



A Content-Centered Approach for Maximizing Student Achievement: PLATO[®] Exam Intervention

Descriptive White Paper

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Introduction

Students in U.S. high schools face a variety of challenges related to high-stakes tests. In many states, high school graduation tests determine whether students graduate. Even when this is not the case, these assessments measure student performance and the results are used to hold districts and schools accountable for instruction as mandated by the No Child Left Behind Act. Students are also challenged by college entrance exams—the results of which play a key role in which colleges students can attend and what kind of financial support they receive. Finally, high school dropouts need help in preparing for the GED which can unlock future advancement.

PLATO® Exam Intervention represents a partial—but powerful—solution to the challenge of improving student test scores in these areas by helping students master essential content and skills in a way that is responsive to students' specific needs.

This paper describes key elements of the PLATO Exam Intervention approach, with a special focus on addressing the needs of students struggling to improve their high school graduation exam scores.

Defining the Challenge

PLATO Exam Intervention has been designed specifically to help meet the particular challenge that high-stakes tests present for U.S. high school students. Factors that contribute to the high-stakes test challenge include:

- Students' lack of specific skills and knowledge to do well on high-stakes exams.
- Stress created by past poor performance on high-stakes exams—such as high school graduation exams, college entrance exams, and/or GED tests—adversely impacts subsequent test performance.
- Significant consequences for both students and the institutions that serve them resulting from poor student performance on high-stakes exams.
- Student demoralization resulting from repeated experiences of failure.
- Limited timeframes of typically a year or less to improve student performance.
- Students' knowledge deficits are rooted in longstanding reading and/or math skills deficits—spanning many years.
- Students' learning needs and circumstances may not be well matched to standard high school instructional settings.
- Reporting inefficiencies.
- Test limitations.

Students need help to overcome these obstacles. PLATO Exam Intervention is designed to provide that help.

Shortcomings of Typical Test-Preparation Programs

Faced with the need to help students improve their test scores, many districts and schools have resorted to using commercially available test-preparation programs. However, such programs—unlike PLATO Exam Intervention, which isn't a standard test-preparation program—do not address the specific challenges faced by students who are struggling to improve test scores. Most, if not all, traditional test-preparation programs suffer from one or both of the following shortcomings.

- **Students Need Content Knowledge, Not Test-Taking Practice.**

Traditional test-preparation programs focus on test-taking strategies and practice. They focus on dealing with specific question formats. Unfortunately, these preparation programs do not remediate skill gaps. If students do not know what will be assessed on the test, no amount of test taking practice will give them that knowledge.

- **Pre-Assessment Often Heightens Feelings of Failure.**

Many test-preparation programs lose students' attention right from the start because they begin with a comprehensive pre-assessment. For students who are already discouraged, such assessments typically translate into another experience of failure. When large pre-tests are given on the first day of a program many students are so discouraged that they never return.

In short, test-preparation programs can be an important part of the solution for students struggling to improve test scores. However, such programs alone do not provide the focused instruction and added confidence students need to improve their test performance. That's where PLATO Exam Intervention comes in.

The Solution: PLATO Exam Intervention

PLATO Exam Intervention Snapshot

PLATO Exam Intervention is a remediation solution that helps students improve scores on high school graduation exams, college entrance exams, and the GED. There are versions of PLATO Exam Intervention mapped to 48 state assessments and 6 national tests. Key elements of the solution include:

- A Focus on teaching, not testing, with learning paths tailored to cover content and skills included in specific high-stakes tests.
- Presentation of instructional content in a sound instructional sequence that addresses the set of objectives evaluated on a particular assessment.
- Interactive, online instruction based on proven methods of effective instruction.
- Opportunities for instruction outside the traditional classroom setting, adaptable to students' individual circumstances.

- A flexible, focused approach that supports both targeted, in-depth instruction and long-term, comprehensive learning.
- Student control over the pace of their learning.
- An instructional experience structured to help students achieve academic success.
- Professional services that train personnel and provide program implementation guidance.

Implementing Exam Intervention Programs

PLATO Exam Intervention can be implemented in a variety of settings. These include pull-out remediation programs—such as summer school, after-school, and weekend programs—and more specialized programs, including alternative education, GED, and college entrance study programs. PLATO Exam Intervention is not designed for whole group instruction in a traditional classroom setting.

