Guidelines for Reviewing Test Preparation Materials

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WERA/OPEN Guidelines for Reviewing Test Preparation Materials

Teachers and administrators are feeling increased pressure from state and federal accountability systems to improve students' scores on tests. In response to this pressure, they often turn to special, sometimes questionable strategies and materials to help students prepare for tests. Many teachers and administrators are not clear about the line between proper and improper test preparation. It is the intent of this paper to provide guidance for the review and selection of appropriate test preparation strategies and materials. It should be noted, however, that neither WERA nor OPEN intends to review or rate existing test preparation strategies or materials. Rather, these guidelines are aimed at those professionals responsible for choosing materials and who best know the local educational context in which a particular set of strategies or materials will be used.

Introduction and Context

The public is for educational accountability and believes that holding teachers more responsible for their students' achievement will result in greater learning and a better education for all students. Many also believe that the best information about student achievement comes from tests. Over the past decade and a half, states, including Washington and Oregon, have responded to these public demands for greater accountability by initiating large-scale testing programs. These state programs usually test students at several grade levels across the K-12 continuum and vary by state as to the consequences (stakes) attached to high or low performance. In some states, students are required to pass a state-level test to receive a high school diploma. In other states, promotion from one grade to the next depends, at least in part, on scores on state tests. Some states offer rewards (or sanctions) to schools and school districts based on their students' performance on state-level tests. More recently, the emphasis on accountability has increased markedly with the passage of the No Child Left Behind Act of 2001. This new federal law requires all states to test annually students in grades 3 through 8 and at one grade level in high school and take corrective actions in schools and districts wherein test performance does not improve. The federal law also requires annual reporting of school and district progress toward achieving a 100 percent success rate for students on state assessment goals by 2014.

Consequences of High-Stakes Test Environments

In his poem *Hooray for Diffendoofer Day*, Dr. Seuss anticipated at least one of the possible consequences of a high-stakes testing environment:

> All schools for miles and miles around
> Must take a special test,
> To see who's learning such and such—
> To see which school's the best.
> If our small school does not do well,
> Then it will be torn down,
> And you will have to go to school
> In dreary Flobbertown!

A high-stakes test environment, coupled with a free-market economy, provides attractive opportunities for entrepreneurs to develop and sell test preparation materials and services to schools and teachers. In addition, many school districts urge, even support their teachers and curriculum staff to develop their own test preparation materials and strategies. Whether

commercially or locally developed, these materials and services come with the implicit, and in some cases, the explicit promise that their use will lead to *improved test scores*. However, there is scant, even contradictory evidence that test preparation materials produce significant or consistent *improvements in student learning*. Indeed, as Anthony Ralston of the State University of New York, Buffalo, has observed, "Improving education will always improve scores on well-designed tests. But when the central aim of educational change is just to improve test scores, improved education is seldom the result" (Ralston, 2002).

The literature and practical experience indicate that when tests are used for high-stakes decisions, teachers feel pressure to teach to the tests. For example, an *Education Week* sponsored national survey found that 79% of K-12 public school teachers say they spend 'a great deal' or at least 'some' of their time instructing test-taking skills (Quality Counts, 2001). Fifty-three percent reported using state practice tests a great deal or somewhat, and 49% said they used commercial test preparation materials a great deal or somewhat. However, two-thirds of those surveyed said their teaching had become too focused on state tests and they were not happy with this trend.

Boston College researchers found that teachers in states with high-stakes tests were more likely to report feeling serious pressures to raise students' test scores (Pedulla et al., 2000). These same researchers also found that teachers in states with high-stakes testing programs used test preparation materials and strategies more often than teachers in states with moderate- or low-stakes programs. Other researchers have reported that teachers in high-stakes testing states tend to spend considerable time in test preparation. Hoffman, et al. (2001) in a survey of Texas teachers found that most reported engaging in a variety of test preparation activities 'often' or 'always' throughout the school year, peaking in the weeks before the state tests were administered.

