

Changing Young Minds about Drugs

New Results from the Project ALERT Evaluation

By Elizabeth J. Maggio

Listen to adolescents talk about smoking, drinking, and using marijuana, and you might hear something like this:

"Smoking a joint now and then won't hurt me."

"Yeah, I'll probably try marijuana."

"Everyone drinks at parties, so what's the big deal?"

"I can't turn down a cigarette. My friends will laugh at me."

Studies show that the strength of these kinds of pro-drug attitudes and beliefs about harmful substances strongly predicts whether a youngster will use drugs in the future. That is why Project ALERT aims to dispel a pro-drug way of thinking and empower youth to resist social pressures to use harmful substances.

The middle school curriculum targets four categories of adolescent attitudes and beliefs:

Consequences: beliefs about the non-health consequences of using drugs; about the risk of becoming dependent; and about the harm from occasional drug use.

Perceptions: what youth think about the prevalence of drug use among peers; about friends' approval of drug use; and about friends' respect for not using drugs.

Resistance: beliefs about personal ability to resist pro-drug pressures.

Expectations: personal expectations about future drug use.

Does Project ALERT effectively alter an adolescent mind set that can lead to drug use?

Researchers from the RAND Corporation, the public policy research institute behind the school prevention program, found answers in data from the large-scale evaluation of the curriculum that was conducted in South Dakota middle schools in the late 1990s.

In the June 2004 issue of *Health Education & Behavior*, the researchers reported that the prevention lessons given in seventh and eighth grades significantly dampen attitudes and beliefs

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Logic Model

See story on pages 4-6



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that can increase an adolescent's risk of using cigarettes and marijuana, with a more modest impact on factors affecting alcohol use. Furthermore, it helps even high-risk youth change many of their views about drugs.

According to the researchers, Project ALERT's emphasis on straight thinking about drugs is most likely behind the positive results from an earlier analysis showing that students exposed to the prevention lessons are less likely to smoke cigarettes, to misuse alcohol, or to use marijuana.

The Project ALERT Evaluation

Project ALERT was released to schools in 1995, after the curriculum was revised based on the results of field testing in California and Oregon schools (parental involvement activities, material on alcohol misuse, and a lesson designed to help committed smokers had been added to strengthen the curriculum). A large-scale evaluation of the revised curriculum was then conducted from 1997 to 1998 among more than four thousand students in 55 South Dakota middle schools. Students were randomly assigned to either receive the Project ALERT lessons in seventh and eighth grades or to continue receiving whatever prevention curriculum their school had in place.

Before the start of the evaluation, researchers surveyed both groups of students about their experiences with alcohol, cigarettes, and marijuana. From this baseline survey, students were divided into risk groups.

For alcohol and cigarettes, low-risk students had not tried either substance; moderate-risk students had used alcohol or cigarettes in the past but less than three times in the prior year and not in the prior month; and high-risk students had used alcohol or cigarettes three or more times in the prior year or at least once in the prior month. For marijuana, low-risk students had not used either marijuana or cigarettes; moderate-risk students had not used marijuana but had tried cigarettes; and high-risk students had already tried marijuana.

To learn what students believed about drugs, the researchers surveyed them about a wide range of drug-related topics. For example, students were asked whether smoking cigarettes (a) relaxes you, (b) makes you do poorly in sports, (c) gets you into trouble at school, (d) helps you get away from your problems, (e) makes other people not want to be around you, and (f) helps you stay thin. Similar questions probed their beliefs about alcohol and marijuana.

The researchers filled in the picture of adolescent drug beliefs by asking students questions about the likelihood of becoming dependent on cigarettes, alcohol, or marijuana, and being harmed by occasionally using them. They asked the students how many of their school peers they thought used drugs, and

what their friends' reactions would be if they found out they used them. Next, students were asked to rate their ability to resist smoking, drinking, or using marijuana in several hypothetical situations, for example, being with friends who are smoking at a party. Lastly, students were asked if they thought they would smoke, drink, or use marijuana in the next 6 months.