High School Graduation Exam Preparation Implementations

Examples of typical PLATO Exam Intervention program implementations for helping students prepare for their high school graduation exams include:

- Based on junior-year exam results, students are identified as being at-risk of not graduating. During their senior year, these students participate in a yearlong after-school or weekend program using PLATO Exam Intervention, during which they work through learning paths that map to their high school graduation exam.
- Based on junior-year exam results, students are enrolled in summer school using PLATO Exam Intervention. At the end of summer school, students' progress is evaluated to see whether they need to continue working with PLATO Exam Intervention during the school year.
- Based on poor classroom performance or mid-year grades, students are referred into an after-school or weekend program partway through their senior year.
- Students complete a sample test 2–3 months before their required high school graduation exam. Based on the sample test results, they're placed into an intensive program working with PLATO Exam Intervention. They focus on specific areas of weakness identified by the test results or by classroom teachers.

College Entrance Exam Preparation Implementations

- Based on practice SAT[®]/ACT[®] tests, students with a desire to improve test scores are given access to PLATO Exam Intervention through a supplemental program. These students attend a weekend academy for test improvement and are also given 24-hour access to PLATO Exam Intervention so they are able to work from home at any time.
- College-bound students attend an after-school academy for SAT[®]/ACT[®] preparation to brush up on their skills and to ensure they are fully ready for the test.

GED Preparation Implementations

- Adult learners wanting a targeted method for GED test preparation enroll in PLATO Exam Intervention through a weekend or alternative academy.

Use with Traditional Test Preparation Programs

PLATO Exam Intervention's focus is on teaching test content—not on test-taking strategies or practice with taking tests. However, PLATO Exam Intervention in combination with traditional test-preparation programs can be used to complement test-taking practice.

How PLATO Exam Intervention Works

PLATO Exam Intervention includes a separate learning path—a sequence of instructional activities—for each subject-specific area of a high-stakes test. Typically, students are assigned to work in one or more learning paths, based on classroom performance, scores on practice tests, or information from a previous high-stakes test. Within each learning path, students are assigned modules (objective-based lessons).

There are two recommended ways to use PLATO Exam Intervention learning paths: Skills QuestSM and Test ChallengeSM. These methods describe how students move through the learning paths and indicate which modules they should focus on.

Skills QuestSM

Each PLATO Exam Intervention learning path is logically sequenced to provide an optimal learning experience. Students work through each learning path in the order presented. For each module, students start with a tutorial, continue with practice, and conclude with a mastery quiz. The mastery quiz confirms that the student has truly mastered the instructional content. When a student attempts the mastery quiz and does not demonstrate mastery, the system will not allow them to attempt the mastery quiz until they have revisited the tutorial.

The Skills QuestSM approach avoids the pitfall of a large pre-test. While pre-tests provide teachers visibility to knowledge gaps, they can also make things seem insurmountable to the student. By directing students to interactive instructional experiences, they are more likely to remain engaged. In essence, this strategy never exposes the total mountain to be climbed. Literally, students just take things one step at a time. This instructional strategy is most often used by students who are significantly below proficiency in a given subject area.

Test ChallengeSM

Students work through the learning path in the order presented. However, instead of starting each module with the tutorial, they take the module mastery test to determine if they have a firm grasp on the lesson objective. If they pass, they move on to the next module. If not, they complete the tutorial and practice components of the module.

The Test ChallengeSM approach also avoids the pitfall of a large pre-test by spreading it out into digestible chunks. By directing students to mastery quizzes, students perceive that they are in control. They also receive positive reinforcement for the content they have already acquired. When they are unable to pass a mastery quiz, they know that this is an area they need to study. Students like this approach because they appreciate the efficiency. This instructional strategy is typically used by students who are close to proficiency in a given subject area.

The Skills QuestSM and/or the Test ChallengeSM enable students to optimally focus on specific learning gaps without the added burden of an enormous pre-test. Students can use one or both of the strategies depending upon individual needs. With time pressures, having a choice of approach is especially helpful.