Amrein and Berliner (2002) concluded that higher state test scores were more likely due to direct test preparation, rather than increased student learning. And, in fact, three-quarters of the 4th grade teachers surveyed in Washington State, and the majority of the principals of those schools surveyed, believed that better test preparation (rather than increased student knowledge) was responsible for most of the score gains on the state tests (Stecher et al., 2000). Stecher also found that among Washington's 7th grade teachers surveyed, the percentage that believed test score gains were more related to test preparation than to student learning was even higher. This is a concern of CRESST/UCLA's Eva Baker as she observed in *The New York Times*, "The most perverse problem with high-stakes tests is that they have become a substitute for the curriculum instead of simply a measure of it" (Baker, 2002).

Purposes of Large-Scale Assessments

Although 'teaching to the test' is not a new issue, increased accountability and higher stakes will likely promote more teaching to the tests and reliance on targeted test preparation materials and strategies. Miyasaka (2000) points to some useful assumptions about the purposes of assessments by which targeted test preparation strategies and materials may be judged:

1. Most large-scale assessments are administered to make reasonable inferences about students' achievement with respect to a domain of content knowledge and/or skills (Popham, 1991);

2. When test scores are intended to represent achievement with respect to a broad domain of content knowledge and skills, test preparation practices should not minimize the accuracy of the inferences to the broader domain (Mehrens & Kaminski, 1989; Popham, 1991; Mehrens, Popham, & Ryan, 1998; see also WERA, 2001);

3. Test preparation practices should increase students' mastery of the broad content domain being tested and not artificially increase students' test scores (Mehrens & Kaminski, 1989; Popham, 1991; see also WERA, 2001); and

4. Test preparation practices and materials should not violate the ethical standards and guidelines of the profession (NCME, 1995; Popham, 1991; see also WERA, 2001).

As a general rule then, strategies for teaching to the test or test preparation materials are inappropriate if they raise test scores *without also increasing students' knowledge and skills* in the broader subject domain being tested.

NOTE: WERA and OPEN believe that it is unfair to put all responsibility for questionable test preparation practices on teachers and school administrators. Federal, state, and local policy makers (especially local school directors), that establish accountability requirements that focus on higher test scores rather than on improved student learning, must bear responsibility as well. Further, state departments of education, test publishers, curriculum developers, and others must actively engage teachers and administrators in clarifying and understanding what is appropriate test preparation and what is not. The purpose of this paper is to assist in that effort.

Focus of Test Preparation Efforts

There are a number of areas that are often the focus of test preparation efforts. Miyasaka (2000) has identified five.

1. Curriculum and Test Content	Practices and materials that involve the test content objectives including national, state, and local standards and the objectives on which the test was based.
2. Testing Approaches/Formats	Practices and materials that familiarize students with a variety of assessment approaches (for example, multiple-choice items, short answer, extended response, performance tasks) and item formats within each assessment approach (for example, different types of multiple choice item formats).
3. Test-Taking Strategies	Practices and materials that involve general test-taking or test-wiseness strategies unrelated to specific test item content (for example, looking for key words, allocating time, skipping difficult items for later consideration.)
4. Timing of Test Preparation	Practices and materials employed at various points in time before or during the test administration.
5. Student Motivation	Practices and materials designed to motivate students to perform their best on the test.

Defensible Test Preparation Practices

There are generally accepted guidelines for educationally defensible and ethical (and legal) test preparation practices (e.g., NCME, 1995; WERA, 2001). These guidelines strongly encourage education professionals to determine the appropriateness of test preparation strategies and materials prior to their use in preparing students for an actual test. It is essential that proposed

materials or strategies be reviewed carefully to identify and evaluate their appropriateness, relevance, efficacy, and costs relative to the purposes of the test(s) to be administered and the students to be tested. Michael Scriven (2000) has proposed a checklist that has some utility for evaluating the appropriateness of test preparation strategies and materials. Adapting Scriven's checklist produces a set of questions that responsible professionals should consider:

What is the need?