A year and a half later, all students were resurveyed to see if they had changed their outlook on drugs. The research team found significant differences between the control students and the Project ALERT students across all four target categories of attitudes and beliefs.

Perceptions: Project ALERT was most successful at getting students to realistically assess how many of their schoolmates use drugs and how much peers approve or disapprove of doing so.

Compared to the control group, ALERT students:

- had lower and more accurate estimates of how many of their peers really use alcohol (12.1% lower), cigarettes (16.9% lower), and marijuana (26.2% lower).
- were more likely to see that friends will have greater respect for them for refusing a drink (11.9% more likely), a cigarette (11.2% more likely), or a joint (11.4% more likely).
- were more likely to see that their peers really do not tolerate smoking (3.7% more likely) or using marijuana (6.4% more likely) as much as they thought, although this change in beliefs was smaller for alcohol use (2.1% more likely).

Consequences: Compared to the control group, ALERT students:

- improved their understanding of the non-health consequences of using cigarettes (7.9% improvement), alcohol (7.9% improvement), and marijuana (9% improvement).
- were more realistic about the risk of becoming dependent on all three drugs (10.6% improvement for smoking, 11.4% improvement for marijuana), although the impact was slightly less for alcohol (7.1% improvement).
- were more likely to see the harm of occasionally using cigarettes (4.0% improvement).

Resistance and Expectations Compared to the control group, ALERT students:

- significantly enhanced their ability to resist using cigarettes (5.0% improvement) or marijuana (6.1% improvement) in social situations, for example, at a party.
- had lower expectations of using cigarettes (8.5% less likely to use) or marijuana (6.9% less likely to use) in the near future.

(See *Changing Young Minds*, page 3)

Changing Young Minds (cont'd from page 2)

As the results indicate, drinking continues to be a prevention challenge. The middle school lessons had a significant impact on only half of the targeted pro-alcohol beliefs. Nevertheless, as an earlier study showed, Project ALERT successfully reduced students' misuse of alcohol.

Even High-Risk Youth Helped

As expected, the effects of Project ALERT were stronger and more numerous for students who had not used drugs or only experimented with them at the beginning of the study. But even the high-risk students – those who were drinking, smoking, or using marijuana at the beginning of the evaluation – made gains.

Project ALERT helped high-risk students “become more aware of the serious consequences associated with smoking and drinking and their own susceptibility to becoming dependent if they smoked or drank regularly. It also helped these high-risk users recognize that not everyone uses, reducing their estimates of how many of their peers smoke, drink, and use marijuana,” said Bonnie Ghosh-Dastidar, PhD, who was the report's lead author.

She added that the results provide further evidence that universalistic prevention programs – those designed for a broader audience rather than for any specific group – can help youths at all levels of risk for future substance use and abuse.

Today's Project ALERT Outperforms its Pre-Release Version

To expand their analysis, the RAND researchers compared data from the field test of the pre-release version of Project ALERT with evaluation data from the revised curriculum now used in schools. They found that the revised Project ALERT is even more powerful than the original in several areas – outcomes that correspond with the curriculum revisions.

For example, the pre-release program did not significantly improve students' resistance to social pressure to smoke or use marijuana; beliefs about their friends' approval or their friends' respect for not using; and the harm that can come from occasionally smoking or using marijuana. In contrast, the revised curriculum had a significant and sustained effect on those beliefs, the researchers reported.

The revised Project ALERT also improved several alcohol beliefs and attitudes (understanding the consequences of alcohol use, the likelihood of addiction to drinking, and friends' respect for not drinking). However, these results could not be compared with those from the pre-release curriculum since the original version did not ask about those particular views.

From Theory into Practice

The RAND team that developed Project ALERT built the middle-

school curriculum around a social influence approach to drug prevention that includes three specific methods to promote health and change behavior among youth.

