

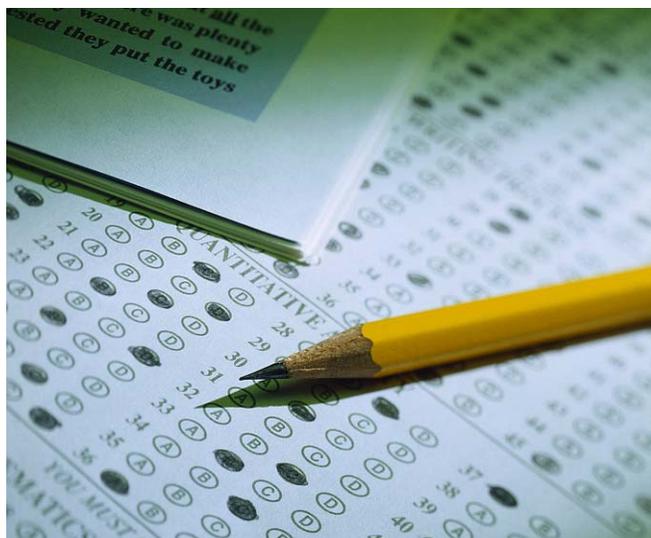


**CONNECTICUT STATE
DEPARTMENT OF EDUCATION**

*CMT/CAPT Skills Checklist
Second Generation*

Technical Manual

October 2006



CMT/CAPT SKILLS CHECKLISTTECHNICAL MANUAL

TABLE OF CONTENTS

SECTION I—OVERVIEW, BACKGROUND, AND KEY COMPONENTS OF THE VALIDITY EVALUATION

OVERVIEW OF THE ASSESSMENT SYSTEM 1

- Introduction to the technical manual 1
- Connecticut's assessment context..... 1
- Statement of core beliefs and guiding philosophy 4
- Purposes of the assessment system 6
 - Governing statutes and authority 7
- Uses of the assessment information 9

WHO ARE THE STUDENTS? 9

- Role of the IEP process and team regarding administration 9
- Description of the students and alternate assessment participation rate..... 11
- How do they learn? 12
- IEP – for students to participate in AA-AAS 13

WHAT IS THE CONTENT? 13

- Description of ELA content 14
- Description of mathematics content..... 14
- Alignment of AA-AAS content with general content and achievement expectations. 14
- Description of linkage to different content across grades that support individual growth 14

SECTION II—TEST DEVELOPMENT, ADMINISTRATION, SCORING, AND REPORTING

TEST DEVELOPMENT 15

- Types of approach (e.g., portfolio, performance task, observation checklist, etc.) 15
- Creation of test specifications aligned to grade level content 18
- Item/task development process 20
 - Item development workgroups 20
 - Orientation meeting 21
 - Item development training..... 22
 - Guided item development procedures 23
 - Review of results 23

ADMINISTRATION & TRAINING 24

- Administration procedures and guidelines 24
 - Who administers the Checklist 25
 - How is the Checklist completed 25
- Professional development and training programs 26
 - Program content 27

CMT/CAPT SKILLS CHECKLIST TECHNICAL MANUAL

TABLE OF CONTENTS

Monitoring and quality control of administration procedures..... 29

 Attendance 29

 Evaluation of training quality 31

SCORING..... 32

 Scoring rules and criteria 32

 Scoring process 34

 Scoring quality control..... 34

 Test contractor security 35

REPORTING..... 37

 Adherence to Joint Standards..... 37

 Reports for parents, students, school and sistricts..... 37

 Types of scores reported 37

 Summary scores and subscores 38

SECTION III—EMPIRICAL EVIDENCE

ALIGNMENT..... 38

 Alignment to the grade level content standards 38

STANDARD SETTING 40

 Standard setting methodology, including rationale for selecting this method 40

 Performance descriptors 42

 Standard setting results 42

Validity 44

Reliability 46

References..... 50

Section IV-Appendices

Appendix A CMT/CAPT Skills Checklist Advisory Committee

Appendix B CMT/CAPT Skills Checklist Item Development Participants

Appendix C Technical Advisory Committee

Appendix D Item Distribution by Content Standard

Appendix E Examples of Downward Extensions Used for Training

Appendix F Parameters of Downward Extensions

Appendix G Standard Terminology

Appendix H Copy of CMT/CAPT Skills Checklist: Second Generation

Appendix I Sample Performance Level Descriptors for CMT/CAPT Skills Checklist

CMT/CAPT SKILLS CHECKLIST TECHNICAL MANUAL

TABLE OF CONTENTS

Appendix J	Alignment Analysis of Connecticut’s Alternate Assessment: Executive Summary
Appendix K	Cut Scores by Content Standard by Grade and Distribution of Students by Performance Level
Appendix L	Connecticut Mastery Test Skills Checklist Profile – Sample Score Report
Appendix M	Learner Characteristics Inventory
Appendix N	Connecticut Mastery Test Fourth generation Content Validation Study
Appendix O	Relating Items from the CMT/CAPT Skills Checklist to the Connecticut Curriculum Frameworks
Appendix P	Scope and Sequence Tables for Language Arts Performance Standards Utilized in the Development of the CMT/CAPT Skills Checklist
Appendix Q	Scope and Sequence Tables for Language Arts Performance Standards Utilized in the Development of the CMT/CAPT Skills Checklist

SECTION I—OVERVIEW, BACKGROUND, AND KEY COMPONENTS OF THE VALIDITY EVALUATION

OVERVIEW OF THE ASSESSMENT SYSTEM

Introduction to the technical manual

This technical manual is intended to help readers understand the origins and application of the Connecticut Mastery Test Skills Checklist and the Connecticut Academic Performance Test Skills Checklist (CMT/CAPT Skills Checklist), Connecticut’s alternate assessment instruments. This document describes those activities and procedures that have occurred or are currently planned to develop and implement the CMT/CAPT Skills Checklist, as well as the future steps necessary to ensure the accurate interpretation of the scores to be derived from its use with students with disabilities. This manual also includes an overview of the CMT and CAPT statewide assessment program of which the CMT/CAPT Skills Checklist is one component.

Connecticut’s assessment context

Connecticut has a long history of administering statewide assessments to gauge students’ progress toward meeting the state’s challenging academic performance standards. The Connecticut Mastery Test (CMT) was first administered in 1985 and is now in its fourth generation assessing students’ skills and knowledge in mathematics, reading and writing in grades three through eight, and beginning in 2008 science will be assessed in grades five and eight. The Connecticut Academic Performance Test (CAPT), which was first administered to grade ten students in mathematics, science, reading and writing in 1995, is entering the third generation in 2007. In 2006, the Connecticut State Department of Education (CSDE) also developed grade-specific Skills Checklist assessments for the most severely cognitively impaired students enrolled in grades three through eight and ten for mathematics and English/language arts, which are aligned with grade level content but based on alternate achievement standards. These assessments are the foundation for the state’s accountability system under the No Child Left Behind (NCLB) Act for determining whether schools and districts are making ‘adequately yearly progress’ (AYP) toward all students achieving proficiency in mathematics and reading by 2014.

Other assessments, which priority school districts are required to administer by state or federal legislation, include the Developmental Reading Assessment (DRA) and the Diagnostic Indicators of Basic Elementary Literacy Skills (D.I.B.E.L.s) which are used to support reading instruction and identify students who should be provided summer school or supplemental instruction so that they will be prepared to read at grade level by Grade 4. In 2009, districts that receive funds supporting pre-kindergarten programs will be required to administer a kindergarten preparedness assessment to determine which students still need additional instructional support to reach grade level performance.

Additionally, English language learners who are enrolled in bilingual or English as a Second Language (ESL) are administered the Language Assessment Scales (LAS) annually to determine their progress in reading, writing, listening, and speaking English and their eligibility to exit from programs of language instructional. Finally, Connecticut participates in the National Assessment of Educational Progress (NAEP) and samples of students in the state's schools are assessed annually in grades four, eight and twelve in a range of disciplines to provide state-level data on how well Connecticut students compare to students in other states across the country.

In addition there are other assessments that either districts require or students elect to participate in that are administered annually. These include standardized norm referenced tests that districts administer across grades to benchmark their schools' progress in meeting their curricular standards and batteries of assessments used for special education identification. Most high school students in the state take the Preliminary Scholastic Aptitude Test (PSAT) and the Scholastic Aptitude Test (SAT) in preparation for post secondary education, and many take Advanced Placement (AP) tests as a culminating activity for receiving credit for college level courses they take in high school.

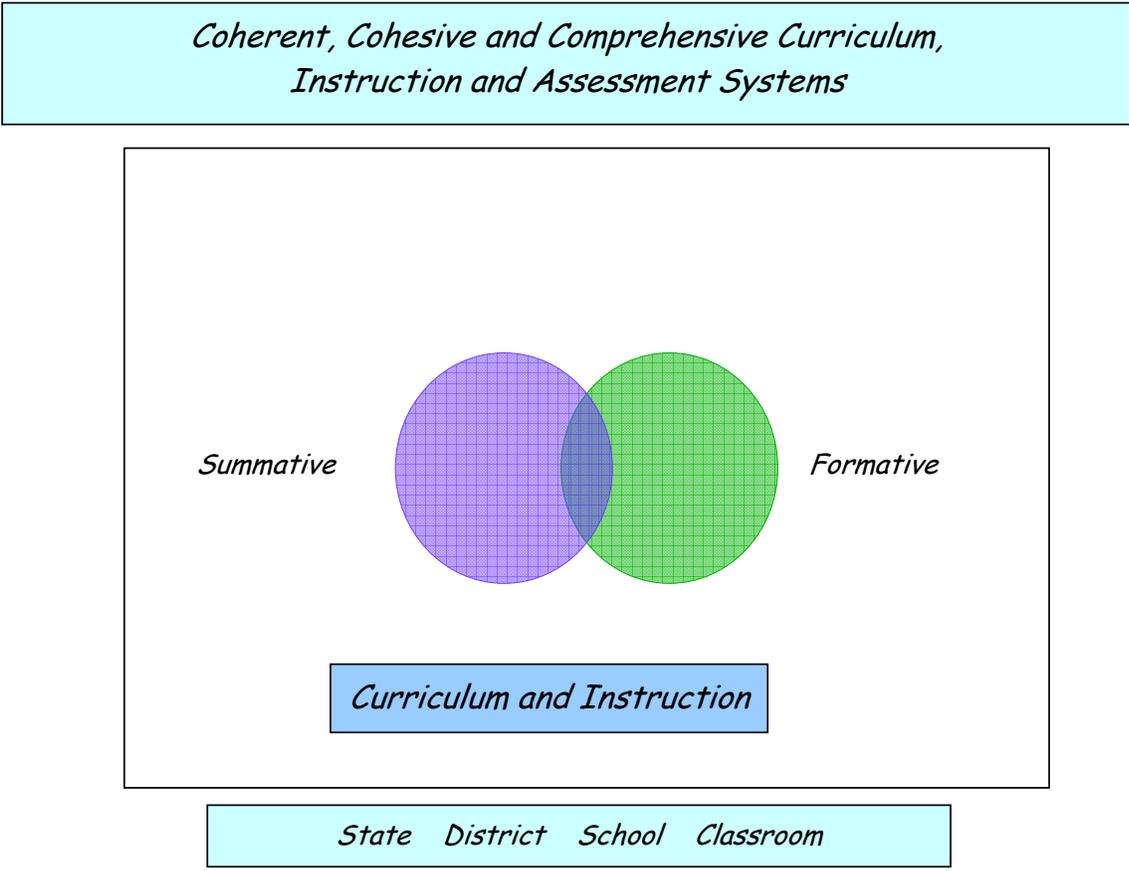
The assessments described above, for the most part, are used for 'summative' purposes. They are administered once or twice per year and provide a snapshot of the extent to which some level of learning has taken place. On the CMT and CAPT, students are classified into one of five performance levels, based on grade level performance standards: below basic, basic, proficient, goal, or advanced; for the Skills Checklist, students are classified as basic, proficient or independent. The results of these tests are also used for NCLB purposes to determine which schools and districts have made AYP, for the entire group and for specific subgroups (race/ethnicity, special education, English language learners, students eligible for free or reduced-price meals).

Within districts, schools and classrooms teachers conduct a range of other assessments on a periodic or daily basis to measure their students' progress in meeting local performance standards. These include grade-level 'benchmark' assessments, which are mini summative tests given at specific times during the school year after instruction has taken place to measure students' progress toward meeting a subset of the content standards, and 'common' assessments administered at the end of a unit of instruction. In addition, informal and formal 'formative' classroom assessments are a component of curriculum and instruction designed to inform teachers and students of the progress being made while instruction is taking place to determine if changes need to be made to improve student performance. At present a state initiative is underway to provide formative assessment test items which the state's curriculum frameworks. These items will be stored electronically and will be available for teachers to download when needed. Together summative and formative assessments can be powerful tools in driving curricular and instructional improvements and monitoring progress in mastering specific standards for individual students.

In addition, the purpose of Connecticut’s assessment initiative is to establish a comprehensive, balanced and coherent standards-based system of teaching, learning and assessment to move the state toward the goal of not only having all students ‘proficient’ by 2014, but also increasing the proportion of students scoring at the goal and advanced levels on state tests and improving the state’s relative ranking on nationwide tests such as NAEP, PSAT, SAT and AP performance.

Figure 1 below illustrates the interrelationship of formative and summative assessment as an integral component of curriculum and instruction.

**Figure 1:
Connecticut Assessment System**



Beginning with the 1997 reauthorization of the Individuals with Disabilities Act (IDEA, 1997), all students with disabilities have been required to have access to the general curriculum and be included in statewide (and district-wide) assessments. The first generation of the CMT/CAPT Skills Checklist was implemented in 2000 as Connecticut's alternate assessment to be used exclusively with students with significant cognitive disabilities who could not otherwise participate in the standard CMT and CAPT testing program. In accordance with federal guidance at the time, the Checklist was designed to align with Connecticut's Curriculum Frameworks but, unfortunately, did not reflect grade level curriculum content. Additional federal guidance provided to states by the U.S. Department of Education in December 2003 clarified that all accountability assessments, including alternate assessments, must be linked to the state's academic content standards, i.e., they must reflect grade level content.

The second generation of the Checklist was introduced during the 2005-2006 academic year. This revised Checklist reflects alternate achievement standards that are aligned with the Connecticut Curriculum Framework in Language Arts and Mathematics at each grade level assessed (See <http://www.state.ct.us/sde/dtl/curriculum/currla.htm> and <http://www.state.ct.us/sde/dtl/curriculum/currmath.htm>, respectively, for copies of the Framework). Science will be added to the second generation Checklist for the 2007-2008 academic year at grades 5, 8, 10. Each indicator on the Checklist corresponds to a specific Content Standard and Expected Performance statements (objectives) found in Connecticut's Curriculum Frameworks, but reflects a "downward extension" of the grade level skill that allows it to be more accessible to students with significant cognitive disabilities.

Statement of core beliefs and guiding philosophy

A highly educated citizenry is Connecticut's most valuable resource. The development of educated and productive citizens requires a plan and the passion to relentlessly pursue success for each student. Every five years the Connecticut State Board of Education develops a comprehensive plan as one part of its statutory requirement under Connecticut General Statute 10-4 to provide leadership to school districts with respect to preschool, elementary and secondary education, special education, vocational education and adult education.

The current comprehensive plan includes the following statement of core beliefs:

Today's generation of young people can and will achieve more than preceding generations, and we anticipate that the next generation will be able to achieve even more. The ongoing challenge for public education is to continuously improve the teaching and learning process so that these expectations can be met.

Public education benefits everyone. It is key to ensuring quality of life for Connecticut citizens both now and in the future. We value education because it is the foundation of opportunity and a fundamental principle in a democratic society.

Thus, we – the public as well as educators – have the responsibility to continually strive for excellence in Connecticut’s public schools.

Every Connecticut public school student has a fundamental right to an equal educational opportunity as defined by a free public education and a suitable program of educational experiences. Equity of opportunity means that each student is provided with the means to achieve the standard of an educated citizen as defined by Connecticut’s Common Core of Learning. Suitable programs are dependent upon:

- students having a high-quality preschool experience and entering school ready to learn;
- effective educators who have high expectations for student achievement;
- sound facilities and safe environments; and
- appropriate resources that are equitably distributed.

Schools must offer every student challenging curriculum, common standards, appropriate program options, and opportunities to learn with and from students and teachers whose backgrounds differ from their own. Schools must also be held accountable for results and the state and local communities must provide the resources for schools to be successful.

The State Board of Education defines successful students as those who read, write, compute, think creatively, solve problems and use technology. All students should enjoy and perform in the arts and athletics, and understand history, science and other cultures and languages. Each student must be responsible for his or her learning and behavior, work well with and be helpful to others and contribute to the community. Every student must graduate from high school and be prepared to move on to productive work and further study and to function in the global economy. Ultimately, students must become active citizens and lifelong learners who lead healthy lives.

The following is a partial list of the steps identified by the State Board of Education as necessary to achieve the outcomes of excellence, equity of opportunity and successful students:

- strive for, assess and report on continuous improvement in the achievements of all Connecticut students;
- take bold actions to close the achievement gap and reduce student isolation;
- guarantee to all students a challenging curriculum and high-quality educational experiences that are tailored to meet each student’s individual needs;
- raise expectations for each student’s achievement and behavior;

- ensure that all students are taught by highly competent teachers and led by visionary administrators;

Purposes of the assessment system

Test scores can serve many purposes, however, foremost among these is to estimate a student's achievement relative to specific academic content standards. For more than two decades Connecticut has assessed and reported on student academic performance statewide as it relates to approved curriculum content. The state has developed and adopted a set of grade-level academic achievement standards for reading/language arts, mathematics and science for students in grades 3 through 8 who take the Connecticut Mastery Test and for students in grade 10 who take the Connecticut Academic Performance Test in reading/language arts, mathematics and science.