- Why is the test preparation intervention being considered?
- What is the desired (and realistic) improvement objective for the intervention?
- How many students and teachers will be affected?
- Do all students need the intervention or only selected populations?
- What reasonable alternative interventions exist, *including the existing curricula*?

Have field trials established usefulness for the intended setting?

- Do the materials represent a final product or are they in draft form?
- Have they been tried with the proposed grade levels and teachers in a typical school setting?
- Have they been tried with the typical levels of support and staff development available for implementation in the proposed setting?
- Have they been tried with the typical or proposed time available?

Has effectiveness been established?

- Is there unbiased evidence for the effectiveness of the intervention or materials?
- Were they used with all teachers and grade levels for which they are proposed?
- Were they used in preparing for tests similar in assessment formats and objectives to the test(s) for which they are proposed?
- What is the most effective and efficient duration for the proposed intervention?
- Is the proposed intervention consistent and compatible with existing curriculum and instruction that address the same test content domain(s)?

What are the short- and long-term results?

- Is information available about the lasting effects of the intervention?
- What is the most effective timeline for using the materials?
- Is this a one-time or an on-going intervention?
- To what extent will the proposed intervention reduce time for regular instruction?

Has a systematic evaluation been conducted?

- Are the intervention strategies or materials based on sound pedagogy and research?
- Are there content validity data available?
- Is information available from previous users—are references available?
- Have the strategies or procedures undergone professional reviews relative to ethics and professional standards?
- Has the affective dimension been considered? (For example, are previous users—teachers and administrators—satisfied with the results? Do students think it is helpful and engaging?)

Is it clear that the intervention produces the claimed/desired results?

- Has the link between the proposed intervention and the desired outcome been clearly established?
- What data is the link based upon? (For example, experimental design, correlation studies, professional judgment, user testimonials or commercial claims.)

Have all actual costs been determined?

- What is the cost per pupil for the proposed intervention or materials?
- Have both implementation and maintenance costs been identified?
- What indirect costs are likely? (For example, staff development; supplementary materials, equipment, and supplies; clerical support; duplication and production services.)
- What opportunity costs are associated with the proposed intervention? (That is, what must be forgone or restricted in order to implement this strategy?)
- Are significant non-monetary costs involved? (For example, lowered staff morale, school board or public concerns for appropriateness of intervention.)

Finally, is the proposed intervention defensible to all interested parties?

- Will the strategies or materials 'ring true' with other professionals, parents, community members, policy-makers, and funding sources?
- Are the anticipated costs justified by the expected (promised) outcomes?
- Do the materials adequately address cultural and fairness issues?
- Are the materials or strategies appropriate for students with special needs?
- Have all legal and ethical concerns been addressed?
- Will the materials or strategies be viewed by some as inappropriate 'teaching the test'?
- Does this intervention meet the needs of students and teachers *for improved student learning* as well as improved scores on tests?

References Cited

Amrein, A.L. & D.C. Berliner. (2002). *High-stakes testing, uncertainty, and student learning*. Education Policy Analysis Archives, 10 (18). http://epaa.asu.edu/epaa/v10n18/

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Ethical standards in testing: Test preparation and administration (2001, rev.). Washington Educational Research Association. Professional Publications, 1. http://www.wera-web.org

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Mehrens, W.A. & Kamininski, J. (1989) *Methods of improving standardized test scores: Fruitful, fruitless, or fraudulent?* Educational Measurements: Issues and Practice, 8 (1), 14-22.