Focus on Test Content

The focus of PLATO Exam Intervention is on teaching test content—the specific knowledge and skills on which students will be assessed. The key assumption underlying this strategy is that high-stakes assessments focus on the most important learning objectives.

Which Tests Are Covered?

PLATO Exam Intervention covers 48 state tests and 6 national tests. For each exam, PLATO Exam Intervention includes one learning path for each subject area covered on the exam blueprint.

State Tests

State	Test	# of Learning Paths	State	Test	# of Learning Paths
Alabama	AHSGE	6	Nebraska	STAR	4
Alaska	HSGQE.	3	Nevada	HSPE	4
Arizona	AIMS	4	New Hampshire	NECAP	3
Arkansas	ACTAAP	3	New Jersey	HSPA	4
California	CAHSEE	2	New Mexico	NMHSCE	6
Colorado	CSAP	4	New York	Regents	12
Connecticut	CAPT	4	North Carolina	EOC	10
Delaware	DSTP	5	North Dakota	NDSA	3
Florida	FCAT	4	Ohio	OGT	5
Georgia	GHSGT	5	Oklahoma	OCCT	4
Hawaii	HCPS III	4	Oregon	OAKS	4
Idaho	ISAT	3	Pennsylvania	Anchors	3
Illinois	ISAT	3	Rhode Island	NECAP	3
Indiana	ISTEP	2	South Carolina	HSAP	2
Kansas	KSA	4	South Dakota	DSTEP	3
Kentucky	KCCT	5	Tennessee	Gateway	3
Louisiana	GEE 21	7	Texas	TAKS	4
Maryland	MHSA	4	Utah	UBSCT	3
Massachusetts	MCAS	7	Virginia	ECO	5
Michigan	MME	4	Vermont	NECAP	4
Minnesota	GRAD	3	Washington	WASL	4
Mississippi	SATP	4	West Virginia	WESTEST	4
Missouri	MAP	7	Wisconsin	WKCE	5
Montana	MontCAS	3	Wyoming	PAWS	4

National Tests

Test	# of Learning Paths
ACT	5
GED	5
SAT	3
ITBS	5
SAT 10	5
TerraNova	4

How PLATO Exam Intervention Maps to Test Content

Each module within a PLATO Exam Intervention learning path maps to a specific objective in the test blueprint. This one-to-one mapping ensures optimal coverage and learning opportunity. The learning path's content reflects the content categories and objectives identified in the test blueprint. However, the content in the learning path is presented in a sequence that has been designed by PLATO Learning subject-matter experts to ensure a robust, quality learning experience.

PLATO Learning's method of one-to-one mapping to test objectives incorporates several key advantages over other methods:

- *Focused, Optimized Learning*

Mapping to test objectives focuses student learning on the specific content they need to know in order to improve test performance. Mapping to state standards could unintentionally divert students' time and energy to content that is less critical to their exam success.

- *Maximal Coverage*

Because each module is mapped to a single test objective, instruction covers each targeted objective. By comparison, mapping a single module to multiple objectives typically results in instruction that covers some targeted objectives better than others.

- *Accurate Coverage*

Mapping on the objective level guarantees that the main thrust of each module corresponds to critical test content. By comparison, other methods of mapping—such as mapping by keyword—often lead to a less precise match between what is being taught and what will be tested.

- *Up-to-Date Coverage*

In order to guarantee a current match to each test, PLATO Exam Intervention's learning paths are reviewed and updated annually.

PLATO Exam Intervention Design

Learning Paths

For each state and national test covered by PLATO Exam Intervention, PLATO Learning has designed a set of learning paths corresponding to the subject areas covered on the test. Each learning path is divided into units, which are subdivided into modules. In turn, each module consists of a sequence of instructional activities aligned to a specific learning objective covered on the test. The instructional sequence starts with a tutorial, continues with an application or practice activity, and finishes with a mastery quiz. An illustration of the hierarchical structure follows:

Learning Path (subject area)

Unit 1

Module 1

Tutorial

Drill/Application/Practice

Mastery Quiz

Module 2

Tutorial

Drill/Application/Practice

Mastery Quiz

Module 3

Tutorial

Drill/Application/Practice

Mastery Quiz

Module^a

Tutorial

Drill/Application/Practice

Mastery Quiz

The units and modules are organized into a sound instructional sequence that supports successful progression through the learning path.