Connecticut's statewide testing program consists of four tests: the Connecticut Mastery Test (CMT), which is administered in Grades 3 through 8, the CMT Skills Checklist which is administered in Grades 3 through 8, the Connecticut Academic Performance Test (CAPT) which is administered in Grade 10 and the CAPT Skills Checklist which is administered in Grade 10. Together these assessments help guide curriculum and instruction in the direction that Connecticut educators believe is important. They also permit the measurement of progress toward the educational goals that have been established for Connecticut students as reflected in the Connecticut Curriculum Frameworks and related Connecticut State Department of Education (CSDE) publications.

Specific purposes of the statewide CMT and CAPT testing program, including the CMT/CAPT Skills Checklist, are:

- to set high expectations and standards for the achievement of all students;
- to test a comprehensive range of academic skills;
- to disseminate useful test achievement information about students, schools and districts;
- to assess equitable educational opportunities; and
- to continually monitor student progress in Grades 3 through 8 and Grade 10.

As with all forms of assessment, the central question regarding an alternate assessment is its purpose. A central tenet of IDEA is that special education must be directly related to school reform efforts for all students. The question of an alternate assessment's purpose, then, must be framed in the context of comprehensive educational reform efforts in which schools are increasingly held accountable for clearly delineated outcomes. The purpose of an alternate assessment should mirror the purpose of the regular assessment. Thus, if the purpose of the regular assessment is to give schools a "report card" on what students are learning and suggest ways that learning can be improved, then the alternate

assessment should provide similar information for students with significant cognitive disabilities. Consequently, the CMT/CAPT Skills Checklist has been designed to comply with the requirements of IDEA and the No Child Left Behind Act (NCLB) and to ensure that students with significant cognitive disabilities are assessed on the state's academic content standards.

Connecticut Mastery Test Skills Checklist and Connecticut Academic Performance Test Skills Checklist results provide important information about student performance on a selected set of skills and competencies in mathematics, reading and communication in Grades 3 through 8 and Grade 10 and, beginning in 2007-2008, in science at Grades 5, 8 and 10. However, these results do not provide a complete picture of student accomplishments. There is a danger that overemphasizing state test scores to evaluate a student's, a school's or a districts performance can result in an inappropriate narrowing of the curriculum and inappropriate classroom instructional practices. Focused preparation for state tests should be a small fraction of a yearlong comprehensive curriculum that balances the competencies assessed on state tests with other critical skills and objectives. Teaching isolated skills for test preparation or using repetitive tasks that go far beyond reasonable practice do not represent good instruction. In addition, no one assessment—state or local—should be the sole basis for promotion, graduation or other important decisions in the education of a student.

It is expected that teachers throughout the state will, when properly trained, incorporate the use of the CMT/CAPT Skills Checklist into their regular weekly classroom routines. Accordingly, the completion of the Checklist for each student will be the result of a yearlong effort rather than a one- or two-week on-demand session.

Governing Statutes and Authority

In June 1984, the General Assembly of the State of Connecticut passed Section 10-14n of the Connecticut General Statutes. This act amended the original legislation, which was enacted in 1978. The law mandates that the State Board of Education shall administer an annual statewide mastery test in language arts/reading and mathematics to all fourth-, sixth-, and eighth-grade students. In the spring of 1994 the Connecticut Academic Performance Test was added for students in Grade 10. Beginning in 2006, all third-, fifth-, and seventh-grade students were also required to participate in this CMT statewide testing.

Title I of the Elementary and Secondary Education Act (ESEA) requires that each state institute challenging content and performance standards for its public school students. These performance standards establish the level at which students are expected to master the material included in the content standards. The NCLB requires that all states have quality assessments in place in reading and math in 2006, and science by 2008, to determine the extent to which students have mastered the material outlined in the state's content standards. This requirement addresses a key element of the Title I program: a

high-quality assessment system that is aligned with a state's content and performance standards to ensure that all students are held to the same high academic standards.

With the reauthorization of the Individuals with Disabilities Education ACT (IDEA, 1997) in 1997, this same theme of access to the general education curriculum, improved student performance and increased accountability was incorporated into federal special education legislation. This access was reaffirmed in the Individuals with Disabilities Education Improvement Act of 2004 (IDEA, 2004)

These changes to IDEA represented a subtle but important shift of emphasis in federal special education legislation. Historically, this legislation has been considered by many to be a "procedural" act. That is, the emphasis has been on a detailed set of procedures intended to ensure that students with disabilities receive a free appropriate public education (FAPE) in the least-restrictive environment (LRE). The act was essentially silent on questions of specific curriculum content and the development of an Individualized Education Program (IEP). Students with disabilities typically were not participating in those district-wide or statewide assessments utilized with nondisabled students.

Having high expectations for all students, including students with disabilities is now a national priority. The IDEA amendments require that these students be included in appropriately challenging curriculum aligned with the general education curriculum and in district-wide and statewide assessments, and that states and school districts publicly account for the progress of these students. Clearly, the two goals of this legislation are the participation of a high percentage of students with disabilities in standard district-wide and statewide testing and accountability efforts, and **the availability of an alternate assessment for the relatively small number of students with significant cognitive disabilities who cannot appropriately participate in the standard assessment program.**

The CMT/CAPT Skills Checklist was first administered in the fall of 2000. The first generation of the Checklist was a single assessment instrument designed to be used with all students tested in grades 4, 6, 8 and 10. The skills assessed with this first generation Checklist were basic literacy and communication skills as well as daily living/self-help/social skills typically found in a functional education curriculum. Initial achievement standards for the first generation of the Checklist were set in May 2003.

As was mentioned earlier, final federal regulations for NCLB issued in December 2003 required states to meet new requirements for their alternate assessments. These regulations required the development of (a) grade level specific alternate assessments which reflected grade level content standards, (b) the establishment of alternate achievement standards in a valid, documented standard setting procedure, and (c) the adoption of these alternate achievement standards by the State Board of Education.

The Second Generation CMT/CAPT Skills Checklist was developed in response to the requirements of NCLB, IDEA, ESEA, and CGS 10-76n as outlined above.

Uses of the assessment information

The ~~CMT/CAPT~~CMT/CAPT Skills Checklist provides an accountability measure to determine the extent to which students with significant cognitive disabilities have been instructed on the state’s academic content standards. The checklist has been designed to align with the Performance Standards and Expected Performance statements included~~outlined~~ in the Connecticut Curriculum Framework in the areas of Language Arts and Mathematics for Grades 3 to -8 and 10. The CMT/CAPT Skills Checklist is a non-secure, stand-alone working document that teachers use throughout the school year to:

- inform instruction,
- monitor student growth and progress, and
- document achievement.

The Checklist was also designed to make it easier for teachers to individualize the instruction of students with significant cognitive disabilities in general education classrooms. It is intended that this will result in **(a) a change in the nature of instruction for students with significant cognitive disabilities, (b) an improvement in the quality of instruction for these students, and (c) the greater inclusion of these students in general education settings.**

Formatted: Font: 12 pt, Bold, Not Italic

Formatted: Font: 12 pt, Not Italic

Formatted: Font: 12 pt, Bold, Not Italic

Formatted: Font: 12 pt, Not Italic

Formatted: Font: 12 pt, Not Italic

WHO ARE THE STUDENTS?

Role of the IEP process and team regarding administration

In determining whether a student eligible for special education services under IDEA should participate in the ~~CMT/CAPT~~CMT/CAPT Skills Checklist rather than the standard CMT/CAPT testing program the student’s IEP Team (Planning and Placement Team (PPT) in Connecticut) must determine that the student meets ALL of the following criteria:

- The student has a significant cognitive disability;
- The student requires intensive individualized instruction to acquire, maintain or generalize skills that students without disabilities typically develop outside of a school setting;

- The student requires direct instruction in multiple settings to successfully generalize skills to natural settings, including home, school and community; and
- 4.—The student’s instructional program includes participation in the general education curriculum to the extent appropriate and may also include a functional and life skills component.

The following factors MAY NOT serve as the sole basis for a determination that a student should participate in the CMT/CAPT Skills Checklist:

Formatted: Indent: Left: 0", Hanging: 0.25"

- —The student’s disability category (e.g., intellectual disability, autism, etc.);
- —The student’s placement (e.g., self-contained classroom, regional program, etc);
- —The amount of time spent with non-disabled peers (e.g., 20% of the time, 10% of the time, etc.);
- —An expectation that, even with accommodations, the student will not score well on the standard version of the CAPT.

Formatted: Bulleted + Level: 1 + Aligned at: 0.5" + Tab after: 0.75" + Indent at: 0.75"

While there are no specific IQ requirements for participation in the CMT/CAPT Skills Checklist students who are assessed with the Checklist **typically** score two or more standard deviations below the mean in terms of overall cognitive ability **and** have significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social and practical adaptive skills. Frequently these students have been identified as having an Intellectual Disability (ID); however, students with other types of disabilities (e.g., Autism, Multiple Disabilities, Traumatic Brain Injury, etc.) who have evidence in their files of a significant cognitive disability may also satisfy the criteria for participation in the CMT/CAPT Skills Checklist.

Formatted: Right: -0.5"

Beginning with the 2006-2007 test administration, teachers will be required to complete the Learner Characteristics Inventory (see Appendix M) developed by the National Alternate Assessment Center at the University of Kentucky.

On advice of Connecticut’s Technical Advisory Committee this inventory of learner characteristics will be completed 3 or more months prior to administration of the CMT/CAPT Skills Checklist to minimize the possibility of a “halo” affect from completing the inventory, i.e., rating the student on the Checklist to ensure agreement with the learner characteristics outlined in the inventory.

This collection of information about each student recommended for the CMT/CAPT Skills Checklist will permit the Connecticut State Department of Education to monitor the Planning and Placement Team identification procedures described earlier and will also permit the Department to match each student with demographic and achievement data contained in the Department’s Public School Information System (PSIS) data base.

Description of students and alternate assessment participation rate

As Table 1 indicates, approximately 0.7 percent of the students participating in the CMT/CAPT testing program have been assessed with the Checklist during each of the six years that the CMT/CAPT Skills checklist has been Connecticut’s alternate assessment option. This figure is consistent with Federal guidance which limits the number of students who may be counted as “proficient” on an alternate assessment to 1.0 percent of the total population of students who participate in a statewide assessment.

Table 1
CMT/CAPT SKILLS CHECKLIST
Participation Rates
2000 – 2006

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
Total Students in Grades Tested*	169,585	173,996	175,732	176,571	176,054	306,821
Students Assessed with Skills Checklist	1,187	1,118	1,144	1,204	1,291	2,480
Percent of Students Assessed with Skills Checklist	.71	.64	.65	.68	.73	.81

*From the 2000-2001 school year to the 2005-2006 school year CMT/CAPT testing occurred in grades 4, 6, 8 and 10. Beginning in the 2005-2006 school year CMT/CAPT testing was expanded to include Grades 3, 4, 5, 6, 7, 8, and 10.

How do they learn?

Students who are appropriately recommended to participate in the CMT/CAPT Skills Checklist typically:

- Have significant cognitive disabilities in the areas memory, transfer of learning, attention, etc.;
- Require extensive prioritization within grade level content;
- Do not show grade level achievement even with appropriate and intensive instruction over significant period of time;
- Are multiple years behind grade level;
- Require supports that reduce complexity or breadth of instructional content;
- Require ongoing systematic instruction to learn new skills;
- Require ongoing systematic instruction to generalize skills and then may only transfer to similar or familiar content or contexts;
- Require key words, pictures, and auditory cues embedded in adapted or controlled text and may require a text reader to use these cues;
- Require extensive supports, such as simplified symbol system, peer models, frequent cues or prompts, repetitions, etc., to retrieve responses;

In a classroom setting these are students who may use symbolic language to communicate including written words, signs, Braille or language based augmentative systems to request, initiate, and respond to questions, describe things or events and express preferences, however they typically experience difficulty initiating and sustaining social interactions and communicating with others in real life situations.

Many of these students do not communicate at a symbolic language level but instead communicate by using gestures or signing, pointing, assistive technology or through the use of simple facial expressions or changes in muscle tone.

While they may be able to follow simple directions presented through words (e.g., spoken, signed, printed or any combination), they often also require additional cues such as gestures, pictures, models, etc. for understanding.

It is common for these students to experience impaired vision, hearing or motor skills individually or in combination. They are also students who often experience difficulty establishing and maintaining social interactions and experience frequent absences from school due to health or medical issues.

The majority of the students assessed with the CMT/CAPT Skills Checklist are not able to read fluently with basic (literal) understanding from paragraphs or short passages in print or Braille or to apply computational procedures or to solve real-life word problems

from a variety of contexts or to complete computational procedures even with the use of a calculator.

IEP – for students to participate in AA-AAS

The IEP Team (Planning and Placement Team – PPT in Connecticut) determines how students with disabilities should participate in the CMT/CAPT testing program. The decision about the most appropriate assessment (e.g., CMT, CAPT or CMT/CAPT Skills Checklist) is not to be based on current placement, disability category or the setting in which the student receives instruction. As was noted previously, Connecticut is committed to the principle that every student has the right to access the general education curriculum.

The student’s current educational needs are the most criteria utilized when selecting an assessment method. Connecticut has a mandated IEP form that is utilized for all public school students determined to be eligible for special education services under IDEA. Page 9 of this standard IEP form includes a description of all statewide assessment options which must be considered by the PPT when determining whether a student should participate in the standard CMT/CAPT testing program or in the CMT/CAPT Skills Checklist alternate assessment. This section of the IEP form also provides a place for the team to document the basis for the recommendation.

WHAT IS THE CONTENT?

Introduction

The CMT/CAPT Skills Checklist consists of four~~three~~ sections. Section I: Grade Level Academic Skills-Language Arts (Reading and Communication) and Section II: Grade Level Academic Skills-Mathematics assess Language Arts and Mathematics skills included in the Connecticut Curriculum Framework at the student’s assigned grade level. Section III: Access Skills, assesses those communication, quantitative and pre-academic skills that students without disabilities typically develop prior to school entry. Section IV: Rater Certification provides a place for the student’s primary special education teacher to certify her/his ratings of the student’s performance. ~~Section II: Grade Level Academic Skills Language Arts and Section III: Grade Level Academic Skills Mathematics~~ assess Language Arts and Mathematics skills included in the Connecticut Curriculum Framework at the student’s grade level

Formatted: Font: 12 pt, Not Italic, Underline

The Connecticut Curriculum Frameworks includes grade level Content Standards for a number of curriculum areas, including those of Mathematics, Language Arts, and Science. These are the curriculum areas that are assessed by the Connecticut Mastery Test (CMT) and the Connecticut Academic Performance Test (CAPT), Connecticut’s standard statewide assessments of academic performance.

Description of ELA content

In the area of Language Arts there are four Content Standards. These are:

- Reading and Responding;
- Exploring and Responding to Literature;
- Communicating with Others;
- English language Conventions.

Description of mathematics content

In the area of Mathematics there are four Content Standards. These are:

- Algebraic Reasoning: Patterns and Functions;
- Geometry and Measurement;
- Working with Data: Probability and Statistics; and
- Numerical and Proportional Reasoning.

Alignment of AA-AAS content with general content and achievement expectations.

The second generation of the CMT/CAPT Skills Checklist has been designed to assess the Content Standards, Performance Standards and Expected Performances outlined in the Connecticut Curriculum Framework in the areas of Language Arts, Mathematics and Science (beginning in the 2007-2008 school year) for Grades 3 through 8 and 10. Each item in Sections I and II: Grade Level Academic Skills of the second generation Checklist corresponds to a specific Expected Performance item (objective) that is found in the Connecticut Curriculum Frameworks. (See Section III, P. 39 and Appendix J, for a complete discussion of the alignment study completed for the Checklist)

Description of linkage to different content across grades that support individual growth

Each item on the Checklist that is rated is a “downward extension” of a grade level Expected Performance item from the Connecticut Curriculum Framework. While these Downward Extensions continue to address the “essence” of the Expected Performance item they do so in a simplified way. This serves to make the particular skill more accessible to students with significant cognitive disabilities. In Language Arts, the student must always be assessed with grade level content. The downward extensions will sometimes refer to “grade level text,” which for assessment purposes, is the same as grade level content. These terms should be considered interchangeable when completing the Checklist.

Each Downward Extension of the CMT/CAPT Skills Checklist can be related directly to an Expected Performance item in the Connecticut Curriculum Frameworks. (Appendices P & Q)

illustrates how to link all of the individual Downward Extensions to specific Curriculum Frameworks content standards.)

SECTION II—TEST DEVELOPMENT, ADMINISTRATION, SCORING, AND REPORTING

TEST DEVELOPMENT

Types of approach (e.g., portfolio, performance task, observation checklist, etc.)

The CMT/CAPT Skills Checklist was designed as a non-secure, stand-alone working document that teachers can use throughout the school year to:

- inform instruction,
- monitor student growth and progress, and
- document achievement.

To assess a student, the child’s primary special education teacher rates the student’s performance on a 3-point scale (0, 1, and 2). When rating an item, any mode of communication or responding that is typically utilized by the child is acceptable.

Each test item consists of 3 Downward Extensions. These Downward Extensions are descriptors of student performance that relate to Expected Performance statements and Content Standards from the Connecticut Curriculum Framework. Downward Extensions are arranged in descending order of difficulty, i.e., the most difficult task is listed first, the next most difficult task is listed second and the easiest task is listed last. Each Downward Extension addresses the “essence” of the Content Standard and Expected Performance statements but in a simplified form that makes them more accessible for students with significant cognitive disabilities.

To illustrate, the following is a Language Arts test item for Grade 7.

Reading and Responding

ⓐ Does Not Demonstrate
 ① Developing/Supported
 ② Mastered/Independent

A. Students use appropriate strategies before, during and after reading in order to construct meaning.

1. Activate prior knowledge, establish purposes for reading and adjust the purposes while reading. RR 7.1

Essence: Indicate what is already know about the text, determine reasons for reading it and be able to adjust accordingly.