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Stecher, B. M., et al. (2000). *The effects of the Washington State education reform on schools and classrooms.* Los Angeles: National Center for Research on Evaluation, Standards, and Student Testing (CRESST). **http://**www.cse.ucla.edu/CRESST/pages/reports.htm

Selected Annotated Bibliography

Bell, G. (1994). *Making appropriate and ethical choices in large-scale assessments: A model policy code*. Oak Brook, IL: North Central Regional Education Laboratory. http://www.ncrel.org

This set of policy statements is intended to provide guidance to those who evaluate and select assessments, prepare students for those assessments, administer and score the tests, and interpret and use assessment results to make decisions about students and schools. The focus is on large-scale assessments that have consequences for students and schools. The fundamental principles of appropriate and ethical assessment practice are reviewed. The preparation of students for an assessment is the source of many testing problems. Guidelines for this area are provided. Recommendations are also made for the interpretation and use of test results in an ethical manner.

Cizek, G.J. (1999). *Cheating on tests: How to do it, detect it, and prevent it*. Lawrence Erlbaum Associates.

Cheating on Tests attempts a comprehensive look at the problem of cheating on assessments (tests) across all levels of the American educational system. It is organized around seven major objectives. (1) Introducing and defining the problem of cheating and documenting the extent of its occurrence. (2) Cataloging and presenting information on the methods used to cheat on tests. (3) Providing information on methods useful for preventing cheating. (4) Describing methods used to detect cheating once it has occurred. (5) Synthesizing what is known about pre-dispositions, correlates, and cultural differences in cheating. (6) Summarizing legal issues related to cheating. (7) Illustrating ways in which individuals and institutions respond to cheating.

Code of Fair testing practices in education (2002). Joint Committee on Testing Practices. American Psychological Association, et al. http://www.apa.org/science/fairtestcode.html

This statement was produced jointly by the American Counseling Association, the American Psychological Association, the American Educational Research Association, the American Speech-Language-Hearing Association, The National Association of School Psychologists, The National Association of Test Directors, and the National Council on Measurement in Education. It is a guide for professionals in the use of tests that are fair to all test takers regardless of age, gender disability, race, ethnicity, national origin, religion, sexual orientation, linguistic background or other personal characteristics. Teachers are encouraged to use the guidelines to help improve their testing practices.

Perlman, C. (2000). *Surreptitious inclusion of good teaching in test preparation activities*. ERS Spectrum. 18 (4). http://www.ers.org

A district training directive led the Chicago Student Assessment unit to examine what kind of test preparation would be appropriate and spark improvements in real student learning. Two booklets were developed for teachers that outlined necessary test-taking skills, motivational techniques, and ways to assess critical-thinking skills. The results are summarized here.

Popham, W.J. (1995). *Classroom Assessment: What teachers need to know*. Boston: Allyn and Bacon. pp. 231-44.

This book focuses on the use of classroom assessment to help teachers make better instructional decisions. It discusses the various aspects, means, and types of assessments. Specific chapters address reliability, validity, bias, purpose and means of assessment. Popham also describes the various types of assessments in detail including paper-pencil, performance, portfolio, and computer-based. The book is aimed at teachers with emphasis on the link between assessment and instruction.

Position statement on high stakes testing in prek-12 education. (2002). American Evaluation Association: Author. http://www.eval.org/hstlinks.htm

This statement is the result of more than a year's work of a task force to explore the need for and to draft a position statement for the American Evaluation Association regarding high-stakes assessments. It points out the perceived shortcomings of many current high-stakes testing environments and offers suggestions for improving both the ethical and technical aspects of large-scale assessments.

Standards for educational and psychological testing. (1999). American Educational Research Association, American Psychological Association, and National Council on Measurement in Education [AERA, APA, & NCME]. http://www.apa.org/pubinfo/testing.html

Revised significantly from the 1985 version, the 1999 *Standards* has more in-depth background in each chapter, a greater number of standards, and a significantly expanded glossary and index.. The *Standards* is written for the professional and for the educated layperson. It addresses professional and technical issues of test development and use in education, psychology, and employment. The *Standards* is generally considered the definitive guide for professional test developers, sponsors, publishers, users, policy-makers, employers, and students in education and psychology.