Instructional Features

The PLATO Exam Intervention learning paths incorporate a broad range of features based on proven methods of effective instruction. Instructional features are divided into four logical groups: general design, instructional presentation, practice and application, and assessment and feedback.

General Design

- Systematic, explicit, and targeted instruction
- Interactive, highly engaging multimedia modules
- Audio support in most modules
- Age-appropriate instruction

Instructional Presentation

- Skill and strategy modeling
- Scaffolded approach to learning
- Graphics and animation to illustrate key processes and procedures

- Strategies for becoming a successful reader, writer, and mathematical problem solver
- Combination of conceptual understanding, factual knowledge, and procedural facility in math

Practice and Application

- Extensive practice with skills and procedures
- Student experience with creating varied, multiple representations of math content
- Guided student practice as a bridge to independent practice
- Challenging problems
- Incorporation of technology tools, as appropriate for specific subject area applications (e.g., math and science exploration, word processing, etc.)

Assessment and Feedback

- Use of tests (quizzes) for retrieval practice and spaced exposure and to alert learners about content that has not been fully learned
- Corrective feedback, when and where appropriate, for most modules
- Automatic, required repeat of study if students fail to master a module
- Progress reports for students, teachers, and program administrators

Requirements

Technical Requirements

The following items are needed to implement a PLATO Exam Intervention-based exam preparation program:

1. A computer capable of running PLATO® instructional content using one of the following operating systems:
 - Windows® 2000 Professional with SP4
 - Windows® XP Professional with SP2
 - Windows® XP Home Edition with SP2
 - Windows® Vista
 - Mac® OS 10.4.10 and 10.5
2. An Internet connection with speed at or above:
 - 40Kbps per simultaneous workstation for math, English, language arts, and social studies content titles
 - 128Kbps per simultaneous workstation for science content titles

3. A web browser with:

- ActiveX® and JavaScript enabled
- Standard downloads such as Flash Player and Adobe Acrobat Reader

4. Speakers or headphones for audio support

With the above infrastructure requirements in place, students can access PLATO Exam Intervention from home computers thereby enabling any time, any place access.

Time Requirements

PLATO Exam Intervention's flexible design supports a variable timeframe for student learning depending on the specific circumstances of students, the number of subject areas and objectives that are covered on the test they're preparing for, and their level of existing knowledge.

In general, it's recommended that PLATO Exam Intervention programs run at least 8–10 weeks in order for students to experience the maximum benefit. In many cases, students with broad-knowledge deficits can benefit from a full semester or school year using PLATO Exam Intervention. Alternatively, students with specific knowledge deficits may need only a week or two in order to reach the level of achievement they need to pass a high school graduation exam.

Supervision Requirements

PLATO Exam Intervention has been designed to require a minimum level of supervision. However, for maximum student success, PLATO Learning recommends regular monitoring of student progress and the availability of teachers and/or paraprofessionals as needed to help students in mastering concepts. Specific levels of teacher support and supervision should be based on the needs of your students and the circumstances of your program.

Maximizing Student Success

Based on teachers' perceptions of students' specific needs, students typically start working in the first module of a learning path. If they do well, teachers are encouraged to celebrate student success. By moving through the learning path module-by-module, students learn the content and skills they need, while experiencing a variety of small successes along the way. This contrasts with the common practice of starting with a comprehensive initial assessment that often reinforces students' feelings of failure.

Another way PLATO Exam Intervention maximizes student success is by giving students control over their own learning. Students have the choice of where they go in the learning paths, how quickly they work, and whether they work through each learning activity in the prescribed order (Skills QuestSM) or start a module by taking the mastery quiz (Test ChallengeSM).

For students to experience success, they also must be able to learn at times and in places that fit their individual circumstances. PLATO Exam Intervention's flexibility accommodates a wide range of scheduling options—including home-based learning.

Summary

PLATO Exam Intervention has been designed to meet the specific needs of students who must improve scores on high school graduation exams, college entrance exams, and/or the GED. The solution uses online instruction that helps students prepare to do well on high-stakes tests. PLATO Exam Intervention maximizes students' success—both while they work with PLATO Exam Intervention and when the time comes to take the high-stakes test.