Make one or more predictions related to the grade level text	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generate one or more questions related to grade level text based on text features (e.g. captions, table of contents, book jacket, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indicate what is known about the grade level text based on grade level text features (e.g. captions, table of contents, book jacket, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The number of Downward Extensions by grade level and Content Standard for Language Arts (Table 1) and Mathematics (Table 2) are as follows:

Table 2

TOTAL DOWNWARD EXTENSIONS BY GRADE: LANGUAGE ARTS
CMT/CAPT SKILLS CHECKLIST: SECOND GENERATION
(3 Downward Extensions per test Item)

Content Standard					
Grade	Number of DE's: Reading and Responding	Number of DE's: Exploring and Responding to Literature	Number of DE's: Communicating with Others	Number of DE's: English Language Conventions	Total DE's by Grade
Grade 3	33	30	18	12	93
Grade 4	33	30	18	12	93
Grade 5	33	30	18	12	93
Grade 6	33	30	18	12	93
Grade 7	33	30	18	12	93
Grade 8	33	30	18	12	93
Grade 10	33	30	18	12	93

Table 3

TOTAL DOWNWARD EXTENSIONS: MATHEMATICS
CMT/CAPT SKILLS CHECKLIST: SECOND GENERATION
(3 Downward Extensions per Item)

<i>Content Standard</i>					
Grade	Number of DE's: Algebraic Reasoning	Number of DE's: Geometry and Measurement	Number of DE's: Numerical and Proportional Reasoning	Number of DE's: Probability and Statistics	Total Number of DE's by Grade
Grade 3	12	12	30	9	63
Grade 4	9	15	24	12	60
Grade 5	12	18	24	6	60
Grade 6	9	15	24	12	60
Grade 7	6	12	21	9	48
Grade 8	6	12	12	9	39
Grade 10	3	12	9	15	39
TOTAL:	57	96	144	72	369

Creation of test specifications aligned to grade level content

An Alternate Assessment Advisory Committee was created in 1998 to assist in the development of the alternate assessment and met regularly thereafter. In 2005, the committee was asked to identify specific Content Standards and Expected Performance items to serve as the basis for test items on a second generation of the CMT/CAPT Skills Checklist. The curriculum indicators were taken from the Content Strands in the Connecticut Curriculum Framework. The Committee of 18 included special education teachers, curriculum specialists, school administrators, and parent representatives. Nine members of the Connecticut State Department of Education (CSDE) Bureau of Curriculum and Instruction and Bureau of Student Assessment also served on the Committee. A list of the Committee members is included in Appendix A.

The following is a description of the process utilized by this committee to identify Performance Standards and related Expected Performances for inclusion in the Second Generation of the CMT/CAPT Skills Checklist.

Three all-day meetings were held in winter 2005 to establish the selection and placement of the Content Standards and Expected Performance statements from the Connecticut Curriculum Framework. Committee members utilized a modified “Dot Vote” procedure to identify the Expected Performance within each Content Standard that they considered the most important skills for students with significant cognitive disabilities.

The “Dot Vote” procedure is a process whereby knowledgeable participants are asked to utilize a specific number of “votes” (in this case 5) to identify statement, items, etc. that they believe to be are most important. Typically, this is accomplished by placing colored dots (five for each participant in this example) next to specific items on a wall chart or on a list. When all members have voted on an array of items the items are then rank ordered by the number of times they were selected. The items that meet a specified criterion, (e.g., selected by half or more of the participants) are then discussed by the entire group within the context of all items, including those that were not selected. This discussion leads to a consensus regarding the importance of the items selected versus those that were not selected.

To help focus the selection process and the subsequent discussion the CMT/CAPT Skills Advisory Committee members were asked to consider the following three questions when making their selections:

1. What endures? In other words, what skills and knowledge will students gain that last from one year to the next?
2. What is essential for progress to the next level of instruction? In other words what skills are essential for success in future classes?

3. What contributes to understanding of other standards? In other words what are the skills that, once mastered, give a student the ability to use reasoning and thinking skills to learn and understand other curriculum objectives?¹

The Committee worked on the identification and appropriate grade placement of each objective. As described in the “dot vote” procedure, Committee members individually selected the Expected Performance items and the Content Standards they considered to be “most important” for the population of interest, i.e. students with significant cognitive disabilities. The selected items were reviewed by the group to establish group consensus before the list was finalized.

At subsequent item development meetings, the outcomes of the earlier work served as the basis for a final discussion of the items selected and a finalization of the list. In particular, the critical questions posed to the Committee were:

1. Do the Content Standards and Expected Performance selected address the full range of skills included in the Content Strand, i.e., from the basic knowledge and comprehension level to the higher order thinking skills of analysis, synthesis and evaluation?
2. Are the Content Standards and Expected Performances selected sufficient for the assessment of grade level skills at each grade from Grade 3 to 8, and 10?

Two procedures were utilized to validate the results of the Committee’s selection and placement of the content standards in each curriculum area. The first procedure was an independent, expert review performed by all of the Language Arts and Mathematics curriculum consultants at the CSDE. Each curriculum consultant, three in Language Arts and two in Mathematics, worked independently to examine the appropriateness of decisions made collectively by the Committee members. The results of the review led to a verification of the selection of the Content Standards and Expected Performance items completed by the Committee.

A second procedure compared the Committee-identified standards and performance items with those that had been independently identified by an urban district in Connecticut working with a similar population. This urban district had previously completed its own content selection process using a similar theoretical basis¹ and focused on the Connecticut Curriculum Framework. This procedure demonstrated a high degree of overlap between the material developed by the district and the Committee.

After the completion of both of these procedures, the CSDE considered the recommendations of the Committee to be acceptable to serve as the basis for the second generation of the CTM/CAPT Skills Checklist.

¹ These three guiding questions are based on research by Douglas Reeves, Chairman of the Center for Performance Assessment. See Reeves, Douglas B., *Making Standards Work*, 2004, Center for Performance Assessment, 317 Inverness Way South, Suite 150, Englewood Colorado, 80112 (P.47)

Item/task development process

Introduction

To comply with the requirements of the No Child Left Behind Act, the second generation of the CMT/CAPT Skills Checklist assesses the extent to which students with significant cognitive disabilities have mastered grade level curriculum content. To create this assessment a working group of teachers and curriculum coordinators was created to develop new items for the Checklist that would be linked to specific Language Arts and Mathematics grade-level standards from the Connecticut Curriculum Framework. The activities described here were provided for, and conducted with, 24 special education and regular education teachers and curriculum coordinators. Regular education and special education staff from nine school districts identified by the Connecticut State Department of Education, Bureau of Special Education as districts where students with significant cognitive disabilities were successfully included in the general education program were invited to participate in this project.

Item development workgroup

Statewide twelve special education teachers who teach students with significant cognitive disabilities and twelve classroom teachers who teach typical students were selected. A roster of the workshop participants is included as Appendix B.

Initially, these individuals were divided into twelve teams consisting of one special education teacher and one general education teacher. These teams were then paired with a curriculum specialist in either Language Arts or Mathematics to work on the development of test items. Six of the teams were tasked to write items in the area of Mathematics and six were tasked to write items in the area of Language Arts. Teams were also divided by grade span so that there were two teams writing math items and two teams writing Language Arts items at each of the following grade levels: grades 3 through 5; grades 6 through 8; and grade 10.

One of the outcomes of this activity was a reconfiguration of the teams. Early on, in the initial item-writing activity, participants shared their belief that teams comprised of two regular education teachers and two special education teachers working with a curriculum coordinator or SDE Bureau of Curriculum and Instruction Consultant would be more effective than the original configuration of two person teams. Based on this suggestion, teams were combined to create six teams of four persons each by grade span (grades 3,4,5, grades 6,7,8, and grade 10) with three teams working on Mathematics Standards and three working on Language Arts Standards. Each four person team, in turn, had a district level curriculum coordinator and/or a CSDE Consultant from the Bureau of Curriculum and Instruction to assist them. The project staff also joined teams in one of the two curriculum areas.

Orientation meeting

In early June 2005, Workgroup participants, CSDE Curriculum Consultants, and project staff attended an orientation meeting. Prior to this meeting participants received copies of the following documents (included in Appendices C through G):

- Grade 3 to 8 and 10 Math Content Standards and Performance Items by Grade by Strand;
- Grade 3 to 8 and 10 Language Arts Content Standards and Performance Items by Grade by Strand;
- Examples of Downward Extensions;
- CMT/CAPT Skills Checklist, First Generation;
- Parameters of Downward Extensions.

At the meeting, project staff provided a detailed review of the following:

- The purpose of the project, i.e., to develop an assessment based on grade-level academic content for use with students with significant cognitive disabilities who cannot meaningfully participate in the regular CMT/CAPT testing program;
- The requirements and legislative intent of the No Child Left Behind (NCLB) and Individuals with Disabilities Education Acts (IDEA) as they relate to students with disabilities, including students with significant intellectual disabilities;
- The history and content of the first generation of the CMT/CAPT Skills Checklist and the process utilized to develop this assessment;
- The conceptual design for the new (Third) generation of the Checklist which participants would help develop;
- The process utilized by the 18-member Alternate Assessment Advisory Committee during the winter to identify specific Content Standards from the Connecticut Curriculum Frameworks which will serve as the basis for the next generation of the Skills Checklist
- The concept of the “essence” of content standards and “downward extensions” of these standards which address the essence of the Content Standards, but at a less complex performance level;

- The process that would be utilized to develop, review and edit the Downward Extensions at subsequent meetings later that month.

Item development training

Later in the month of June 2005, a series of five daylong working meetings were scheduled to provide the necessary training related to the appropriate downward extensions for Content Standards and to conduct the item development sessions.

On the morning of the first day, participants were introduced to several resource documents and participated in a discussion of their format, contents, and applicability to the task of writing downward extensions. The resource documents made available to each team were:

- Grade Level Content Alignment, Jacqui Kearns, Jean Clayton, Mike Burdge, published by the University of Kentucky – NCCSAD (((<http://www.naacpartners.org/Products/PreSessionMaterials/Ver3.0/Part201/>);
- Extended Curricular Standards: Mathematics, Kansas State Department of Education, May 2005 (<ftp://ftp.ksde.org/pub/docs/extendedmath.doc>);
- Resource Guide to the Massachusetts Curriculum Frameworks: Mathematics, for Students with Significant Disabilities, Massachusetts Department of Education, Fall 2001 (<http://www.doe.mass.edu/mcas/alt/rg/math.doc>);
- Resource Guide to the Massachusetts Curriculum Frameworks: English Language Arts, for Students with Significant Disabilities, Massachusetts Department of Education, Fall 2001 (<http://www.doe.mass.edu/mcas/alt/rg/ela.pdf>);

A worksheet explaining the standard terminology used by the Curriculum Consultants in discussing the Curriculum Framework and its relation to the CMT/CAPT Skills Checklist (e.g., Performance Standard, Expected Performance, and Essence) was also distributed. The standard terminology worksheet is included as Appendix G.

The parameters for the downward extensions were explained by the project staff and discussed with the group to clarify the design of the downward extensions for the Workgroup members. These parameters were used as a reference point over the course of the week to better develop items.

Guided item development process

In the afternoon of the first day, participants were divided into their teams and given the task of identifying the essence of a sample Content Standard (one for Language Arts Teams and one for Mathematics Teams) and writing three downward extensions for the Standard. As the teams worked project staff and Bureau of Curriculum and Instruction Consultants circulated among the groups to assist with the writing and to monitor each group's progress.

When the teams had completed this task, each team presented the essence and downward extensions they had written to the full group for analysis and discussion. During these presentations the group discussion/analysis focused on issues such as (a) the informal review of the downward extensions to ensure that they reflected the essence of a Standard; (b) the scope and sequence of Standards and the changing complexity of downward extensions as one moves from the lowest to the highest level within a single set and also as one moves up through the grades; (c) ways to ensure that downward extensions become progressively more complex as they progress from the lowest performance level to the highest; (d) how downward extensions must reflect the essence of Standards being taught in general education classrooms, but at a lower level of complexity; (e) reviewing downward extensions with members of other groups to ensure that they are clearly written and easily understood as a way to ensure that teachers completing the Checklist will be able to reliably assess the specific concept or skill being addressed; (f) how downward extensions can be utilized by regular classroom teachers to modify instruction for students with significant cognitive disabilities who are enrolled in their classes, etc.

Review of results

By the fourth day of the Workgroup meetings, the teams had completed the initial phase of the item development process and were ready to begin the guided review. The teams that worked with the Language Arts Standards and the teams that worked with the Mathematics Standards were combined into two large groups to review and edit the essence statements and downward extensions developed in their respective areas. To facilitate this process, the following validity criteria were established to guide the review process.

- **Grade appropriateness**: the appropriateness of each downward extension in terms of the grade level for which it was written (i.e., do similar items at progressively higher grade levels reflect more challenging expectations in each grade and is the item developmentally appropriate for students in that grade);
- **Content continuity**: examination of the sequence of the content areas across grades as continuous and appropriate;

- Appropriateness of each downward extension: the appropriateness of each of the three downward extensions written for a single performance items in terms of the essence of the item and the need for the extensions within a set to be progressively more difficult and
- Interpretability: the extent to which the item would be easily understood by both special education teachers and classroom teachers.

By the final day of the Workgroup meetings, both of the content groups had reached consensus on the essence statements and downward extensions written for grades 3 through 8, and 10 in their curriculum areas. A number of the downward extensions were revised, some were moved, and others were re-written. The final consensus of the distribution of items by content area is seen in the sequence of tables in Appendix D.

ADMINISTRATION & TRAINING

Administration procedures and guidelines

The CMT/CAPT Skills Checklist is part of the CMT/CAPT testing program and ratings are finalized ~~and returned to the test contractor~~ during the March CMT/CAPT test window.

~~However, u~~ Unlike other CMT/CAPT testing materials, the CMT/CAPT Skills Checklist is not a secure document. This means that the CMT/CAPT Skills Checklist may be copied. ~~T~~ ~~and teachers are strongly encouraged to~~ utilize copies of the Checklist throughout the school year to:

- plan instruction,
- monitor student progress and growth, and
- document achievement.

~~If~~ Such a “working copy” of the Checklist ~~is utilized during the school year then this working copy~~ can then serve as the basis for completing the “Online CMT/CAPT Skills Checklist” ~~of~~ during the CMT testing window.

This “**Online**” CMT/CAPT Skills Checklist will be implemented in 2007 and ~~of~~ **must** be finalized during the March CMT testing window ~~and sent to the test contractor for scoring~~ at the same time other students are participating in the standard CMT testing programs ~~as the district’s other scorable CMT test documents are mailed.~~

After receiving training themselves, ~~Your~~ district Test Coordinators provide appropriate district staff ~~you~~ with directions for completing this Online CMT/CAPT Skills Checklist so that student ~~your~~ ratings will be scored by the ~~may be transmitted to the test contractor for scoring~~ at the same time the district’s other ~~at the same time that other~~ CMT test materials are scored.

Formatted: Font: 12 pt, Not Italic

Who administers the Checklist?

The Checklist must be completed by the student's primary special education teacher **in collaboration with other team members.**

- Primary Special Education Teacher: If a student has more than one special education teacher, the individual who is most familiar with the student's performance across multiple settings should complete the Checklist after collaborating on the responses.
- General Education Teacher(s): To the extent ~~that the~~ student participates in the general education program, the student's general education ~~classroom~~ teacher(s) should collaborate with the primary special education —teacher in determining ~~the~~ appropriate ratings for ~~each of~~ the skills on the Checklist.
- Role of Other Staff Professionals: Other team members who have knowledge of ~~the~~ student's current performance levels in the areas assessed by the Checklist should also be consulted. Often ~~the~~ student's, paraprofessional, Speech/Language Pathologist or other team members will have valuable information about ~~a valuable~~ the student's ~~—~~performance in different settings.

← --- **Formatted: Indent: Left: 0.25"**

How is the Checklist completed?

The CMT/CAPT Skills Checklist is completed **online** based on the rater's knowledge of the student's **current** performance at the time the CMT Test is administered to all other students. The ~~student's primary special education teacher~~ rater should supplement her/his ~~her/his~~ own experience with the student by observing the student in different settings and ~~or~~ soliciting input from other members of the student's educational team. Although it **is not** necessary for the student's primary special education teacher to literally enter the ratings on the Online CMT/CAPT Skills Checklist s/he must complete a paper copy of the Checklist from which ratings can be entered. After these Checklist ratings are entered online the district **must retain a copy of this Checklist used for data entry** for later review by the State Department of Education, if requested. The certification section (Section IV) of this file copy of the Checklist **must be signed and dated by the student's primary special education teacher to certify the Checklist ratings entered online.**

--- **Formatted: Font: 12 pt, Bold, Not Italic**

--- **Formatted: Font: 12 pt, Not Italic**

~~However, the actual completion of the checklist should be done by the student's primary special education teacher, as described previously.~~

Before rating a student's performance it is important to review the checklist items with other professionals who participate in the implementation of the student's IEP and to

jointly decide whether the student's performance on each item should be scored as a 0, 1, or 2 (as explained in the following section).

The goal of this CMT/CAPT Skills Checklist is to provide an **accurate** picture of the student's achievement at a **specific point in time**, i.e., during the **CMT** testing window. The ratings on the Checklist **must** reflect the student's **current achievement levels**. This means that the rater **must be confident** that the ratings being assigned accurately reflect the student's achievement when the Checklist is finalized. In other words the skills being rated **must have been observed** during the period immediately prior to the finalizing of ratings in March. To ensure this level of accuracy any Checklist items that have not been assessed between January 1st and the close of the March CMT test window must be **reassessed** prior to finalizing the checklist. Stated differently, **beginning in January of each school year the student's special education team should confirm the student's performance on all Checklist items so that the ratings submitted during the March CMT test window present an accurate record of the student's achievement at that point in time**. If, as recommended, the Checklist is being used as a working document to guide instruction throughout the year this verification of achievement can be incorporated into the student's ongoing instructional program with little disruption.