Vaughn, E.S. (2001). *Ethical and appropriate test preparation*. ERS Spectrum. 19 (2). http://www.ers.org/

Instruction targeted at increasing student content mastery is the most ethical approach to test preparation and also addresses the overall goal of improving student achievement. Sound and varied classroom assessments can help address efficient time usage and reduce the gap between teaching and standardized testing.

Reviewing Test Preparation Materials and Strategies
Section 1. Questions to Consider

There are generally accepted guidelines for educationally defensible and ethical (and legal) test preparation practices (e.g., NCME Task force, 1995; WERA, 2001). As a general rule, strategies for teaching to the test or test preparation materials are inappropriate if they raise test scores *without* also increasing students' knowledge and skills in the broader subject domain being tested.

Accepted guidelines also strongly encourage education professionals to determine the appropriateness of test preparation strategies and materials prior to their use in preparing students for an actual test. It is essential that proposed materials or strategies be reviewed carefully to identify and evaluate their appropriateness, relevance, efficacy, and costs relative to the purposes of the test(s) to be administered and the students to be tested. Scriven (2000) has proposed a checklist that has some utility for evaluating the appropriateness of test preparation strategies and materials. Adapting Scriven's checklist produces a set of questions that responsible professionals should consider:

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- Do all students need the intervention or only selected populations?
- What reasonable alternative interventions exist, *including the existing curriculum*?

<u>Have field trials established usefulness for the intended setting?</u>
- Do the materials represent a final product or are they in draft form?
- Have they been tried with the proposed grade levels and teachers in a typical school setting?
- Have they been tried with the typical levels of support and staff development available for implementation in the proposed setting?
- Have they been tried with the typical or proposed time available?

<u>Has effectiveness been established?</u>
- Is there unbiased evidence for the effectiveness of the intervention or materials?
- Were they used with all teachers and grade levels for which they are proposed?
- Were they used in preparing for tests similar in assessment formats and objectives to the test(s) for which they are proposed?
- What is the most effective and efficient duration for the proposed intervention?
- Is the proposed intervention consistent and compatible with existing curriculum and instruction that address the same test content domain(s)?

<u>What are the short- and long-term results?</u>
- Is information available about the lasting effects of the intervention?
- What is the most effective timeline for using the materials?
- Is this a one-time or an on-going intervention?
- To what extent will the proposed intervention reduce time for regular instruction?

<u>Has a systematic evaluation been conducted?</u>
- Are the intervention strategies or materials based on sound pedagogy and research?

- Are there content validity data available?
- Is information available from previous users—are references available?
- Have the strategies or procedures undergone professional reviews relative to ethics and professional standards?
- Has the affective dimension been considered? (For example, are previous users—teachers and administrators—satisfied with the results? Do students think it is helpful and engaging?)

Is it clear that the intervention produces the claimed/desired results?

- Has the link between the proposed intervention and the desired outcome been clearly established?
- What data is the link based upon? (For example, experimental design, correlation studies, professional judgment, user testimonials or commercial claims.)

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- What indirect costs are likely? (For example, staff development; supplementary materials, equipment, and supplies; clerical support; duplication and production services.)
- What opportunity costs are associated with the proposed intervention? (That is, what must be forgone or restricted in order to implement this strategy?)
- Are significant non-monetary costs involved? (For example, lowered staff morale, school board or public concerns for appropriateness of intervention.)

Finally, is the intervention defensible to all interested parties?

- Will the strategies or materials 'ring true' with other professionals, parents, community members, policy-makers, and funding sources?
- Are the anticipated costs justified by the expected (promised) outcomes?
- Do the materials adequately address cultural and fairness issues?
- Are the materials or strategies appropriate for students with special needs?
- Have all legal and ethical concerns been addressed?
- Will the materials or strategies be viewed by some as inappropriate 'teaching the test'?
- Does this intervention meet the needs of students and teachers for improved student learning as well as improved scores on tests?