The health belief model guided the program's emphasis on helping adolescents understand the serious consequences of using drugs and the benefits of not using them.

The self-efficacy theory of behavior change informed the program's strategies for building youth confidence in being able to successfully resist pro-drug pressures.

The social influence theory guided program activities designed to counter perceptions that drug use is widespread and socially accepted, especially by peers.

The positive findings from this latest analysis of Project ALERT show that the curriculum has successfully translated its theoretical underpinnings into actuality, according to the researchers.

“The new results further underscore the value of public policy that encourages the use of scientifically tested, theory-based prevention curricula in the nation's schools,” added Phyllis Ellickson, PhD, leader of the RAND team that is evaluating Project ALERT. ■

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Project ALERT's Logic Model is an easy to read diagram that links theory and activities to the program's goals. Download extra copies of the Logic Model.

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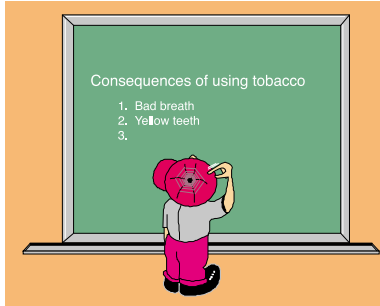
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Let's Talk About Logic Models

by Amy Vincus, MPH

How could understanding the Project ALERT Logic Model help me?

During the 2000-2001 school year, a colleague and I visited 14 schools across the country to study their implementation of the Project ALERT curriculum. During our visits, we observed one Project ALERT lesson at each school. We also interviewed all of the instructors whose lessons we had observed. A couple of instructors told us that training about broader substance use prevention issues, in addition to the specific techniques of curriculum implementation, would help teachers become better prevention educators (Vincus et al., 2002).

In the course of our visits, we discovered that instructors who were well-versed in prevention science had a better understanding of the key components of the Project ALERT curriculum. Their understanding of the curriculum and, more generally, of substance use prevention informed their teaching. They were less likely to make changes to their lessons and those that they made tended to be more positive (Dusenbury, 2004; Vincus et al.; Project ALERT best practices). Further, teachers who positively adapt their lessons were more likely to adhere to their curriculum, whereas teachers making negative adaptations did not follow the curriculum as closely. "One teacher had students role-play a situation instead of discuss it. Conversely, one teacher had students estimate peer marijuana use, but never compared estimates to actual rates, leaving the erroneous impression that marijuana use was commonplace" (Dusenbury, 2004, p.3).

Our focus in discussing logic models in general, and Project ALERT's logic model in particular, is to enhance your understanding of the curriculum and thus ensure that any changes you make to it will benefit your students.

What is a logic model?

A logic model is a diagram that links a program's theory and activities to its goals (usually moving from left to right across the model, with arrows indicating the relationships among its parts). A logic model for a substance use prevention program explicates the processes by which that program is expected to affect a set of risk and protective factors associated with substance use and, through them, prevent or reduce substance use itself. Logic models are developed to guide program evaluations. As you might expect, the Project ALERT Logic Model specifies the outcomes that were tested during its evaluations.

Let's examine the Project ALERT Logic Model in greater depth.

Universal &
Selective
School-based
(7th & 8th
graders)

If you'll follow along using the insert at the end of this article, first note that the box farthest to the left constitutes the Project ALERT Logic Model's starting point.

Here we learn that Project ALERT is a school-based curriculum that is intended for use with 7th and 8th graders. In this box (as shown on left), Project ALERT is described as "universal," meaning that it is intended for a general population of students (such as all 7th and 8th graders). In this box, the curriculum is also described as "selective," meaning that it is appropriate for 7th and 8th graders who may be at greater risk of using substances because they are, for example, poor academic achievers or children of alcoholics.