Formatted: Font: 12 pt, Not Italic

Formatted: Font: 12 pt, Not Italic

Professional development and training programs

Initial efforts to establish the reliability of the CMT/CAPT Skills Checklist addressed rater accuracy. Traditional procedures for estimating reliability are not appropriate for the circumstances under which the Skills Checklist will be used. Rater accuracy, however, depends on the training of raters to an explicit and well-articulated set of criteria. Thus, training efforts begun during the 2005-06 school year planned annually thereafter focused on the optimal provision of this training within the practical limits of the Skills Checklist as an instrument for large-scale assessment purposes. This approach to establishing reliability for the Skills Checklist was reviewed at the Technical Advisory Committee Meeting in August, 2005 and found to be reasonable. For a roster of the Technical Advisory Committee members, please see Appendix C.

Special education administrators

Each fall, Special Education Administrators from Connecticut school districts, private approved special education facilities, and Regional Education Service Centers (RESCs) participate in a "Back to School Meeting" in which the CSDE provides an update on new regulations, state and/or federal policy directives, and new or changed administrative procedures. At the Fall 2005 session, the afternoon session was set aside exclusively to orient the special education administrators to the revised CMT/CAPT Skills Checklist. In particular the training addressed:

- Specific changes in the CMT/CAPT Skills Checklist;
- Theoretical rationale for the changes;

- Implications for the inclusion of students with significant cognitive impairment in the general education curriculum;
- Schedule for training teachers;
- Design of the training for teachers;
- Expectations for district training of additional staff.

The above outlined points were explained, reviewed, and discussed with all participants as a way of familiarizing them with the new Checklist and for guiding expectations for district follow-up.

Training special education and general education teachers and related services personnel

The Checklists was made available to **all teachers** statewide in October 2005 at which time statewide training was provided. In anticipation of this October training, inquiries were directed to all school districts, private special education facilities and Regional Education Service Centers (RESCs) to determine the number of teachers expected to be trained. The response to the inquiry indicated that direct training of all teachers was not feasible given the number of teachers put forward to be trained by the districts, special education facilities and RESCs.

In lieu of direct training, a “trainer of trainers” model was employed whereby CSDE consultants trained two teams of teachers from each school district: an elementary/middle school team and a high school team.

The distinction between the two teams is based on the fact that the elementary and middle school teams focusing on the content that is typically found on the Connecticut Mastery Test (CMT grades 3-8) while the high school teams were relating to content found on the Connecticut Academic Performance Test (CAPT grade 10).

Each school district team consisted of a special education teacher, a general education math specialist and an English/language arts specialist at each level. In order to successfully rate students on the Checklist, teachers must have an understanding of the grade level curriculum content. By incorporating general education teachers in the trainer of trainer’s model and requiring that they train district colleagues, CSDE is attempting to promote cross-disciplinary collaborative behavior.

Teams from the approved private special education facilities and the Regional Education Service Centers (RESC) were also required to attend. Their teams consisted of special education teachers and related services staff. Each team was required to provide training to the teachers in their district/private facility/RESC.

Program content

Sixteen regional workshops were provided throughout the state between October 14, 2005 and March 1, 2006. The focus of this training was:

- ❖ Specific changes in the CMT/CAPT Skills Checklist;
- ❖ Theoretical rationale for the changes;
- ❖ Implications for the inclusion of students with significant cognitive impairment in the general education curriculum;
- ❖ The concept that the “expected performances” reflect the content/skills that student are expected to know at each grade level;
- ❖ The concept that the “downward extensions” reflect the way that students with significant cognitive impairments may demonstrate their understanding of the expected performances;
- ❖ How to rate students on the downward extensions of the expected performances; and
- ❖ Expectations for district training of additional staff.

← --- **Formatted: Bullets and Numbering**

The application of these criteria was guided by several techniques. Each participant was given a complete explanation of the scoring criteria and performance standards and was led through an extensive discussion of how the criteria should be applied. The associated downward extensions of each item at each grade level were also discussed. Raters were then provided with an opportunity to review each item and its associated extensions and to ask questions about their use.

An additional technique employing the use of video recordings was used. These video recordings presented Connecticut students demonstrating their performance on a number of the downward extensions in reading, writing or math on the CMT/CAPT Skills Checklist. Initially, special education experts on the CSDE staff rated the performances of the students as displayed in the videos. During the training, teachers were asked to review the criteria and rate the student performances. The accuracy to which the teachers applied the criteria was monitored and used to determine where more training was necessary. The video recordings provide a standardized training experience for teachers to get feedback on their scoring procedure.

The teachers and curriculum coordinators who participated in the item development activities in June served in a number of capacities to support this training, as well as other training activities planned for the future. The teachers and curriculum coordinators:

- Helped train other teachers;
- Served as mentors;
- Contributed to the CMT/CAPT Skills Checklist Teacher Handbook; and
- Assisted in the preparation of additional videotapes.

Upon completing this training each school district team was provided with a complete set of training materials including:

- a CD with the materials utilized during the training session, including handouts, copies of CMT/CAPT Skills Checklists for grades 3, 7 and 10, a CMT/CAPT Teachers Handbook and a Power Point presentation; and
- a DVD with individual examples of students completing Checklist tasks and the related rating scales and handouts which were utilized during training.

Monitoring and quality control of administration procedures

In addition to the sixteen regional workshops that were provided throughout the state in October 2005 to February 2006, Special Education Administrators in each school district were also required to attest in writing to the fact that district level training was conducted by the trainers who participated in the CSDE training and to provide the dates of training, and the names of staff that received training.

Attendance.

A total of 857 individuals participated in the 16 regional training sessions provided by the CSDE. The details of these training session are as follows:

Location	Date	Number of Participants
ACES, Hamden, CT (2 sessions)	October 14, 2005	68
LEARN, Old Lyme, CT (2 sessions)	October 20, 2005	94
CREC, Hartford, CT (2 sessions)	October 14, 2005	111
EASTCONN, Storrs, CT (1 session)	October 21, 2005	33
Marriott, Trumbull, CT (2 sessions)	October 25, 2005	122
Ed. Connection, Litchfield, CT (1 session)	October 26, 2005	72
Hilton Garden, Windsor, CT (2 sessions)	November 15, 2005	100
Four Points Sheraton, Meriden, CT (2 sessions)	November 22, 2005	139
Hartford Public Schools, Hartford, CT (1 session)	February 16, 2006	100
Windham Public Schools, Willimantic, CT (1 session)	March 1, 2006	18
Total: (16 sessions)		857

In addition to these 16 training sessions provided during the first year of implementation for the Second Generation of the Checklist, six additional trainings are scheduled annually to train new LEA staff members and to advise users of any changes to administration procedures or test items. These additional trainings are typically offered in October of each new school year.

Preparing raters

The CMT/CAPT Skills Checklist was conceptualized and designed as a non-secure working document to be used throughout the school year by teachers to plan instruction and to record performance. It is recognized that teachers need to be thoroughly trained to rate student performance using the rating rubric in order to use the Checklist and to ensure accurate rating of students over time.

To accomplish this goal the CSDE provides on-going, systematic and increasingly comprehensive training to Connecticut teachers who use the CMT/CAPT Skills Checklist to assess students.

To address the training needs of new teachers, beginning in 2007 CMT/CAPT Skills Checklist training will be incorporated into the Beginning Educator Support and Training (BEST) program; Connecticut's teacher induction program.

Preparing certified raters

In addition, beginning in April 2007 advanced training will be provided to a smaller group of veteran special education teachers. This advanced training will prepare these veteran teachers as "Certified Raters". That is, teachers who complete this training will have the skills and knowledge necessary to consistently and accurately rate student performance to a high level of accuracy on the CMT/CAPT Skills Checklist and to train other teachers to do the same. In sum, the purpose of this advanced training is to:

- Prepare veteran special education teachers to become "Certified Raters;"
- Utilize this cadre of highly qualified certified raters to provide ongoing training to other teachers who utilize the CMT/CAPT Skills Checklist to increase their skills as observers and evaluators of student behavior; as a way to
- Ensure that the rating of student performance on the CMT/CAPT Skills Checklist becomes more consistent and accurate over time.

Use of anchor papers/counting points.

This Certified Rater training will employ the use of video recordings. These video recordings will present Connecticut students demonstrating their performance on a number of the downward extensions in reading, writing or math on the CMT/CAPT Skills Checklist. Initially, special education experts on the CSDE staff and from districts will rate the performances of the students as displayed in the videos. During the training, teachers will be asked to review the criteria and rate the student performances. The accuracy to which the teachers applied the criteria will be monitored and used to determine where more training is necessary. The video recordings will provide a standardized training experience for teachers to get feedback on their scoring procedure.

[Anchor videos](#)

Video recordings selected to serve as “anchor videos” will be tapes that have been viewed and rated by an “expert” group of special education teachers and curriculum experts who are familiar with the Checklist and the rating scale utilized. These individuals will rate each student performance on the videotapes, consensus will be reached on the rating and annotations will be written to record the reason for the rating. During the training, these tapes will be viewed and discussed thoroughly, citing the reasons for the rating and why it is not one of the other scores. These tapes will be used in the future as the standard against which other performances may be measured.

Training videos

Once the anchor videos have been thoroughly reviewed and discussed, the teachers participating in the Certified Rater training will be given a set of “training videos” as practice to view and rate the student performance. The training participants’ ratings will be compared to those ratings given by the “expert” group of teachers who prepared the anchor tapes and annotations, and also rated these training tapes.

Qualifying videos

Once the training videos have been used for practice, the training participants will be given another set of videos to review and rate student performance. If 90 percent of their ratings match the ratings of the “experts”, the participants will be Certified by the CSDE as individuals who can provide quality training to other teachers on rating the CMT/CAPT Skills Checklist.

A secure set of videos will be reserved strictly for use in preparing and testing Certified Raters to ensure the integrity of the assessment criteria and the maintenance of high standards in the certification process. Non-secure videos will be made available to Certified Raters for training teachers in their own districts.

This Certified Rater training will be provided annually thereafter with a requirement that each certified rater must renew her/his certificate by participating in recertification training every 3 years. Eventually, this initial training and recertification training will be offered to Connecticut educators as an on-line course on a secure CSDE website. This on-line training will consist of a series of guided practice sessions utilizing a series of non-secure training videos and a qualifying exam which will utilize secure video clips of students performing academic tasks which are assessed by the Checklist. During this assessment trainees must observe and correctly assess student performance on 10 video clips to a criterion of 90 percent agreement with ratings assigned to the videos by a group of experienced special education teachers, supervisors and administrators as well as curriculum experts in the areas being assessed.

Evaluation of training quality

The annual training for teachers who are utilizing the CMT/CAPT Skills Checklist is evaluated by the State Education Resource Center, an agency that contracts with the CSDE to coordinate Department training activities. Each participant completes a comprehensive evaluation of the training activity, including recommendations for future training. During the 2005-2006 academic year more than 800 individuals participated in training related to the CMT/CAPT Skills Checklist. Of this group, approximately 95 percent assigned positive to very positive ratings to the training and judged it to be complete and of practical value in terms of their use of the Checklist to assess students.

Certified Rater training will be evaluated in terms of the percentage of participants who, complete the training and achieve a score of 90 percent or higher agreement on their ratings of student performance on the secure assessment videos at the completion of training. Since the training is to a specific standard with participants having the option of repeated practice sessions, the goal is to have 100 percent of the participants who complete training reach the 90 percent criterion.

SCORING

Scoring rules and criteria

As was described earlier, each Downward Extension on the CMT/CAPT Skills Checklist relates to a specific grade level Expected Performance statement on the Connecticut Curriculum Framework. These Downward Extensions are rated by the student's primary special education teacher in collaboration with other members of the student's educational team. Ratings indicate the extent to which the student has mastered specific academic skills described in the test item.

Items are rated on the 3-point scale shown below. A response for every item is required. When rating an item, any mode of communication or responding that is typically utilized by the child is acceptable. Raters are instructed, whenever possible, to identify a modality that will permit the student to demonstrate the basic skill addressed by the item. This means that for some students skills will be demonstrated verbally; while for others skills will be demonstrated by gestures, eye gaze, assistive technology, etc. For example, Item RR 7.7 (Reading and Responding, Grade 7, Item 7) provides that the student will "Correctly answer two or more questions related to the grade level content" For a student with a communication impairment, the answers may be signed rather or produced using a computer rather than spoken to assess her/him on this item.

Formatted: Font: 12 pt, Not Bold, Not Italic

Formatted: Font: 12 pt, Not Bold, Not Italic, No underline

Formatted: Font: 12 pt, Not Bold, Not Italic

Formatted: Font: 12 pt, Not Bold, Not Italic

Formatted: Font: 12 pt, Not Italic

Completing the CMT Skills Checklist Cont"

<u>-Rating Scale</u>	<u>Explanation</u>
⓪ <u>Does not demonstrate skill:</u>	Use this response for skills that the student does not demonstrate in any setting.
① <u>Developing/Supported:</u>	<p>Use this response for skills the student displays only with some level of <u>prompt support</u>, i.e., a verbal cue, partial physical guidance, modeling, etc.</p> <p>You should <u>also use this</u> response for skills that are <u>displayed inconsistently</u>. If a student can demonstrate a skill occasionally, but not consistently (80% or more of the time) and at different times then the skill should be rated "① <u>Developing/Supported</u>."</p>
② <u>Mastered/Independent:</u>	<p>Use this response for skills that the student clearly has <u>mastered</u> and performs <u>independently</u>.</p> <p>To be rated as "② <u>Mastered/Independent</u>" the student must demonstrate the skill <u>consistently</u> over time. The student does not have to demonstrate the skill every time, but over the course of the year would have to show that s/he has mastered the skill, (e.g., the student successfully performed the skill 80% or more of the time without prompt support such as verbal cues, partial physical guidance, etc.).</p> <p>Again, if the student continues to require prompt support to exhibit this skill do not rate the skill as "② <u>Mastered/Independent</u>."</p>

~~However, the actual completion of the checklist should be done by the student's primary special education teacher, as described previously.~~

How are items rated when there is not general agreement about the correct rating?

For many items there will be immediate consensus regarding the student's current performance level. For this reason the team members may wish to focus on discussing and resolving any differences in their perceptions of the student's current performance for items about which there is not general agreement. If after exploring the reasons for their differing opinions, the team members cannot reach agreement or if they determine that the student demonstrates different performance levels at different times or under different

conditions, then the lower of the two ratings being considered must be assigned to the item

|

Completing the CMT Skills Checklist Cont²

What factors should be considered when designing and utilizing assessment activities?

There are a number of factors which affect the accuracy and reliability of ratings. It is perhaps most important for the rater to have an in-depth understanding of the Checklist content so that the tasks selected to assess students are appropriate to the specific curriculum content being assessed. When selecting activities it is important to ensure that the task/materials reflect the Essence of the item and are presented in a manner that is consistent with the specific Downward Extension to be assessed.

Formatted: Line spacing: Exactly 13 pt

Similarly, it is essential that specific skills be assessed in a variety of different ways, on different occasions and in different settings if the results reported are to be accurate. It is important to recognize that assessing a particular skill the same way ten times is much less effective than assessing the skill with ten different activities/tasks over a longer period of time.

Formatted: Font: Not Italic

Formatted: Font: Not Italic

Formatted: Font: Not Italic

And finally, it is critical that the scoring criteria be applied correctly and objectively for every item being assessed. The fact that the Checklist requires a teacher to observe and rate student behavior on a variety of different tasks introduces an element of subjectivity and inconsistency to the assessment process. To the extent that a rater works to become a better observer of student behavior and to more fully understand the subtleties of various student responses and the role that cues and prompts play in eliciting these responses s/he will become a more reliable rater with the CMT/CAPT and will produce more accurate and reliable results.

Formatted: Font: Not Italic

Scoring process

Beginning in March 2007 the CMT/CAPT Skills checklist will be **completed** ~~if~~ ~~is~~ ~~utilized during the school year then this working copy~~ **online** using an online version of the CMT/CAPT Skills Checklist provided at the CSDE test contractor website. Local school districts are required to **finalize** all Checklists for their students ~~and~~ during the CMT/CAPT March testing window ~~and sent to the test contractor for scoring~~ at the same time other students from the district are participating in the standard CMT testing ~~program as the district's other scorable CMT test documents are mailed~~. School districts finalize scores they have entered for each student by submitting their ratings to the test publisher. Scores are submitted by the selecting a submit ratings for scoring option on the website. Once the submit option is selected no changes can be made to the particular CMT/CAPT Skills Checklist being submitted for scoring. At the close of the

Formatted: Font: 12 pt, Not Italic

CMT/CAPT testing window the test contractor website is “locked” and no more ratings may be entered. All Checklists that have been entered but have not been submitted by the district for scoring are captured when the website is locked. The CSDE testing contractor then aggregates ratings for each student, by district, and generates score report for distribution to local school districts, parents and the CSDE. These score reports reflect the ratings assigned to each Checklist item by the student’s primary special education teacher.

Scoring quality control

Unlike paper and pencil tests or portfolio assessments, the CMT/CAPT Skills Checklist does not require “scoring” in the traditional sense. Rather, the student’s teacher observes the student’s performance in various learning situations over a period of time and then assigns a rating to the indicators on the Checklist using the basic three point scale described previously. For this reason scoring quality control is relatively straightforward. The online version of the Checklist built in “checks” which do not permit the submission of a Checklist (1) unless every item has been completed and (2) no items has more than one value assigned.

In addition, when ratings are submitted for scoring the student’s primary special education teacher must complete Section IV: Rater Certification of the Checklist. This section provides a place where the individual completing the checklist must certify that s/he has been trained in the proper use of the Checklist has first-hand knowledge of the student’s performance and has otherwise utilized the Checklist correctly.

The specific attestation in Section IV is as follows:

I. By entering my name below I certify that:

- I Completed this CMT Skills Checklist during the CMT assessment window as designated by the Connecticut State Department of Education;
- I have been trained in the correct administration of the CMT Skills Checklist;
- The ratings I have assigned for each item reflect the student's performance as verified between January 1st of the current school year and the date the Checklist was finalized;
- The individuals whose names appear below collaborated in the completion of this Checklist; and
- I am this student's Primary Special Education Teacher.

Primary Special Education Teacher: _____
(Signature)

When ratings are submitted to the test contractor for scoring the district is required to print a copy from the website of the Checklist that was submitted, have the rater review the printed copy for accuracy and then sign the attestation and place the printed copy in the students permanent school record for later review by the CSDE during Focused Monitoring activities, if required.