The checklist presented in Section 2 is intended to assist educators in systematically applying these questions to a proposed test preparation strategy or set of materials.

Section 2. Evaluation Checklist for Reviewing Test Preparation Materials*

Name of materials/intervention:_____

Developed by:_____ Date developed:_____

Reviewer's name:_____ Date reviewed:_____

The following checklist is intended to assist reviewers in considering important aspects of test preparation materials or strategies. This checklist should be used in conjunction with the questions presented in Section 1 of this document. It is not necessary (or even appropriate) to consider every item for a particular strategy or set of materials. The point is to think systematically about the proposed adoption and its implications for student achievement, test performance, and regular instruction.

Instructions for Raters: For each of the eight categories, circle one number under *Rating*. Check (or double check for emphasis) one (or more) lines under *Consider* that best describe the rating. Use an "X" under *Consider* to indicate deficiencies rather than strengths.

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1. NEED

Consider:
__Number affected
__Educational significance
__No alternative available
__Multiplicative benefits
__Other_____
Comments:

Rating:
4 Maximum priority, a significant need
3 Considerable importance
2 Probably important
1 Not very important
0 No evidence of need

2. FIELD TRIALS/GENERALIZABILITY

Consider:
__ Final version of materials?
__Typical users (students and teachers)?
__Typical support/resource level?
__Typical setting?
__Typical time frame?
__Similar test format and content?
__Other_____
Comments:

Rating:
4 Very typical
3 Minor differences
2 Likely will generalize
1 Some serious weaknesses
0 Not relevant or unclear

3. EFFICACY

Consider:
__Outcome evidence available?
__Similar grades and teachers?
__Data gathered on final product?
__Description of data collection?
__Other_____
Comments:

Rating:
4 Full data on all relevant aspects
3 Good data on most aspects
2 Fair data on most aspects
1 Weak data on most aspects
0 No data, speculation/claims only

4. LONG-TERM EFFECTS

Consider:
__One week to one month
__Month to one school term
__One to two years
__Longer than two years
__Other_____
Comments:

Rating:
4 Good direct data for times needed
3 Reasonable direct data for times needed
2 Follow-up data support a conclusion
1 Other data suggest a conclusion
0 No basis for any inferences

5. SYSTEMATIC EVALUATION

Consider:
__Meets professional standards?
__Ethics?
__Judge-observer reliability?
__Affective dimension?
__Content validity?
__Attention to side effects?
__Other_____
Comments:

Rating:
4 Passes with flying colors
3 Appears satisfactory
2 Acceptable risk for implementation
1 Serious omission(s)
0 Highly inadequate

6. CAUSATION ESTABLISHED

Consider:
__Intervention-outcome link clear?
__Rigorous experimental design?
__Quasi-experimental design?
__Correlation data?
__Professional judgment?
__User testimonial?
__Appropriate analyses?
__Other_____
Comments:

Rating:
4 Excellent
3 Good
2 Plausible
1 Weak
0 Very inadequate

7. COST ANALYSES

Consider:
__Realistic cost data available?
__Indirect costs included?
__Opportunity costs identified?
__Non money costs identified?
__Start-up costs included?
__Maintenance costs?
__Other_____
Comments:

Rating:
4 Very complete information
3 Reasonably complete approximations
2 Rough estimates
1 Limited or unclear estimates
0 No data or important omissions

8. DEFENSIBILITY

Consider:
__Independent judgments
__Students with special needs
__Legal and ethical concerns
__Cultural and fairness issues
__Do materials and strategies "ring true"
__Potential side effects
__Congruency with student learning needs
__Value for all targeted students
__Ease of implementation
__Reasonableness of costs
Comments:

Rating:
4 Impeccable
3 Good
2 Fair
1 Weak
0 Very inadequate

*Adapted from: Scriven, M. (2000). *Product Evaluation checklist*. The Evaluation Center. Kalamazoo, MI. April.