From there, we move to the second column labeled **THEORY** and the boxes below it. The Logic Model indicates that the program has three theoretical components (as indicated by the three boxes) that guided the development of the Project ALERT curriculum. Those three theories are as follows:

(See Logic Models, page 5)

Logic Models (cont'd from page 4)

- Making youth aware of accurate information regarding the prevalence and acceptability of substance use encourages the acceptance of non-drug-use norms
- Developing resistance skills for gateway drugs fortifies the psychological and social barriers to more serious drug use
- Increasing awareness of the benefits of non-use and the consequences of use diminishes intentions to use drugs

Having laid out the theories behind Project ALERT, the next step is to explain the activities and strategies that these theories suggest.

The activities are grounded in the theories, as shown on the Project ALERT Logic Model by the bracket from the three theory boxes with an arrow pointing to the **CURRICULUM** box (sample right).

As depicted by the Model, the theories also have a role in instructor training, which helps teachers understand the rationale underlying the program. In addition, the Logic Model indicates that instructor training is necessary for appropriate curriculum implementation (as indicated by the arrow that flows from the **INSTRUCTOR TRAINING** box to the **CURRICULUM** box). Only those instructors who have been trained should implement the curriculum.

Students participate and actively engage in class lessons

As we move to the box in the fourth column, the Logic Model shows us that **INSTRUCTOR TRAINING** and the **CURRICULUM** are both important elements in encouraging students to participate and actively engage in class lessons.

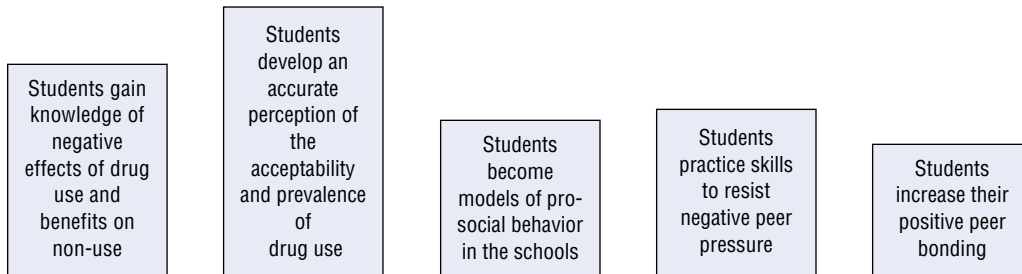
Curriculum

Seventh Grade:
 Eleven core lessons designed to build the motivation and skills necessary for effective resistance to negative peer pressures by targeting gateway drug use

- Students engage in participatory activities, including guided classroom discussions, small group activities, role-playing, repeated skills practice
- 8 interactive videos reinforce classroom activities by modeling appropriate behavior
- Homework assignments involving parents to help students control their behavior, resist deviant peers, and refrain from negative behaviors

Eighth Grade:
 Three additional booster lessons designed to reinforce the classroom-based lessons

To reach its goals, the Project ALERT curriculum requires students who participate and actively engage in its lessons. The Project ALERT Logic Model includes three types of goals or outcomes, namely immediate, intermediate, and final. If students participate and actively engage in the Project ALERT lessons, then five immediate outcomes are expected to occur, as described in the five boxes in the fifth column on the Logic Model (samples below).



Note that if students do not participate or actively engage in their Project ALERT lessons, then the likelihood that the Project ALERT curriculum can achieve its immediate outcomes (or any other outcomes) is greatly reduced.

In addition, the immediate outcomes must occur to reach the intermediate outcomes. As shown on the Logic Model, the five immediate outcomes lead directly to five intermediate outcomes. The Project ALERT Logic Model becomes somewhat complex at this point because the immediate outcomes have varying relationships with the intermediate outcomes. For example, the top box in column 5 (“Students gain knowledge of negative effects of drug use and benefits of non-use”) is linked directly to two intermediate outcomes, and the third and fourth boxes in column 5 are both linked to three intermediate outcomes. Thus achieving some of the intermediate outcomes requires the successful accomplishment of several immediate outcomes.