At the close of the CMT/CAPT test window the CSDE test contractors compiles the Checklists that have been submitted by school and district and generates score reports for parents, the school district and the CSDE.

Test Contractor Security

Security architecture

CSDE's test contractor, Measurement Incorporated (MI), is fully committed to having a secure technical environment to protect both corporate and client data. The security strategy employs multi-layered defenses, which utilize various complementary technologies from diversified vendors such as Cisco, Checkpoint, and Microsoft, to maximize security and limit exposure to any attempts to breach security. MI's foundation for providing security is laid in our network and data security procedures, policies, and capabilities.

At the heart of MI's system is a firewall implementation that allows MI to block, audit, and respond to both internal and external threats. MI currently employs 15 separate firewalls to provide layered and redundant protection. These firewalls utilize state-of-the-art Stateful Packet Inspection (SPI), port blocking, proxying, address translations, heuristics, and trend analysis to provide security. In addition, MI's multi-vendor solution provides complementary capabilities and limits exposure to potential weaknesses

associated with each implementation that might be exploited in the future. These top-of-the-line firewalls are from industry leaders such as Cisco, Checkpoint, and Microsoft. MI immediately updates all defenses as soon as emerging threats and countermeasures are identified.

MI also employs a Cisco Intrusion Detection System that allows rule sets to be updated automatically to block unwanted traffic in real time, whether the source is internal or external. To further complement these capabilities, MI has deployed software that detects, removes and destroys viruses, spyware, and other forms of malicious software. This software is updated at least daily through the use of automated means backed by constant monitoring by our Network Operations staff. MI also routinely deploys security patches and updates for operating systems and commercial software through the use of a central update management server.

CMT/CAPT Skills Checklist website security

MI understands the need to maintain the highest level of security to protect confidential student information and will host and maintain a secure, password-protected CMT/CAPT Skills Checklist website. The CMT/CAPT Skills Checklist website will use a Secure Sockets Layer protocol (SSL) that encrypts all information sent to our servers with an encryption key length of 128 bits. All user passwords will be encrypted and stored in a secure database, separate from the web hosting hardware and inactive user's connections to the site will timeout after a predetermined amount of time.

After a user has been authenticated by the CMT/CAPT Skills Checklist website, the user will have the ability to navigate to a student listing for their school. The student listing will include only students that have previously been identified for the CMT/CAPT Skills Checklist by completion of a Learner Characteristics Inventory on the CSDE's accommodations website (cttestaccommodations.net). The student listing will also provide the current status of each student's checklist, e.g. Not Started, Incomplete, and Complete.

After selecting a student checklist, the user will have the ability to navigate each section, subsection, and page of the checklist. Each page will provide the examiner with instant feedback letting them know where within the checklist they are as well as which sections and pages have been completed within the checklist. Each checklist item will provide the user with radio button options. These radio buttons will ensure the user can only select a single valid response to the checklist items.

The user will be able to select the **Submit** option from the main menu to submit the checklist information. Upon submission the data will undergo a data validation process to ensure all necessary information has been provided. Any missing information will be included in an error message instantly returned to the user and the submission process will be canceled. Once all information has been correctly submitted and validated, the student checklist information will be stored in a secure database and later merged with other CMT assessment data for reporting.

Database audit tracking

All student demographic and score data changes will be tracked through the use of a history table. An update “trigger” will ensure all data field changes are logged in the history table. The history table will act as a transaction log of all changes as well as an audit trail of the users making the change. This information will be kept throughout the life of the project to ensure that a complete re-enactment of data changes can be reviewed. Historical archives will be kept for the life of the project.

REPORTING

Adherence to Joint Standards

The *Standards for Educational and Psychological Testing* (1999), developed jointly by the American Educational Research Association, American Psychological Association and the National Council on Measurement in Education, formed the basis for Connecticut’s CMT/CAPT Skills Checklist. The processes of developing and implementing the Checklist as described in this document were conducted in adherence with the principles and guidelines established by these national professional organizations. In addition, as was described previously, the CMT/CAPT Skills Checklist adheres to the alternate assessments requirements related provisions of IDEA and NCLB

Reports for parents, students, schools and district

The Second Generation of the CMT/CAPT Skills Checklist was disseminated statewide in October 2005 and posted on the CSDE website. The CMT/ CAPT test window is during the month of March each school year. The test contractor is responsible for advising school districts, private special education facilities and RESCs, that an online Checklist is available at the contractor’s website to record and submit student’s ratings. During the test window special education teachers (or their designee) are required to transcribe and finalize ratings from a working copy of the Checklist to the CMT/CAPT Skills Checklist on the test contractor’s website.

Types of scores reported

The Checklist is scored by the CSDE test contractor. The contractor provides districts with the following reports: (See Appendix L for a sample score report)

Summary scores and subscores

- **Individual Student Report:** School districts receive two copies of a score report entitled Connecticut Mastery Test Skills Checklist Profile for each student assessed with the CMT/CAPT Skills Checklist. One of these reports is for the

Formatted: Font: 12 pt, Not Italic

school records while the other is for the student/parents. These reports include the rating assigned to each specific Downward Extension as well as a composite score for each domain with a statement of the student's performance level (i.e., Basic, Proficient, or Independent), along with scores for each content strand within the Reading, Writing and Mathematics domains. There are four content strands within the reading and mathematics domains and two content strands within the writing/ communication domain.

- **District Roster Reports:** The District Roster Report lists each student assessed by grade, and provides the raw score for each content strand as well as the total raw score for the domain. The report further indicates whether the student's total scale performance is Basic, Proficient or Independent.
- **Additional Parent Information:** School districts also receive a copy of the actual Checklist for the student's current grade, a CAPT Skills Checklist folder which includes additional information about the assessment and a Performance Level Descriptor Booklet which explains the meaning of the student's scores. All three of these items are for the student/parents.
- **State Reports:** statewide testing results by grade (i.e. a Grade 3, 4, 5, 6, 7, 8, and 10) are posted on the CSDE website and at CTreports.com. Within these reports data are provided for each school district and for the entire state. For each of these aggregation levels, data are broken out by gender, race/ethnicity, eligibility for free or reduced lunch, special education status and English proficiency status. There is an additional section of the reports that presents the results for the alternate assessment however, results for the alternate assessment appear only for the district and state level. With Connecticut's policy regarding the reporting of groups of 20 or more, it will be rare that there are 20 or more students at the district level who participated in the Skills Checklist.

Formatted: Line spacing: single,
Bulleled + Level: 1 + Aligned at:
0.25" + Tab after: 0.5" + Indent at:
0.5", Tabs: 0.25", Left

Formatted: Font: 12 pt, Not Italic

SECTION III—EMPIRICAL EVIDENCE

ALIGNMENT

Alignment to grade level content standards

The evidence in support of the validity of the Checklist is an independent alignment study which determined the extent to which the CMT/CAPT Skills Checklist is aligned with the Connecticut Language Arts and Mathematics Curriculum Frameworks. Specifically, the alignment study addressed Reading/Language Arts and Mathematics on the Connecticut Mastery Tests (CMT) at grades 3 – 8, the Connecticut Academic Performance Test (CAPT) at grade 10, and the CMT/CAPT Skills Checklist in grades 3 through 8 and grade 10. The study was conducted by Assessment and Evaluation Concepts, Inc.

(A&EC), along with its sister company, Beck Evaluation and Testing Associates (BETA) Inc., in January 2006. The Webb model was used for the study.

The Webb alignment process and Web Alignment Tool (WAT), developed by Norman Webb, provide a reliable set of procedures and criteria for conducting alignment analysis and combines qualitative expert judgments, quantified coding, and analysis of standards and assessments. The model has been used in numerous states for language arts, mathematics, science and social studies alignment studies. The model makes use of five criteria for alignment between standards and assessments:

1. Categorical Concurrence;
2. Depth-of-Knowledge Consistency;
3. Range-of-Knowledge Correspondence;
4. Balance of Representation; and
5. Source of Challenge.

Teams of experienced educators both internal and external to Connecticut were identified to serve as reviewers for each area. These reviewers took part in the alignment institute on January 23-25, 2006 at the Central Connecticut State University Institute of Technology and Business Development. The review team utilized the State Board of Education approved Connecticut Mathematics Standards for each grade and the currently used versions of the Connecticut assessment instruments (CMT, CAPT, CMT/CAPT Skills Checklist). Standards, goals and objectives were identified and entered into the electronic alignment tool called the Web Alignment Tool (WAT). The standards are the broad statements of educational intent and the specific objectives are intended to span the content of the goal and standard under which they fall.

The process began with a three-hour training session during which reviewers were trained to identify the depth-of-knowledge of standards and assessment items. This training included reviewing the definitions of the four depth-of-knowledge (DOK) levels and then reviewing examples of each. Then for each grade, the reviewers participated in (1) a consensus process to determine the depth-of-knowledge levels of the standards, and (2) individual analyses of the assessment items. Following the individual analyses of items, reviewers participated in a debriefing discussion in which they assessed the degree to which they had coded particular items or types of content to the standards.

Reviewers with expertise in the content area then spend the next two and a half days rating the standards and assessments according to the criteria above. The ratings were entered electronically by the use of the Web Alignment Tool (WAT), a web-based tool that automates the process of determining alignment between standards and assessments.

The study included three groups of reviewers (Reading/Language Arts, Mathematics, and Alternate Assessment). Each group was comprised of 6 – 8 members, including three group leaders. Approximately 50% of the reviewers were Connecticut educators selected by AEC/BETA from a list provided by the CSDE. The other half of the participants were

chosen by AEC/BETA and were external to the state. The major deliverable for this alignment study was a clear and readable report delineating the results of the study.

Throughout the alignment institute, reviewers concentrated on the four criteria central to the Webb Alignment method:

- *Categorical Concurrence* – the criterion of categorical concurrence between standards and assessment is met if the same or consistent categories of content appear in both standards and assessment documents;
- *Depth-of-Knowledge (DOK) consistency* – Depth-of-knowledge consistency between standards and assessment indicates alignment if what is elicited from students on the assessment is as demanding cognitively as what students are expected to know and do as stated in the standards;
- *Range-of-Knowledge (ROK) correspondence* – The range-of-knowledge correspondence criterion is used to judge whether a comparable span of knowledge expected of students by a standard is the same as, or corresponds to, the span of knowledge that students need in order to correctly answer the assessment items/activates; and
- *Balance of Representation* – The balance-of-representation criterion is used to indicate the degree to which one objective is given more emphasis on the assessment than another.

Results

The results of this alignment study of the CMT/CAPT Skills Checklist determined that “for the alternate assessment, the content standards and the assessment items are very well aligned with respect to all four alignment criteria – categorical concurrence, depth-of-knowledge, range-of-knowledge, and balance of representation.” (*Alignment Analysis of Connecticut’s Standards and Assessments: Executive Summary*, Assessment and Evaluation Concepts Inc., April 2006, Page 18) A copy of this report is included in Appendix J.

STANDARD SETTING

Standard setting methodology

The standards for the CMT/CAPT Skills Checklist were set in January 2006, prior to testing because of a deadline imposed on the CSDE by one of the testing contractors. The Checklists were to be administered for the first time in March 2006. Unlike the standard CMT and CAPT where there are five achievement levels (below basic, basic, proficient, goal and advanced), on the Skills Checklist there are only three achievement levels (basic, proficient, independent). Thus, it was necessary to establish performance standards (cut scores) for the achievement levels on the Checklist prior to their operational use. In their January meeting, the Technical Advisory Committee (see

Appendix C) approved the standard setting plan proposed by Measurement Incorporated (MI), the contractor for the CMT and the second generation Skills Checklist. Twenty-two

general and special education teachers, curriculum coordinators and school administrators participated in the three day standard setting activity January 25, 26, and 27, 2006, along with staff from the department and two consultants to the project. A five member team of psychometricians and staff from Measurement Incorporated conducted the standard setting activities.

In the absence of student data or completed checklists, the standards could be set using one of two approaches. A method that includes a bit of both approaches was employed to take advantage of the more positive aspects of both. Therefore a two-round process was utilized. In Round 1, panelists studied the checklists and the Performance Level Descriptors (PLDs) (see Appendix I) and then constructed sample profiles that match borderline points for Levels 1-2 (Basic-Proficient) and 2-3 (Proficient-Independent). In Round 2, panelists reviewed one another's Round 1 sample profiles and classified them into one of the three levels.

For round 1, the panelists were divided into four groups: Grades 3-4, Grades 5-6, Grades 7-8-High School Language Arts, and Grades 7-8-High School Mathematics. After orientation and some practice, these four groups worked in two-person teams to create sample student profiles that illustrated the performances of students just below or just above an imaginary cut score for Proficient. They then repeated the exercise for students just below or just above an imaginary cut score for Independent. By the end of Round 1, panelists generated enough hypothetical student profiles to form small distributions around each cut score.

During round 2, panelists reviewed and discussed profiles created during Round 1. Several holistic rating methods were considered, including the judgmental policy capture (JPC) method (Jaeger, 1995) and dominant profile judgment (DPJ) method (Plake, Hambleton, & Jaeger, 1997). A generalized holistic method (cf. Cizek, Bunch, & Koons, 2004) seemed to satisfy the requirements of the present situation. The method makes no special assumptions about the model (it can be either compensatory or conjunctive, but it was used exclusively by Measurement Incorporated in a compensatory model for other standard-setting activities) or data analytic techniques (MI used simple means or medians and midpoints, as in the contrasting-groups method, as described in Cizek, Bunch, & Koons, 2004). The method treats the rating of profiles exactly as the JPC or DPJ methods would but provided a more straightforward data analytic procedure than either. Therefore, the generalized holistic method was used.

Measurement Incorporated created a form to be used with the panelists. Each form included all the profiles generated during Round 1. To complete the form, the panelists considered each profile, along with the Performance Level Descriptor for each level. After studying the Performance Level Descriptor and the profile, the panelists made an entry in the final column of the form. After Round 2, MI facilitators tallied the ratings provided by the panelists and reported the results. In the discussion about follow-up

activities to include a vertical moderation process, the panelists recommended that the cut scores not move more than a point or two in either direction in the process of fine-tuning the standards once data were available.

Follow-up Activities

Original cut scores for the four components of the Connecticut Alternate Assessment system (Reading, Writing, Math, and Access Skills) were set on site in Connecticut in January 2006 by committees of Connecticut educators working with profiles created specifically for this activity. On June 16, 2006 members of the CSDE conferred with consultant Dr. Peter Behuniak and two psychometric staff members from Measurement Incorporated (Dr. Michael Bunch and Dr. Kevin Joldersma) to review impact data and adjust cut scores in a process of vertical moderation. Final cut scores reflect a compromise between the recommendations of Connecticut standard setting panelists and a desire on the part of the CSDE to have cut scores that reflect a generally linear trend in performance across grades, in accordance with typical vertical moderation practice (e.g., Buckendahl, Huyh, Siskind, & Saunders, 2005).

Standard setting results

Appendix K includes cut scores as well as the percentages of students in each group (performance category) by test by grade based on these cut scores shown.

Because Connecticut students with significant cognitive impairments have not generally been exposed to quality on-going systematic instruction in the skills and content covered in the general education classroom at their grade level, it was expected that the majority of the students would score in the Basic range in this first test administration of the second generation CMT/CAPT Skills Checklist. It is anticipated that implementation of the CMT/CAPT Skills Checklist will encourage and accelerate the inclusion process. The rigorous nature of the standards themselves and the process used to set the alternate achievement standards reflect long term expectations for this group of students. In an effort to encourage the appropriate instruction on grade level content and inclusion in regular education classrooms, student achievement on the checklist should over time reflect the full range of achievement implied by the achievement standards for all students.

Performance descriptors

Performance Level Descriptors (PLDs) were developed to make it easier for parents, educators and students to understand the scores a student receives on the CMT Skills Checklist in the areas of Access Skills, Reading, Communication and Mathematics. Each year following testing parents and students receive an Individual Student Report that

identifies the student's performance level on the CMT Skills Checklist in these four areas.

For each content area, i.e., Reading, Communication and Mathematics, there are three performance levels:

- 3 Independent
- 2 Proficient
- 1 Basic

For the Access Skills there are three different performance levels;

- 3 Application
- 2 Practice
- 1 Application

Each of these Performance Level Descriptors has been developed by teachers to reflect the grade level content standards included in the Connecticut Curriculum Framework in the areas of Reading, Communication and Mathematics. The Connecticut Curriculum Framework defines what a student is expected to know and do in specific curriculum content areas at each grade level. The Performance Level Descriptors describe the typical performance and content represented by a particular CMT Skills Checklist score. This information provides an overview of the extent to which a student with significant cognitive disabilities is meeting expectations of the content standards included in the Connecticut Curriculum Framework.

In order for parents to understand the scoring report they must first refer to their student's Individual Score Report for a specific area, i.e., Access Skills, Reading, Communication or Mathematics. The student's performance level is reported in the upper left-hand section of the each report. They must then read the Performance Level Descriptor that corresponds to this performance level. The Performance Level Descriptors are organized by area, i.e., Access Skills, Reading, Communication and Mathematics. Within each area, the Performance Level Descriptors are arranged from highest to lowest, i.e., Independent, Proficient, Basic. In addition a Checklist Folder for parents that accompanies the score report contains additional information about the CMT/CAPT Skills Checklist.

(See Appendix I for copies of the PLDs and a copy of the explanatory material distributed to parents with the Individual Student Reports.)

Validity

Introduction

Discussions of test validity typically address the question of whether or not test results can appropriately be used for an intended purpose, i.e., in the case of the CMT/CAPT Skills Checklist as an indication of the extent to which a student with significant cognitive disabilities has mastered the curriculum content derived from Connecticut's Curriculum Frameworks. To fully address questions of test validity one must be able to demonstrate the "content validity," "criterion-related validity," and the "consequential validity" of the particular instrument in question. The following is a discussion of each of these concepts as they relate to the Checklist.

