with many different types of crises, from natural disasters to school shootings and even terrorist attacks, the conference devoted significant attention to issues of emergency management and crisis response.

“This is the first time we’ve held a conference as an Office instead of part of an Office,

and we were able to bring to the table all of the various topics our Office covers,” said William Modzeleski, Associate Deputy Under Secretary of OSDFS. “That worked to break down silos and help people understand how the prevention work they are doing relates to the work that the person sitting across the aisle might be doing. These topics are not separate and people are beginning to understand how they connect and are related to one another.”

In addition, Mr. Modzeleski noted, the focus on using research, evaluation, and data, seemed to resonate with participants.

“After many years—even decades—the whole concept of science-based practice is catching on,” he said. “Before, perhaps people didn’t know what science-based practice

was, or there weren’t a great deal of evidence-based prevention programs to tap into. This conference helped explain, in a very easy-to-understand fashion, just what science-based practice is, and what schools need to do to implement prevention programs and strategies that are grounded in research.”

“We recognize that things aren’t going to change tomorrow,” he continued. “Moving into the utilization of science-based programs is complicated and it will take some time for things to change. But the important thing is that the field recognizes that the change is necessary, and that help is available. There are models to follow, and technical assistance is available from many federal agencies. Our job is to help people learn to use the resources that are available.

Learn More

Choosing a Research-Based Program

Before you decide which science-based strategy or program you are going to use, don’t forget these important steps.

Assess the needs at your school

Gather objective information about youth drug use and violence in your school and community, including delinquency and discipline problems. Focus your data collection efforts on developing a full understanding of:

- ▶ The nature and extent of the youth drug use and violence problem in your area;
- ▶ Existing efforts to prevent drug use and violence; and
- ▶ Existing activities that help monitor success of prevention programs.

Gauge whether this program or strategy will help you address the problems and target populations you have identified.

Investigate costs

Investigate program costs and ensure that you have adequate resources to initiate and sustain the new program or strategy. Consider funds that will be needed for all phases of the program, from planning and start-up to ongoing implementation. Be sure to factor in funds for program evaluation.

Consider time and training

Consider the training that is required to properly deliver the program with fidelity to the science-based model. Remember that teacher in-service days are often scheduled up to a year in advance.

Look for more information about how to understand and use the various federal lists of effective prevention programs in upcoming issues of *The Challenge*.

to them.”

Among the key speakers at the conference were White House Office of National Drug Control Policy (ONDCP) Director John P. Walters, who discussed the latest findings on youth drug use, and National Institute on Drug Abuse (NIDA) Director Nora Volkow, who addressed bringing research and practice together to address drug abuse prevention.

Dr. Volkow noted that while drug abuse prevention programs of the past were based primarily on ideology and good intentions, today there are effective prevention programs anchored solidly in a base of empirical knowledge about fundamental factors that can promote or reduce substance abuse.

She emphasized that the field’s most urgent need is to make better use of what is already known. Recent research, she explained, indicates that only one in seven of the nation’s schools offers prevention programs that incorporate proven elements and deliver them in the most effective way. “These findings underscore the need for additional research focused on accelerating the faithful adoption and application of research-based prevention approaches in communities across the nation,” she said.

Her remarks were echoed by Center for Substance Abuse Prevention (CSAP) Director Beverly Watts Davis who spoke of the work CSAP is



doing to promote the use of science-based prevention programs and strategies and to disseminate knowledge about what works in substance abuse prevention.

Ms. Davis also stressed the importance of partnerships among all sectors of society. She spoke of the key role that states and local communities play in assuring that services are available and that gaps are bridged between knowledge and practice.

Mr. Modzeleski agreed. “It has been clear for years that schools can’t do it alone.

Schools must link up with other community resources such as health, mental health, law enforcement, juvenile justice, social services agencies, and faith communities. But we also recognize that it’s not as simple as it sounds. Forming partnerships takes strong leadership and an understanding that sharing resources also means giving up some control and ownership. Change is not easy, but it’s exciting to see it happening both on the national and local levels.”

Learn More

Conference Presentations Available Online

Speaker presentations from the 2003 Office of Safe and Drug-Free Schools National Conference are available online at www.osdfsnationalconference.org. The site includes all slides and handouts received from speakers to date. As new presentations are received, they will be posted to the site.

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The Office of Safe and Drug-Free Schools is the federal government's primary vehicle for reducing drug abuse and violence through education and prevention activities in our nation's schools. Visit them online at www.ed.gov/about/offices/list/osdfs/index.html.

Expressions of opinion in this newsletter do not necessarily represent the official views of the U.S. Department of Education or Learning Systems Group.

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NCES Indicators of School Crime and Safety: 2003
ED's National Center for Education Statistics (NCES) has released "Indicators of School Crime and Safety: 2003." This report presents data on crime at school from the perspectives of students, teachers, principals, and the general population from an array of data sources. It examines crime occurring in school as well as on the way to and from school. Data on crime away from school also is presented to place school crime in the context of crime in the larger society. To view or download a copy, visit <http://nces.ed.gov/pubs2004/crime03>.

NCES Report on Violence in U.S. Public Schools
NCES also has released "Violence in U.S. Public Schools: 2000 School Survey on Crime and Safety." This report presents the first analysis of the



2000 School Survey on Crime and Safety, a nationally representative sample of public elementary and secondary school principals. Principals were asked about the amount of crime and violence, disciplinary actions, prevention programs and policies, and other school characteristics. To view or download a copy, visit <http://nces.ed.gov/pubs2004/2004314.pdf>.

NIDA Goes Back to School
The National Institute on Drug Abuse (NIDA) has developed a science-based drug abuse education program to provide students and teachers with informative, accurate information about addiction and drug abuse.

Drug fact sheets, booklets, and other materials are available at www.backtoschool.drugabuse.gov. Items also may be ordered from the National Clearinghouse for Alcohol and Drug Information at 1-800-729-6686.

Safe Lanes on Campus: A Guide for Preventing Impaired Driving and Underage Drinking
ED's Higher Education Center for Alcohol and Other Drug Prevention has released "Safe Lanes on Campus: A Guide for Preventing Impaired Driving and Underage Drinking." This document provides information about policies and programs used at colleges throughout the United States to address driving under the influence of alcohol and alcohol use by students under the legal drinking age. To view or download a copy, visit www.edc.org/hec/pubs/safelanes.pdf.

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