(See Logic Models, page 6)

Logic Models (cont'd from page 5)

As we consider the intermediate outcomes in the columns 6 and 7, it is clear from the model that something novel is occurring as we move to the right of the Logic Model. These two sets of intermediate outcomes are linked to the final outcomes via two kinds of paths: direct (black lines) and indirect (orange lines).

In the Project ALERT Logic Model, each of the five intermediate outcomes in column 6 has a direct path to the final outcomes, as described in the single box in the eighth and final column. These intermediate outcomes are also believed to affect the final outcomes box via the “Reductions in intentions to use” box. The path from “Students perceive fewer pro-drug pressures from peers” to “Reductions in the onset and regular use of substances” is indirect in nature, while the relationship between “Students perceive fewer pro-drug pressures from peers” and “Reductions in the onset and regular use of substances” is a direct one. What this means is that Project ALERT expects to achieve its ultimate goal, “Reductions in the onset and regular use of substances,” by a number of pathways. Each pathway contributes something towards this objective, but the size of the reduction in use is likely to be largest when Project ALERT successfully makes a difference with all the intermediate objectives specified in the Model.

As you can see, Project ALERT’s final outcomes boxes reflect the curriculum’s overall goals of “Reductions in the onset and regular use of substances, specifically tobacco, alcohol, marijuana, and inhalants (gateway drugs).” Gateway drugs are those that students are most likely to experiment with first; and it is thought that they typically are used before students’ drug use escalates to “harder” drugs (Kandel, 1975).

Having described the Project ALERT Logic Model in great detail, we return to the lessons we learned during our school visits. We noted that teacher training about substance use prevention and how Project ALERT lessons fit into the science that supports substance use prevention would be worthwhile. We hope that this article is a step toward improving your understanding of Project ALERT’s underpinnings and its fit with prevention science.

The next time someone asks you to explain how Project ALERT works, you will be ready. ■

Amy Vincus’ interests in youth, schools, and substance use prevention have been combined in a career that focuses on school-based prevention projects.

She works as an Associate Research Scientist in the Chapel Hill office of Pacific Institute for Research and Evaluation (PIRE).