Content Validity

Content validity indicates the extent to which an assessment instrument is "aligned" with or accurately reflects the particular construct to be measured. Content validity is particularly important if an assessment is to be used to make inferences about student learning and/or when scores are used for accountability purposes as is the case with the CMT/CAPT Skills Checklist. Most typically, content validity is demonstrated by an alignment study which determines the extent to which the assessment matches the depth and breadth of the curriculum content standards that the instrument is intended to measure. However, content validity is also affected by the appropriateness of the assessment items themselves. In the case of the CMT/CAPT Skills Checklist the steps taken to ensure alignment during the design of the test, item and test development procedures and the training provided to teachers and school administrators are fully documented in Section II-Test Development, Administration, Scoring and Reporting, Page 15, of this document.

Details of the alignment study completed for the CMT/CAPT Skills Checklist are provided in Section III-Empirical Evidence, Page 39, of this document. This study utilized the Webb alignment process and the Web Alignment Tool (WAT, developed by Norman Webb). Throughout the process reviewers concentrated on the four criteria central to the Webb Alignment method: Categorical Concurrence, Depth-of-Knowledge consistency, Range-of-Knowledge correspondence and Balance of Representation.

The results of this alignment study of the CMT/CAPT Skills Checklist determined that "the content standards and the assessment items are very well aligned with respect to all four alignment criteria. . ." (See Appendix J)

In addition to this alignment study, Assessment and Evaluation Concepts, Inc. was asked to validate the degree of match between the content of the test items on the standard CMT and the CMT Skills Checklist and the content strands that the items are designed to measure. This content validation survey effort was intended to determine the degree of

match between the test items for subtest of language arts and for mathematics with the content strands they intended to measure. The study went beyond the original charge to also consider the degree of categorical concurrence between the test items and the broader language arts and mathematics content standards.

This study determined that, for the CMT/CAPT Skills Checklist, “in every case, the test items matched the content strands that they were supposed to match. (See Appendix N)

Criterion-related validity

Criterion-related validity relates to the extent to which results on a particular assessment are related to performance on another assessment or on other tasks such as job performance, use of mathematics in real life situations, reading for enjoyment, etc. Evidence of criterion-related validity can show a positive correlation between two different measures (concurrent or convergent validity), or a weak or negative correlation (divergent or discriminant validity). Frequently criterion-related validity indicators are used to predict student performance in real-life situations.

Two of the goals for the CMT/CAPT Skills Checklist are to change the nature of instruction for students with significant cognitive disabilities and to achieve the greater inclusion of these students in general education settings. The CSDE is currently exploring ways to assess criterion-related validity of the CMT/CAPT Skills Checklist within the context of these two goals during the 2007-2009 school. It is hypothesized that improving scores on the CMT/CAPT Skills Checklist will be positively correlated with the amount of time students spent in general education settings with non-disabled peers.

Consequential validity

Consequential validity refers to the consequences, both positive and negative, of using a particular assessment. To address consequential validity issues for the CMT/CAPT Skills Checklist a series of focus group sessions are planned for the 2007-2008 school year involving special education teachers and administrators and general education teachers. Among the topics being considered for use with these focus groups are (a) student academic progress, (b) access to the general education curriculum for both students and their teachers and (c) student performance in nonacademic real life situations.

Summary of validity related activities

A range of validity issues have been systematically addressed during the development and implementation of the CMT/CAPT Skills Checklist. A large and diverse group of stakeholders was involved throughout the process to ensure alignment with the state’s grade level academic content, the use of appropriate test items and the through planning and implementation of training activities for both teachers and administrators to ensure that this assessment instrument is used correctly.

Reliability

Reliability questions relate to the extent to which an assessment instrument produces consistent results over time. With an instrument such as the CMT/CAPT Skills Checklist which requires teachers to rate student performance in different settings over a period of time, a critical consideration is the extent to which raters apply scoring criteria similarly and consistently over time. As was described previously (See "Preparing Raters," Page 28) extensive ongoing training has been provided to teachers who use the CMT/CAPT Skills Checklist to ensure consistent administration of the instrument. Discussions are currently underway to determine how best to supplement planned 2007-2008 training activities, including training to criterion, with a study to determine inner-rater reliability coefficients for individuals who are using the Checklist.

Internal Consistency

Internal consistency (alpha) reliabilities were computed for all components of the checklist at each grade level. These are shown on the following tables. The reliability indices are uniformly high for the Access Skills as well as for the three content areas assessed; Reading, Communications and Mathematics. For the total population, the reliability at each grade ranged from .96 to .99 for each subtest. Analyses for the disaggregated student population based on race, gender and Free Lunch status yield all reliability estimates to equal or exceed .93 with most of the estimates in the range from .97 to 1.0. Although the CSDE does not report scores from the checklist at the strand level, strand level reliability estimates are provided here as they are used for further test development purposes. These estimates were also generally high at .90 or higher, with most being from .94 to .99. In only three cases (Basic Literacy in grade 5 and Expressive Communication and Basic Spatial Relations in grade 6) did the reliability estimate drop below .90. These areas will be reviewed during the next phase of test development.

These results, as presented in Tables 4 through 6, suggest that the checklist has been applied in a highly consistent manner in each of the grades assessed."

Table 4
Internal consistency (alpha) reliabilities
By Subgroup by Grade

Without Exclusions							
Subgroup	Grade Level						
	3	4	5	6	7	8	10
All	0.99	0.99	0.99	0.99	0.99	1.00	0.99
American Indian	*	*	*	*	*	*	*
Asian American	*	*	*	*	*	*	*
Black	0.99	0.99	0.99	0.99	0.99	0.99	0.99
White	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Hispanic	0.99	0.99	0.99	0.99	0.99	1.00	0.99
Male	0.99	0.99	0.99	0.99	0.99	1.00	0.99
Female	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Free lunch	0.99	0.99	0.99	0.99	0.99	1.00	0.99
* = n size < 40							

Table 5
Internal consistency (alpha) reliabilities
By Racial Ethnic Subgroup by Content Area by Grade

Subgroup/Content Area	Grade Level						
	3	4	5	6	7	8	10
All							
Access	0.98	0.97	0.97	0.96	0.97	0.99	0.98
Reading	0.99	0.99	0.98	0.99	0.99	0.99	0.99
Communications	0.98	0.97	0.96	0.98	0.98	0.99	0.97
Mathematics	0.99	0.99	0.99	0.99	0.99	0.99	0.98
American Indian							
Access	*	*	*	*	*	*	*
Reading	*	*	*	*	*	*	*
Communications	*	*	*	*	*	*	*
Mathematics	*	*	*	*	*	*	*
Asian American							
Access	*	*	*	*	*	*	*
Reading	*	*	*	*	*	*	*
Communications	*	*	*	*	*	*	*
Mathematics	*	*	*	*	*	*	*
Black							
Access	0.97	0.95	0.98	0.96	0.97	0.94	0.99
Reading	0.98	0.99	0.99	0.99	1.00	0.98	0.99
Communications	0.95	0.94	0.97	0.99	0.99	0.95	0.98
Mathematics	0.97	0.98	0.98	0.99	1.00	0.97	0.98
White							
Access	0.99	0.97	0.97	0.97	0.97	0.99	0.98
Reading	0.99	0.98	0.98	0.99	0.99	0.99	0.99
Communications	0.99	0.96	0.96	0.98	0.98	0.99	0.97
Mathematics	0.99	0.99	0.99	0.99	0.97	0.99	0.98
Hispanic							
Access	0.98	0.98	0.98	0.97	0.98	1.00	0.99
Reading	0.99	1.00	0.98	0.97	0.99	1.00	0.99
Communications	0.98	0.99	0.93	0.95	0.98	1.00	0.97
Mathematics	0.99	0.98	0.98	0.97	0.98	1.00	0.97
* = n size < 40							

Table 6
Internal consistency (alpha) reliabilities
By Gender & Free Lunch By Content Area by Grade

Subgroup/Content Area	Grade Level						
	3	4	5	6	7	8	10
Male							
Access	0.99	0.97	0.97	0.97	0.97	0.99	0.98
Reading	0.99	0.99	0.98	0.99	0.99	1.00	0.99
Communications	0.98	0.98	0.96	0.99	0.98	0.99	0.97
Mathematics	0.98	0.98	0.99	0.99	0.99	0.99	0.98
Female							
Access	0.98	0.97	0.97	0.96	0.98	0.97	0.99
Reading	0.99	0.99	0.98	0.99	1.00	0.98	0.99
Communications	0.98	0.96	0.97	0.98	0.99	0.96	0.97
Mathematics	0.99	0.99	0.98	0.99	0.97	0.95	0.97
Free lunch							
Access	0.97	0.96	0.98	0.96	0.97	0.99	0.98
Reading	0.98	0.98	0.98	0.99	1.00	0.99	0.99
Communications	0.96	0.95	0.95	0.98	0.99	0.99	0.97
Mathematics	0.98	0.99	0.98	0.99	0.99	0.99	0.97
* = n size < 40							

References

- American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (1999). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.
- Browder, D. Ahlgrim-Delzell, L., Flowers, C., Karvonen, M., Spooner, F., & Algozzine, R. (2005). How states implement alternative assessments for students with disabilities: Recommendations for national policy. *Journal of Disabilities Policy Studies*, 15, 209-220.
- Council of Chief State School Officers (2006). *Handbook for developing alternate assessment technical adequacy (DAATA): producing documentation for states' alternate assessments for students with significant cognitive disabilities- final draft*. Washington, DC: Council of Chief State School Officers
- Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334
- Gong, B. & Marion, S. (2006). Dealing with flexibility in assessments for students with significant cognitive disabilities. Dover, NH: National Center for the Improvement of Educational Assessments, Inc. Available at: http://www.nciea.org/publications/AERA_BGSM06.pdf
- Individuals with Disabilities Education Act Amendments of 1997, 20 U.S.C. §1400 et seq.
- Individuals with Disabilities Education Improvement Act of 2004, Public Law 108-446.
- No Child Left Behind Act of 2001, Pub. L. No. 107-110, 115 Stat. 1425 (2002)
- Quenemoen, R.F. & Thurlow, M.L. (2004, April). I say potato, you say potahto: An AERA conference discussion paper. Paper presented at the 2004 annual meeting of the American Educational Research Association, San Diego, CA. Available at: <http://education.umn.edu/nceo/Presentations/AERA2004QuenThur.pdf>
- Reeves, Douglas B. (2004). Making standards work. Englewood, CO. Center for Performance Assessment.
- U.S. Department of Education. (2004). *Standards and Assessments Peer Review Guidance: Information and Examples for Meeting Requirements of the No Child Left Behind Act of 2001*.

APPENDIX A

CMT/CAPT Skills Checklist Advisory Committee

CMT/CAPT Skills Checklist Advisory Committee

<u>Name</u>	<u>Title</u>	<u>Agency</u>
Joe Amenta	Curriculum Coordinator	Area Cooperative Education Services
Jane Bolles	Parent Representative	Connecticut Parent Advocacy Center
Pamela O. Brucker.	Chair, Dept. of Special Education & Reading	Southern Connecticut State University
Norine C. Burns	Special Needs Teacher	West Hartford Public Schools
Joyce DeFrancesco	Assistant Principal	Avon Public Schools
Susan J. Kennedy	Education Consultant, Bureau of Student Assessment	Ct. State Dept. of Education
Edward L. Lazaroff	Parent Representative, Principal	Columbia Public Schools
Elizabeth MacKenzie	Unit Director/Developmental Disabilities	Cooperative Education Services
Nancy C. Philipp	Parent Representative, Special Education Teacher	Hartford Public Schools
Eric W. Schroeder	Elementary School Principal	American School for the Deaf
Jerome J. Spears	Private Consultant	Ct. State Dept. of Education
Kathleen Spence	Director of Special Services	Cromwell Public Schools
Janet Stuck	Special Education Teacher	Gengras Center
Dena Tompkins	Chair, Special Ed. Department	Newington High School
Ana Wittig	Education Program Specialist	Oak Hill School
Mark Zoback	Director of Student Services	Columbia Public Schools

Ad Hoc Members

Deirdre Amirault	Education Consultant, Bureau of Curriculum and Instruction	Ct. State Dept. of Education
Patricia Foley	Education Consultant, Bureau of Curriculum and Instruction	Ct. State Dept. of Education
Abe Krisst	Education Consultant, Bureau of Student Assessment	Ct. State Dept. of Education
Steve Martin	Education Consultant, Bureau of Curriculum and Instruction	Ct. State Dept. of Education
Marlene Megos	Education Consultant, Bureau of Curriculum and Instruction	Ct. State Dept. of Education

Patricia Moran	Education Consultant, Bureau of Curriculum and Instruction	Ct. State Dept. of Education
Charlene Tate Nichols	Education Consultant, Bureau of Curriculum and Instruction	Ct. State Dept. of Education
Cathy Schofield	Education Consultant, Bureau of Curriculum and Instruction	Ct. State Dept. of Education
Joanne White	Education Consultant, Bureau of Curriculum and Instruction	Ct. State Dept. of Education

APPENDIX B

CMT/CAPT Skills Checklist: Item Development Participants

June 2005 and June 2006

CMT/CAPT Alternate Assessment Skills Checklist
Checklist and Teacher Handbook Development Participants

Name	District/Agency
Faith Aronson	Fairfield Public Schools
Madeline Bergeron	Connecticut State Department of Education
Janice Bruetsch	New Britain Public Schools
Susan Buckwell	New Britain Public Schools
Jonathon Budd	Easton/Redding (RSD 9)
Mary Anne Butler	Connecticut State Department of Education
Elizabeth Buttner	Connecticut State Department of Education
Karen Burnham	Mansfield Public Schools
Marianne Cavanaugh	East Hartford Public Schools
Lynn Channey	New Britain Public Schools
Laurie Coulom	Tolland Public Schools
Lynn Day	New Britain Public Schools
Joyce DeFrancesco	Avon Public School
Tina DellaBernarda	Bristol Public Schools
Natalie Donais	Suffield Public Schools
Maria Esparra	New Britain Public Schools
Molly Farrell	Fairfield Public Schools
Luanne Gagliardi	New Britain Public Schools
Dorothy Gillespie	Area Cooperative Educational Services
Tracey Goolsby	Simsbury Public Schools
Jennifer Kasey	East Hartford Public Schools
Victoria Kasidas	Litchfield Public Schools
Rhonda Kempton	Milford Public Schools
Susan Kennedy	Bureau of Student Assessment

Anne Leffert	Fairfield Public Schools
Marlene Megos	Connecticut State Department of Education
Kimberly Mowery	Amistad Academy
Perri Murdica	Connecticut State Department of Education
Amy Norton	State Education Resource Center
Regina Oliver	State Education Resource Center
Mary-Jane Pazda	Wethersfield Public Schools
Melissa Pereira	Hartford Public Schools
Gary Peterson	West Hartford Public Schools
Jeannette Picard	RSD 11- Chaplin, Hampton, Scotland
Tina Pizzoferrato	Enfield Public Schools
Danielle Polchinski	East Hartford Public Schools
Marjorie Porter	Somers Public Schools
Laura Rader	Connecticut State Department of Education
Judith Radke	New Britain Public Schools
Deborah Reith	Enfield Public Schools
Janet Roman	Farmington Public Schools
Susan Rombala	Farmington Public Schools
Elizabeth Rovetti	East Haddam Public Schools
Dawn Ryen	New Fairfield Public Schools
Claudine Scheer	Meriden Public Schools
Donna Schlank	New Haven Public Schools
Kate Schrass	West Hartford Public Schools
Linda Seifts	RSD 11- Chaplin, Hampton, Scotland
Jerome Spears	Private Consultant – CSDE
Robyn Sullivan	Newington Public Schools
Carrie Therriault	Fairfield Public Schools

Bill Walker
Beth Wenzel
Joanne White
Christine Veilleux
Maura Zancan
Elizabeth Ziba

Southington Public Schools
Farmington Public Schools
Bureau of Curriculum and Instruction-SDE
Newington Public Schools
New Fairfield Public Schools
Enfield Public Schools

APPENDIX C

Technical Advisory Committee

Technical Advisory Committee

Peter Behuniak

University of Connecticut

29 Fawn Run
Glastonbury, CT 06033
(860) 633-8282
860-559-9445 (cell)
PeterBehuniak@cox.net

Robert L. Linn

University of Colorado Emeritas

P.O. Box 1815
Ouray, CO 81427
(970) 325-4235
Robert.Linn@colorado.edu

William A. Mehrens

Michigan State University Emeritas

2351 Sapphire Lane
East Lansing, MI 48823
(517) 324-9242
517-282-7499 (cell)
wmehrens@msu.edu

Joseph M. Ryan

Educational Measurement Systems
2221 E. Turquoise Avenue
Phoenix, AZ 85028

(602) 482-7196
jmryan@cox.net

Hariharan Swaminathan

University of Connecticut

(860) 486-0200
Hariharan.swaminathan@uconn.edu

APPENDIX D

Item Distribution by Content Standard

Table 1
ITEM BY STRAND (STANDARD): MATH (Edited Tests)
CMT/CAPT SKILLS CHECKLIST: THIRD EDITION

Grade	Content Standard				Total Number of Items by Grade
	Number of Items: Algebraic Reasoning	Number of Items: Geometry and Measurement	Number of Items: Numerical and Proportional Reasoning	Number of Items: Probability and Statistics	
Grade 3	4	4	10	3	21
Grade 4	3	5	8	4	20
Grade 5	4	6	8	2	20
Grade 6	3	5	8	4	20
Grade 7	2	4	7	3	16
Grade 8	2	4	4	3	13
Grade 10	1	4	3	5	13
TOTAL:	19	32	48	24	123

Table 2
TOTAL DOWNWARD EXTENSIONS: MATH (Edited Tests)
CMT/CAPT SKILLS CHECKLIST: THIRD EDITION
(3 Downward Extensions per Item)

Grade	Content Standard				Total Number of DE's by Grade
	Number of DE's: Algebraic Reasoning	Number of DE's: Geometry and Measurement	Number of DE's: Numerical and Proportional Reasoning	Number of DE's: Probability and Statistics	
Grade 3	12	12	30	9	63
Grade 4	9	15	24	12	60
Grade 5	12	18	24	6	60
Grade 6	9	15	24	12	60
Grade 7	6	12	21	9	48
Grade 8	6	12	12	9	39
Grade 10	3	12	9	15	39
TOTAL:	57	96	144	72	369

Table 3
TOTAL POSSIBLE POINTS: MATH (Edited Tests)
CMT/CAPT SKILLS CHECKLIST: THIRD EDITION
(0, 1, 2 scoring)

Grade	Content Standard				Total Points by Grade
	Total Points: Algebraic Reasoning	Total Points: Geometry and Measurement	Total Points: Numerical and Proportional Reasoning	Total Points: Probability and Statistics	
Grade 3	24	24	60	18	126
Grade 4	18	30	48	24	120
Grade 5	24	36	48	12	120
Grade 6	18	30	48	24	120
Grade 7	12	24	42	18	96
Grade 8	12	24	24	18	78
Grade 10	6	24	18	30	78
TOTAL:	114	192	288	144	738

Table 4
ITEM BY STRAND (STANDARD): LA (Edited Tests)
CMT/CAPT SKILLS CHECKLIST: THIRD EDITION

Grade	Content Standard				Total Number of Items by Grade
	Number of Items: Reading and Responding	Number of Items: Exploring and Responding to Literature	Number of Items: Communicating with Others	Number of Items: English Language Conventions	
Grade 3	11	10	6	4	31
Grade 4	11	10	6	4	31
Grade 5	11	10	6	4	31
Grade 6	11	10	6	4	31
Grade 7	11	10	6	4	31
Grade 8	11	10	6	4	31
Grade 10	11	10	6	4	31
TOTAL	77	70	42	28	217

Table 5
TOTAL DOWNWARD EXTENSIONS: LA (Edited Tests)
CMT/CAPT SKILLS CHECKLIST: THIRD EDITION
(3 Downward Extensions per Item)

Grade	Content Standard				Total DE's by Grade
	Number of DE's: Reading and Responding	Number of DE's: Exploring and Responding to Literature	Number of DE's: Communicating with Others	Number of DE's: English Language Conventions	
Grade 3	33	30	18	12	93
Grade 4	33	30	18	12	93
Grade 5	33	30	18	12	93
Grade 6	33	30	18	12	93
Grade 7	33	30	18	12	93
Grade 8	33	30	18	12	93
Grade 10	33	30	18	12	93
TOTAL:	231	210	126	84	651

Table 6
TOTAL POSSIBLE POINTS: LA (Edited Tests)
CMT/CAPT SKILLS CHECKLIST: THIRD EDITION
(0, 1, 2 scoring)

Content Standard					
Grade	Total Points: Reading and Responding	Total Points: Exploring and Responding to Literature	Total Points: Communicating with Others	Total Points: English Language Conventions	Total Points by Grade
Grade 3	66	60	36	24	186
Grade 4	66	60	36	24	186
Grade 5	66	60	36	24	186
Grade 6	66	60	36	24	186
Grade 7	66	60	36	24	186
Grade 8	66	60	36	24	186
Grade 10	66	60	36	24	186
TOTAL:	462	420	252	168	1302

APPENDIX E

Examples of Downward Extensions Used for Training

Grade 3 Content Standards
Geometry and Measurement

① Does Not Demonstrate
 ② Developing/Supported
 ③ Mastered/Independent

1.0 Polygons and Solids can be compared and classified using attributes such as Number of sides, Length of sides, Number of angles, Kinds of angles, Lines of symmetry, Parallel sides of polygons, Parallel faces of solids, Congruent parts

1.1 Identify/classify angles as acute, right or obtuse

Student can name acute, right and obtuse angles correctly in any modality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student can group shapes correctly by type of angle, i.e. acute, right and obtuse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When provided with a single model the student can select a match from three choices with different types of angles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.2 Explore similarities and differences by sorting polygons and solids by using characteristics such as the relationship of sides (parallel, perpendicular), kinds of angles (acute, right, obtuse), Symmetry, Congruence

Student can sort polygons by two or more characteristics, (e.g., kinds of angles, relationship of sides, number of sides, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student can sort polygons by one characteristic, (e.g., kinds of angles, relationship of sides, number of sides, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student can match shapes, i.e., triangle, square, circle, rectangle,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.3 Identify and describe and draw and compare polygons found in the environment, buildings, plants, art, etc.

Student can name at least two polygons in the environment such as in buildings, signs, vehicles, etc., and describe how they are the same or different (e.g., both are squares, one is a triangle and one is a square, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student can identify at least two polygons found in the environment. (e.g., "can you find something that is a triangle, a rectangle, a square, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student can recognize a polygon found in the environment when presented with a model, i.e. when provided with a hand held model the student can find a matching shape/structure in the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

B. Students interpret, analyze and evaluate text in order to extend understanding and appreciation. © Does Not Demonstrate
① Developing/Supported
② Mastered/Independent

5. Generate and respond to questions. RR 3.7
Essence: Ask and answer questions about grade level content that is read, viewed or heard.

Ask and correctly answer one or more question(s) related to grade level content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Correctly answer two or more questions related to the grade level content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Correctly answer one question related to grade level content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

D. Benchmarks (points of reference such as a centimeter which is approximately the width of the smallest finger) may be used to make estimates of length, area, volume, weight, temperature and time. Measurement tools increase the precision of the estimates.

4. Solve problems that involve elapsed time using clocks and calendars. GM 4-9
Essence: Solve problems involving elapsed time.

Indicate the time 2 hours before or 2 hours after a given event (use time to the exact hour)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indicate the time 1 hour before or one hour after a given event (use time to the exact hour)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicate an event that has occurred or will occur on this day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Use estimation to predict reasonable answers to measurement problems. GM 4-11
Essence: Predict reasonable answers to measurement problems using estimation.

Using a referent, measure the length or width of a common object (e.g., desktop, table, etc.), to check an estimate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indicate whether an item is shorter or longer than the referent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indicate which of 3 objects is the same length as the given referent (e.g., an-unsharpened pencil, a paper clip, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX F

Parameters of Downward Extensions

PARAMETERS OF ITEMS (I.E., DOWNWARD EXTENSIONS)

June 2005 and June 2006 Item Development Training

The downward extensions:

- Reflect a broad array of demonstrated understandings

At least 3 demonstrations of a skill (downward extensions) for each Content Standard

Demonstrations should consider:

Multiple means of representation
Multiple means of expression
Multiple means of engagement

Some individual extensions may be subsumable, i.e., mastery of a higher level skill extension may assure mastery of a lower level skill. For example, if a student can correctly tell time to the quarter hour one might reasonable assume that she or he can tell time to the half hour and hour.

Should not reflect a functional application unless it is clearly appropriate to do so (e.g., telling time, making change)

In language arts if a particular text is required at a certain grade level, then the downward extensions should reflect the text (e.g., 8th graders read Huck Finn, downward extensions need to address content and skills as they relate to Huck Finn)

- Reflect a hierarchy of complexity

Contain at least one lower level expression of the skills. (e.g., at the Knowledge or Comprehension level).

Contain at least one higher order expression of the skill, (e.g., at the Evaluation or Synthesis Level). We have provided Bloom's Taxonomy as a guide.

- Skill can be demonstrated utilizing a variety of modes of communicating or responding (i.e., pointing, speaking, nodding, typing, eye-blinking, blowing on a breath tube, etc.). Some verbs lend themselves to broader interpretations (e.g., indicate lends itself to stating, naming, pointing, drawing, etc.)
- Each extension is clearly written and sufficiently specific for consistent interpretation and scoring by a range of individuals.

Scoring Criteria

Score point 2 – Mastered/Independent

- Student demonstrates the skill consistently (i.e., 80% of the time or in 4 out of 5 attempts).

Note: Using 80% is fine if all tasks lend themselves to behavior that can be described as happening 4 out of 5 times. However, some tasks will not. The student does not have to demonstrate the skill every time, but would have to show OVER TIME that he/she has mastered it. This would generally be true if the student performed it successfully approximately 80% of the time or better.

- Student can perform the task independently, i.e., without supporting prompts or cues.

Score point 1 – Developing/Supported

- Student could not demonstrate the skill consistently (less than 80% of the time/ 4 out of 5 attempts) see above comment)

AND/OR

- Student could demonstrate the skill if provided with some level of prompting or support (i.e., a verbal cue, partial physical guidance, repetition of instructions. etc.)

Score Point 0

- Student does not demonstrate the skill.

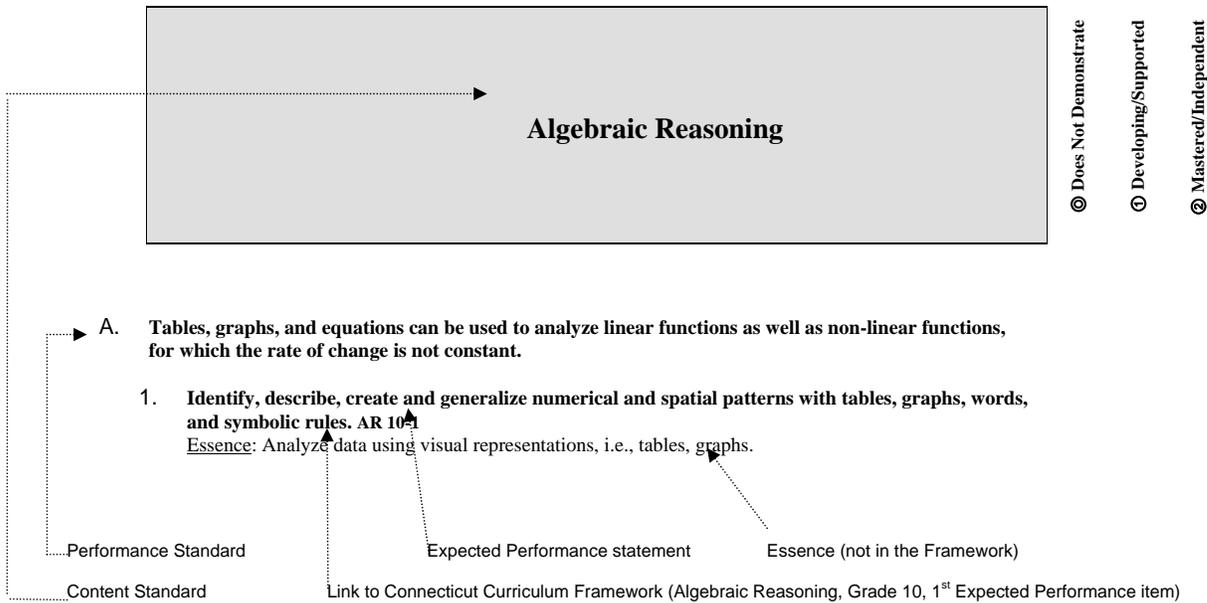
APPENDIX G

Standard Terminology

STANDARD TERMINOLOGY

<u>Term</u>	<u>Example</u>
<u>CONTENT STANDARD:</u>	-ALGEBRAIC REASONING -READING AND RESPONDING -EXPLORING AND RESPONDING TO LITERATURE -NUMERICAL AND PROPORTIONAL REASONING, ETC.
<u>PERFORMANCE STANDARD:</u>	-Patterns that are made with different objects and symbols and that follow the same rule may be classified together -A. Students recognize how literary devices and conventions engage the reader
<u>EXPECTED PERFORMANCES:</u> If talking about one then <u>EXPECTED PERFORMANCE</u>	-3-1 Use a variety of materials to construct, reproduce, describe and extend number and spatial patterns. 3:1.1a(1) -3.2 identify the differences between the structures of fiction and nonfiction

The following illustrates how these terms relate to the Checklist:



APPENDIX H

CMT/CAPT Skills Checklist: Second Generation

Grade 8 Test

APPENDIX I

Sample Performance Level Descriptors
CMT/CAPT Skills Checklist: Second Generation

Grade 8

APPENDIX J

Alignment Analysis of Connecticut's Alternate Assessment

Executive Summary

April 2006

***ALIGNMENT ANALYSIS OF CONNECTICUT'S
LANGUAGE ARTS AND MATHEMATICS STANDARDS
AND THE ALTERNATE ASSESSMENT CHECKLISTS***

SUMMARY REPORT



***ASSESSMENT AND EVALUATION CONCEPTS INC.
MARCH 2006***

TABLE OF CONTENTS

Introduction.....	3
Purpose of the Alignment Study.....	3
The Review Process.....	3
The Connecticut Context.....	5
Alignment Criteria Used For This Analysis.....	8
Categorical Concurrence.....	8
Depth-of-Knowledge Consistency.....	8
Range-of-Knowledge Correspondence.....	13
Balance of Representation.....	13
Source of Challenge.....	14
Findings.....	15
Language Arts	
Grade Three.....	17
Grade Four.....	17
Grade Five.....	18
Grade Six.....	18
Grade Seven.....	19
Grade Eight.....	19
Grade Ten.....	20
Mathematics	
Grade Three.....	21
Grade Four.....	22
Grade Five.....	22
Grade Six.....	23
Grade Seven.....	23
Grade Eight.....	24
Grade Ten.....	24
Summary and Recommendations.....	25
References.....	26

Alignment Analysis of Language Arts Standards and Assessments

INTRODUCTION

The alignment of expectations for student learning with assessments for measuring student attainment of these expectations is an essential attribute for an effective standards-based education system. Alignment is defined as the degree to which expectations and assessments are in agreement and serve in conjunction with one another to guide an education system toward students learning what they are expected to know and do. As such, alignment is a quality of the relationship between expectations and assessments and not an attribute of any one of these two system components. Alignment describes the match between expectations and assessment that can be legitimately improved by changing either student expectations or the assessments. As a relationship between two or more system components, alignment is determined by using the multiple criteria described in detail in a National Institute of Science Education (NISE) research monograph, *Criteria for Alignment of Expectations and Assessments in Mathematics and Science Education* (Webb, 1997).

Purpose of the alignment study

Assessment and Evaluation Concepts Inc. (AEC) was asked by the Connecticut Department of Education to conduct an alignment study of the Connecticut content standards and assessment instruments for key content areas in grades 3 – 8 and 10. It was agreed that the study would use the alignment method developed by Dr. Norman L. Webb and his colleagues at the Wisconsin Center for Educational Research at the University of Wisconsin and that the study would focus on English Language Arts (ELA), Mathematics and Alternate Assessment (AA).

Three summary alignment reports were produced as part of the project – one for each of the three areas. In addition, lengthy technical volumes have been produced for each of the English Language Arts, Mathematics and Alternate Assessments studies that present detailed information by grade for all backup information generated by the alignment analysis process. This current report provides the summary information for the Alternate Assessment Alignment Analysis.

The Review Process

A team of experienced educators both internal and external to Connecticut was identified to serve as reviewers for the Alternate Assessment Study. These reviewers took part in the alignment institute on January 23 – 25, 2006 at the Central Connecticut State University Institute of Technology and Business Development. The following individuals comprised the review team for the Alternate Assessment.

- Sarah Kennedy, University of Kentucky (Study Group Leader)

- Pamela Brucker, Southern Connecticut State University
- Cynthia Corbridge, Rhode Island Department of Education
- John Kerrigan, Consultant
- Erin McGurk, Central Connecticut State University
- Mark Zoback, Tolland Public Schools

The review team utilized the approved Connecticut ELA and Mathematics Standards for each grade and the currently used CMT/CAPT Skills Checklist, designed as part of the Connecticut's Alternate Assessment Checklist. Standards, goals, and objectives were identified and entered into the electronic alignment tool called the Web Alignment Tool (WAT). The standards are the broad statements of educational intent and the specific objectives are intended to span the content of the goal and standard under which they fall. A complete listing by grade is included in the technical volume for the Alternate Assessment alignment study.

As part of the alignment institute, reviewers were trained to identify the depth-of-knowledge of standards and assessment items. This training included reviewing the definitions of the four depth-of-knowledge (DOK) levels and then reviewing examples of each. Then for each grade, the reviewers participated in 1) a consensus process to determine the depth-of-knowledge levels of the standards and 2) individual analyses of the assessment items. Following the individual analyses of items, reviewers participated in a debriefing discussion in which they assessed the degree to which they had coded particular items or types of content to the standards. Throughout the alignment institute, reviewers concentrated on the four criteria central to the Webb alignment method: categorical concurrence, depth-of-knowledge consistency, range-of-knowledge correspondence, and balance of representation.

Reviewers were instructed to focus primarily on the alignment between the state standards and assessments. The results produced from the alignment institute pertain only to the issue of alignment between the Connecticut state standards and CMT/CAPT Checklist instrument. Therefore, this alignment analysis does not serve as external verification of the general quality of the state's standards or assessments. However, comments relative to the standards and assessments from these experienced educators may be helpful to state department as they consider revisions so reviewers were allowed to comment on the standards or the assessment activities/items, by writing a note about the item. Reviewers could also indicate whether there was a source-of-challenge issue with the item—i.e., a problem with the item that might cause the student who knows the material to give a wrong answer, or enable someone who does not have the knowledge being tested to answer the item correctly. These comments are included in their entirety in the technical volume for Alternate Assessment study.

The Connecticut Context

States across the country have developed and revised their standards and assessment systems over years in a wide variety of ways. Prior to the enactment of the federal No Child Left Behind Act of 2001 (NCLB), states built their assessment programs to meet state needs and to respond to state education reform initiatives. They also constructed their content standards and assessment instruments to reflect the requirements of federal education legislation, most notably the Elementary and Secondary Education Act (ESEA) and the Individuals with Disabilities Education Act (IDEA). NCLB regulations provided the impetus for states to revise their assessment and accountability systems once again. For example, due to NCLB, many states needed to revise their content standards of what students should know and be able to do from grade level clusters to individual grade level expectations. Also, most states tested their students in language arts and mathematics within grade groupings (K – 4, 5 -8, 9 – 12) prior to 2002 and have now had to test at seven grade levels (3 – 8, and a high school grade). Connecticut was no different than other states in this respect. Alignment studies, while based on objective criteria, must be viewed within the context of a state’s standards and assessment development efforts and planning.