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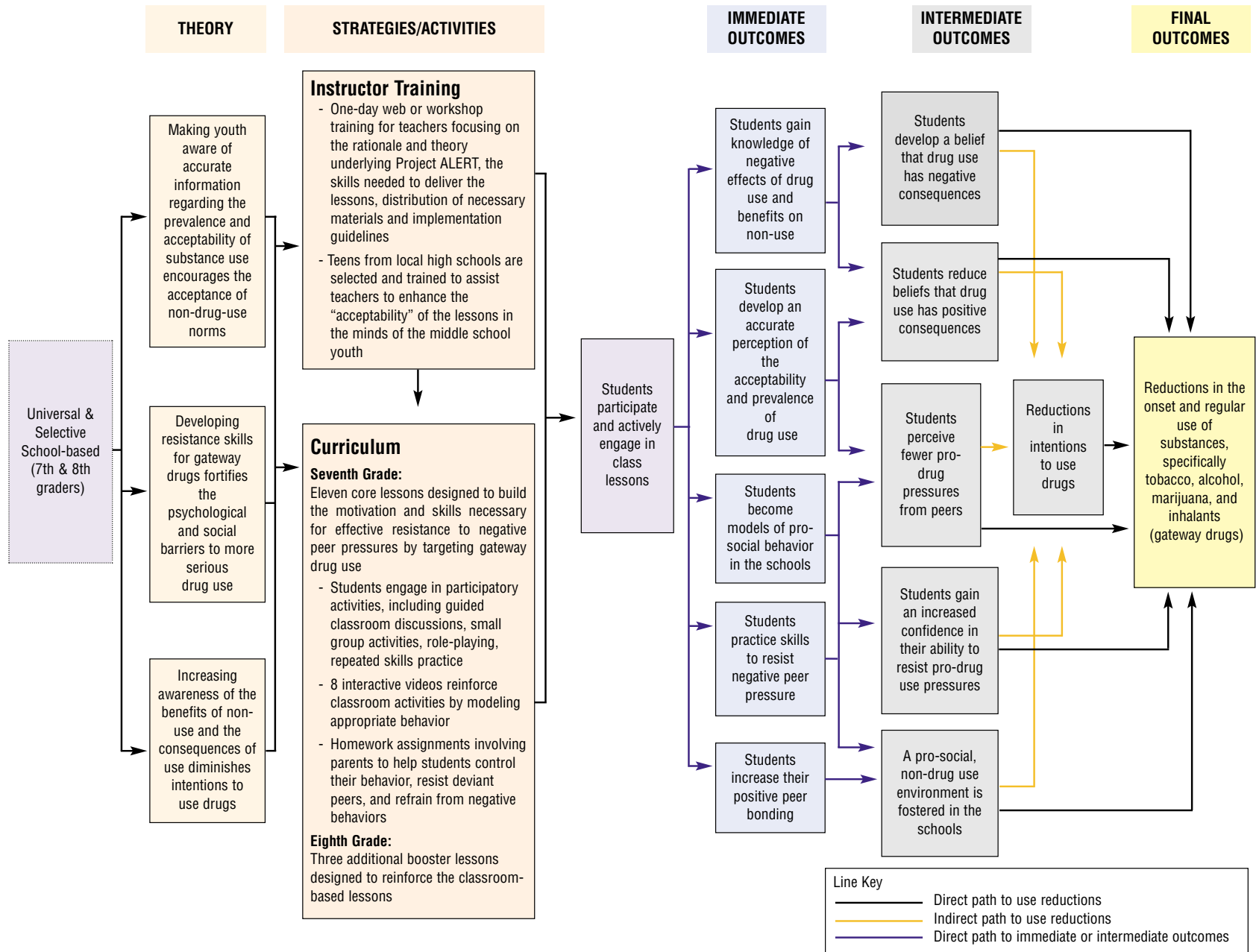
Project ALERT Quiz

1. What can you do to encourage students to participate and actively engage in class lessons?
2. Which Project ALERT core and booster lessons help students gain knowledge of the negative effects of drug use?
3. Which Project ALERT core and booster lessons help students gain knowledge of the benefits of non-use?
4. In which Project ALERT core lesson do students develop an accurate perception of the acceptability and prevalence of drug use?
5. How does Project ALERT encourage students to become models of prosocial or positive behavior in the schools?
6. How many Project ALERT core and booster lessons allow students to practice skills to resist negative peer pressure?
7. Why do Project ALERT students increase their positive bonding to peers?

Answers

1. Include all of the activities that are described in the teachers’ guide. The lessons are designed to give students opportunities to interact with each other and with you. Those interactions, which should encourage students to participate fully, have been shown to enhance the effects of substance use prevention curricula such as Project ALERT (Ennett et al., 2003; Tobler & Stratton, 1997).
2. Core lessons: 1, 2, 3, 8, 10; Booster lesson: 1.
3. Core lessons: 1, 8, 9, 10, 11; Booster lesson: 1.
4. Core lesson 4
5. By teaching students to resist drugs, they will exhibit more positive and prosocial behavior both within and outside of school. Understanding a curriculum has been linked to fidelity of implementation (Dusenbury, Health Education Research article).
6. Six lessons (Core lessons: 5, 6, 7, 9; Booster lessons: 2, 3).
7. Project ALERT students increase the degree to which they are positively bonded to peers by forming relationships with peers who are less likely to use drugs. Another way in which Project ALERT increases positive bonding among students is by teaching them how to help each other resist pressure.

Project ALERT Logic Model



Flavored cigarettes, colorful wrappers ignite ire



By Liz Szabo, *USA TODAY*

Their boxes carry brand names such as Sweet Dreams, with flavors such as chocolate, vanilla and “Twista Lime.”

Critics say flavored cigarettes are designed to lure kids into smoking. But these products aren't jelly beans or breakfast cereals. They're cigarettes, and critics say they're designed to lure kids into lighting up.

A report released today from the American Lung Association criticizes so-called candy-flavored cigarettes, often sold in brightly colored packages.

“Caribbean chill? Mocha mint? These sound like ice creams to me, not something that kills you,” says Cassandra Welch, who wrote the association's report. “It's just a way to addict young people.”

Tobacco makers say they're just trying to get adult smokers to switch brands by offering a wider array of choices.

- Kool's “smooth fusion” cigarettes come in “midnight berry” and “mocha taboo.”
- Camel offers flavored cigarettes year-round, as well as seasonal products, such as pineapple coconut in the summer and toffee in the winter.
- Skoal chewing tobacco varieties include apple and berry.
- Lesser-known brands of cigarettes called Sweet Dreams and California Dreams, made by California-based Kretek International, come in bright or pastel wrappers.

The manufacturer has stopped producing two controversial brands, however, which have drawn fire for their bubble-gum-like flavors.

Kretek officials said in a statement that it stopped producing Liquid Zoo cigarettes, criticized for their name and cartoonish package, about two years ago. The company halted distribution of Stars cigarettes when it purchased the brand's former manufacturer, Quintin International, over concerns about some flavor names, which included “cherry cheesecake” and “cinnaberry.” Officials say that small amounts of these products may still be on shelves, however.

Although the 1998 tobacco settlement forbids targeting children with cartoon characters such as Joe Camel, critics note that flavored cigarettes often are marketed with drawings. “They can't use cartoons, but they get pretty close,” says Danny McGoldrick, director of research at the Campaign for Tobacco-Free Kids. Anti-tobacco groups also argue that sugary flavors may soften the experience of smoking for the first time.

Mike Bazinet, a spokesman for U.S. Smokeless Tobacco, which makes Skoal, notes that many adult products are fruit-flavored, from raspberry vodka to cherry antacids. And Fred McConnell, a spokesman for RJ Reynolds Tobacco Co., which makes Camel and Kool brands, says flavored cigarettes are priced to make them less affordable to children.

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COMING THIS FALL

A Strategy for Helping Project ALERT Teachers Deal with the Rise of Prescription, Over-the-Counter and Club Drug Abuse



Project ALERT was developed and tested by RAND in the mid-1980s and first disseminated to public school classrooms in the early 1990s. The BEST Foundation For A Drug-Free Tomorrow has sought to keep the program up-to-date while closely adhering to the program's core theory and principles. The posters and videos have been periodically freshened to maintain student interest, and the basic facts used to reinforce lesson points about drug use and its consequences have also been updated.

Recent information about the non-medical use of prescription drugs, misuse of some over-the-counter drugs and the increased use of steroids and club drugs among middle school youth raises the need for supplemental materials that will help teachers respond to questions about these substances.

Project ALERT will maintain its focus on alcohol, cigarettes, inhalants and marijuana, the substances used first and most widely among adolescents. However, teachers need to know how to provide accurate and developmentally appropriate answers to questions about the various prescription, over-the-counter and club drugs. And teachers must be able to do so, without generating new or harmful interest in these substances.

A background piece, phrased in language appropriate for teens, is being prepared for all trained Project ALERT teachers. The BEST Foundation has asked RAND to outline the "biggest dangers" associated with the various classes of substances and the individual substances most commonly abused and to address the following:

- What Project ALERT students most need to know about the effects of steroids, prescription, over-the-counter and club drugs; and,
- What adolescents most need to know about how to avoid these effects.