Connecticut has had a long history of administering achievement tests to its students across the state. The state has also put substantial time and effort into defining what Connecticut students should know and be able to do. The Connecticut Curriculum Frameworks were released in 1998. These Frameworks defined the content and performance standards for students by grade level clusters in all content areas for the purposes of raising expectations, upgrading and improving curriculum and instruction, and promoting growth in student achievement. In 2002, the state began its revision of the Frameworks to meet the requirements of the NCLB legislation. Content and performance standards were defined at each grade level (PreK-8 and grade range for 9-12.) Performance standards are further articulated as expected performances, which were designed to align with the CMT and the CAPT specifications.

The English Language Arts Framework was compared to and reviewed against the NAEP Reading Assessment and the NCTE Standards for English Language Arts. Committee members met by grade level and then school levels to ensure progression within and across grades. One result of the review was to change Connecticut reading standards from three to four to parallel the NAEP standards. These four standards were used in the language arts alignment study conducted by AEC in January 2006.

Similarly, the content and instructional sequencing evident in the Mathematics Curriculum Framework were influenced by numerous sources including the National Council of Teachers of Mathematics’ (NCTM) document, “Principles and Standards for School Mathematics 2000” (PSSM) and the content and available data for Connecticut students from the National Assessment of Educational Progress. The third document that influenced placement of standards was the Trends in Mathematics and Science Study (TIMSS) research and test design. As a result of the review of the national documents, the 25 strands in the Connecticut

Mathematics Framework were reformatted from 10 standards into four standards. These four standards were used in the mathematics alignment study conducted by AEC in January 2006.

With respect to assessment, Connecticut has more than a two decade history of assessing and reporting on student academic performance. The state has developed and adopted a set of grade-level academic achievement standards for reading/language arts and mathematics for students in grades 3 through 8 who take the CMT and for students in grade 10 who take the CAPT in reading/language arts, mathematics and science.

The CMT and CAPT are criterion referenced tests. The CMT was first administered in the fall of 1985 and the Fourth Generation (CMT4) was administered in the spring of 2006. The CAPT was first administered in the spring of 1994 and the first form of the Third Generation (CAPT3) will be administered in spring 2007. The initial development of these programs included defining performance level descriptors and establishing cut scores, the score values dividing academic achievement levels. As the testing program matured through the various generations of the CMT and CAPT cut scores were adjusted, when appropriate, to reflect new standards and descriptors were revised accordingly. Connecticut's CMT and CAPT have been purposefully designed to measure the extent to which the state's students have mastered the English language arts, mathematics and science content standards delineated in the state's Curriculum Frameworks, and new generations of the tests reflect changes in these expectations. The standards on which these assessments are based are more expansive in terms of content covered than any single testing instrument can handle. Consequently, the administrators of Connecticut's assessment program expect to measure the full range of standards over a four year period. Also, to increase the reliability estimates around the cut scores for the achievement levels the assessments were constructed to include more items near the cut points than in the further ranges of the score distribution.

Connecticut educators have also been active in the alternate assessment area. In 2002, the state adopted alternate achievement standards. These standards were used for the development of a CMT/CAPT Skills Checklist, which is the alternate assessment currently used with the students with significant cognitive disabilities. The Checklist was designed initially to be aligned with the state Curriculum Frameworks, but the Checklist did not delineate grade level content. As a result, the Skills Checklist was redesigned to reflect grade level content. This Checklist was administered for the first time in March 2006. The three performance levels for the Skills Checklist are: Basic, Proficient and Independent. Preliminary performance descriptors were drafted and approved by the Alternate Assessment Advisory Committee on September 19, 2005.

The alignment study used Connecticut's current, revised content standards in language arts and mathematics against which to compare the alignment of the assessment instruments. The assessment instruments used in the overall study were the current versions of the following:

- Connecticut Mastery Test, 4th Generation (CMT4);
- Connecticut Academic Performance Test, 2nd Generation (CAPT2); and
- CMT/CAPT Skills Checklist.

ALIGNMENT CRITERIA USED FOR THIS ANALYSIS

This analysis used the Webb Alignment Method and the Web Alignment Tool (WAT) to determine the alignment between the Connecticut standards and the assessment on the basis of four criteria. The analysis also provided additional information by identifying items with sources of challenge or other issues. For each alignment criterion, an acceptable level was defined by the Webb methodology (2005).

Categorical Concurrence

An important aspect of alignment between standards and assessments is whether both address the same content categories. The categorical-concurrence criterion provides a general indication of alignment, if both documents incorporate the same content. The criterion of categorical concurrence between standards and assessment is met if the same or consistent categories of content appear in both documents. This criterion was judged by determining whether the assessment included items measuring content from each standard. The analysis assumed that the assessment had to have at least six items measuring content from a standard in order for an acceptable level of categorical concurrence to exist between the standard and the assessment. The number of items, six, is based on estimating the number of items that could produce a reasonably reliable sub-scale for estimating students' mastery of content on that subscale.

Depth-of-Knowledge (DOK) Consistency

Standards and assessments can be aligned not only on the category of content covered by each, but also on the basis of the complexity of knowledge required by each. Depth-of-knowledge consistency between standards and assessment indicates alignment if what is elicited from students on the assessment is as demanding cognitively as what students are expected to know and do as stated in the standards. For consistency to exist between the assessment and the standard, as judged in this analysis, at least 50% of the items

corresponding to a standard had to be at or above the level of knowledge of the standard: 50%, a conservative cutoff point, is based on the assumption that a minimal passing score for any one standard of 50% or higher would require the student to successfully answer at least some items at or above the depth-of-knowledge level of the corresponding standard.

Interpreting and assigning depth-of-knowledge levels to standards and assessment items is an essential requirement of alignment analysis. The reading levels used as part of the Webb method are based on Valencia and Wixson (2000, pp. 909–935) and the writing levels are those developed by Marshá Horton, Sharon O’Neal, and Phoebe Winter.

The following definitions of depth-of-knowledge levels were used in this language arts analysis:

Reading

Reading level 1. Level 1 requires students to receive or recite facts or to use simple skills or abilities. Oral reading that does not include analysis of the text as well as basic comprehension of a text is included. Items require only a shallow understanding of the text presented and often consist of verbatim recall from text, slight paraphrasing of specific details from the text, or simple understanding of a single word or phrase. Some examples that represent, but do not constitute all of, level 1 performance are:

- Support ideas by reference to verbatim, or only slightly paraphrased, details from the text.
- Use a dictionary to find the meanings of words.
- Recognize figurative language in a reading passage.

Reading Level 2. Level 2 includes the engagement of some mental processing beyond recalling or reproducing a response; it requires both comprehension and subsequent processing of text or portions of text. Inter-sentence analysis of inference is required. Some important concepts are covered, but not in a complex way. Standards and items at this level may include words such as summarize, interpret, infer, classify, organize, collect, display, compare, and determine whether fact or opinion. Literal main ideas are stressed. A Level 2 assessment item may require students to apply skills and concepts that are covered in Level 1. However, items require closer understanding of text, possibly through the item’s paraphrasing of both the question and the answer. Some examples that represent, but do not constitute all of, Level 2 performance are:

- Use context cues to identify the meaning of unfamiliar words, phrases, and expressions that could otherwise have multiple meanings.
- Predict a logical outcome based on information in a reading selection.

- Identify and summarize the major events in a narrative.

Reading Level 3. Deep knowledge becomes a greater focus at Level 3. Students are encouraged to go beyond the text; however, they are still required to show understanding of the ideas in the text. Students may be encouraged to explain, generalize, or connect ideas. Standards and items at Level 3 involve reasoning and planning. Students must be able to support their thinking. Items may involve abstract theme identification, inference across an entire passage, or application of prior knowledge. Items may also involve more superficial connections between texts. Some examples that represent, but do not constitute all of, Level 3 performance are:

- Explain or recognize how author's purpose affects the interpretation of a reading selection.
- Summarize information from multiple sources to address a specific topic.
- Analyze and describe the characteristics of various types of literature.

Reading Level 4. Higher-order thinking is central and knowledge is deep at Level 4. The standard or assessment item at this level will probably be an extended activity, with extended time provided for completing it. The extended time period is not a distinguishing factor if the required work is only repetitive and does not require the application of significant conceptual understanding and higher-order thinking. Students take information from at least one passage of a text and are asked to apply this information to a new task. They may also be asked to develop hypotheses and perform complex analyses of the connections among texts. Some examples that represent, but do not constitute all of, Level 4 performance are:

- Analyze and synthesize information from multiple sources.
- Examine and explain alternative perspectives across a variety of sources.
- Describe and illustrate how common themes are found across texts from different cultures.

Writing

Writing Level 1. Level 1 requires the student to write or recite simple facts. The focus of this writing or recitation is not on complex synthesis or analysis but on basic ideas. The students are asked to list ideas or words, as in a brainstorming activity, prior to written composition; are engaged in a simple spelling or vocabulary assessment; or are asked to write simple sentences. Students are expected to write, speak, and edit using the conventions of Standard English. This includes using appropriate grammar, punctuation, capitalization, and spelling. Students demonstrate a basic understanding and appropriate use of such reference materials as a dictionary, thesaurus, or Web site. Some examples that represent, but do not constitute all of, Level 1 performance are:

- Use punctuation marks correctly.
- Identify Standard English grammatical structures, including the correct use of verb tenses.

Writing Level 2. Level 2 requires some mental processing. At this level, students are engaged in first-draft writing or brief extemporaneous speaking for a limited number of purposes and audiences. Students are expected to begin connecting ideas, using a simple organizational structure. For example, students may be engaged in note-taking, outlining, or simple summaries. Text may be limited to one paragraph. Some examples that represent, but do not constitute all of, Level 2 performance are:

- Construct or edit compound or complex sentences, with attention to correct use of phrases and clauses.
- Use simple organizational strategies to structure written work.
- Write summaries that contain the main idea of the reading selection and pertinent details.

Writing Level 3. Level 3 requires some higher-level mental processing. Students are engaged in developing compositions that include multiple paragraphs. These compositions may include complex sentence structure and may demonstrate some synthesis and analysis. Students show awareness of their audience and purpose through focus, organization, and the use of appropriate compositional elements. The use of appropriate compositional elements includes such things as addressing chronological order in a narrative, or including supporting facts and details in an informational report. At this stage, students are engaged in editing and revising to improve the quality of the composition. Some examples that represent, but do not constitute all of, Level 3 performance are:

- Support ideas with details and examples.
- Use voice appropriate to the purpose and audience.
- Edit writing to produce a logical progression of ideas.

Writing Level 4. Higher-level thinking is central to Level 4. The standard at this level is a multi-paragraph composition that demonstrates the ability to synthesize and analyze complex ideas or themes. There is evidence of a deep awareness of purpose and audience. For example, informational papers include hypotheses and supporting evidence. Students are expected to create compositions that demonstrate a distinct voice and that stimulate the reader or listener to consider new perspectives on the addressed ideas and themes. An example that represents, but does not constitute all of, Level 4 performance is:

- Write an analysis of two selections, identifying the common theme and generating a purpose that is appropriate for both.

Math

Interpreting and assigning depth-of-knowledge levels to both objectives within standards and assessment items is an essential requirement of alignment analysis. These descriptions help to clarify what the different levels represent in mathematics:

Math Level 1 (Recall) includes the recall of information such as a fact, definition, term, or a simple procedure, as well as performing a simple algorithm or applying a formula. That is, in mathematics, a one-step, well-defined, and straight algorithmic procedure should be included at this lowest level. Other key words that signify a Level 1 include “identify,” “recall,” “recognize,” “use,” and “measure.” Verbs such as “describe” and “explain” could be classified at different levels, depending on what is to be described and explained.

Math Level 2 (Skill/Concept) includes the engagement of some mental processing beyond a habitual response. A Level 2 assessment item requires students to make some decisions as to how to approach the problem or activity, whereas Level 1 requires students to demonstrate a rote response, perform a well-known algorithm, follow a set procedure (like a recipe), or perform a clearly defined series of steps. Keywords that generally distinguish a Level 2 item include “classify,” “organize,” “estimate,” “make observations,” “collect and display data,” and “compare data.” These actions imply more than one step. For example, to compare data requires first identifying characteristics of the objects or phenomenon and then grouping or ordering the objects. Some action verbs, such as “explain,” “describe,” or “interpret,” could be classified at different levels depending on the object of the action. For example, interpreting information from a simple graph, requiring reading information from the graph, also is a Level 2. Interpreting information from a complex graph that requires some decisions on what features of the graph need to be considered and how information from the graph can be aggregated is at Level 3. Level 2 activities are not limited to just number skills, but can involve visualization skills and probability skills. Other Level 2 activities include noticing and describing non-trivial patterns, explaining the purpose and use of experimental procedures; carrying out experimental procedures; making observations and collecting data; classifying, organizing, and comparing data; and organizing and displaying data in tables, graphs, and charts.

Math Level 3 (Strategic Thinking) requires reasoning, planning, using evidence, and a higher level of thinking than the previous two levels. In most instances, requiring students to explain their thinking is a Level 3. Activities that require students to make conjectures are also at this level. The cognitive demands at Level 3 are complex and abstract. The complexity does not result from the fact that there are multiple answers, a possibility for both Levels 1 and 2, but because the task requires more demanding reasoning. An activity, however, that has more than one possible answer and requires students to justify the response they give would most likely be a Level 3.

Other Level 3 activities include drawing conclusions from observations; citing evidence and developing a logical argument for concepts; explaining phenomena in terms of concepts; and using concepts to solve problems.

Math Level 4 (Extended Thinking) requires complex reasoning, planning, developing, and thinking most likely over an extended period of time. The extended time period is not a distinguishing factor if the required work is only repetitive and does not require applying significant conceptual understanding and higher-order thinking. For example, if a student has to take the water temperature from a river each day for a month and then construct a graph, this would be classified as a Level 2. However, if the student is to conduct a river study that requires taking into consideration a number of variables, this would be at Level 4. At Level 4, the cognitive demands of the task should be high and the work should be very complex. Students should be required to make several connections—relate ideas within the content area or among content areas—and have to select one approach among many alternatives on how the situation should be solved, in order to be at this highest level. Level 4 activities include developing and proving conjectures; designing and conducting experiments; making connections between a finding and related concepts and phenomena; combining and synthesizing ideas into new concepts; and critiquing experimental designs.

Range-of-Knowledge (ROK) Correspondence

For standards and assessments to be aligned, the breadth of knowledge required on both should be comparable. The range-of-knowledge correspondence criterion is used to judge whether a comparable span of knowledge expected of students by a standard is the same as, or corresponds to, the span of knowledge that students need in order to correctly answer the assessment items/activities. The criterion for correspondence between span of knowledge for a standard and an assessment considers the number of objectives within the standard with one related assessment item/activity. Fifty percent of the objectives for a standard had to have at least one related assessment item in order for the alignment on this criterion to be judged acceptable. This level is based on the assumption that students' knowledge should be tested on content from over half of the domain of knowledge for a standard. This assumes that each objective for a standard should be given equal weight. If 50% or more of the objectives for a standard had a corresponding assessment item, then the range-of-knowledge correspondence criterion was met. If between 40% to 50% of the objectives for a standard had a corresponding assessment item, then the criterion was “weakly” met.

Balance of Representation (BOR)

In addition to comparable depth and breadth of knowledge, aligned standards and assessments require that knowledge be distributed equally in both. The range-of-knowledge correspondence criterion only considers the number of objectives within a standard hit (a standard with a corresponding item); it does not take into consideration how the hits (or

assessment items/activities) are distributed among these objectives. The balance-of-representation criterion is used to indicate the degree to which one objective is given more emphasis on the assessment than another. An index is used to judge the distribution of assessment items. This index only considers the objectives for a standard that have at least one hit—i.e., one related assessment item per objective. The index is computed by considering the difference in the proportion of objectives and the proportion of hits assigned to the objective. An index value of 1 signifies perfect balance and is obtained if the hits (corresponding items) related to a standard are equally distributed among the objectives for the given standard. Index values that approach 0 signify that a large proportion of the hits are on only one or two of all of the objectives. Index values of .7 or higher indicate that items/activities are distributed among all of the objectives at least to some degree (e.g., every objective has at least two items) and is used as the acceptable level on this criterion. Index values between .6 and .7 indicate the balance-of-representation criterion has only been “weakly” met.

Source of Challenge

The source-of-challenge criterion is only used to identify items on which the major cognitive demand is inadvertently placed and is other than the targeted language arts skill, concept, or application. Cultural bias or specialized knowledge could be reasons for an item to have a source-of-challenge problem. Such items may result in some students not answering an assessment item, or answering an assessment item incorrectly, or at a lower level, even though they possess the understanding and skills being assessed. For example, an expository passage on bridge construction that requires specialized knowledge of forces and strength analyses beyond what is described in the text could be considered as a source of challenge.

Findings

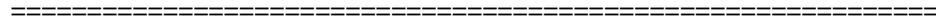
The alignment study utilized standards, goals, objectives provided by the Connecticut Department of Education and the CMT/CAPT Checklist items. Standards are at the most general level, followed by goals and then objectives. To illustrate this relationship, consider these ELA and mathematics examples from grade five.

Standard 2: Exploring and Responding to Literature:
 Goal 2.1: Students recognize how literary devices and convention engage the reader.
 Objective 2.1.b. Read or listen to a text and explain its appeal



Standard 2: Geometry and Measurement:
 Goal 2.1: Geometric relationships can be use to describe polygons and solids.

Objective 2.1.a. Construct polygons with manipulatives such as geoboards, tangrams and pattern blocks. Estimate and measure lengths, angles, perimeter and area.



Tables 1 and 2 present the numbers of standards, objectives, goals and assessment items that the six reviewers used in the Alternate Assessment alignment analysis.

Table 1
Numbers of Standards, Goals, Objectives and Assessment Items Used in the Alternate Assessment English Language Arts Alignment Study

Grade	# of standards	# of goals	# of objectives	# of assessment items
3	4	13	31	93
4	4	13	31	93
5	4	13	31	93
6	4	13	31	93
7	4	13	31	93
8	4	13	31	93
10	4	13	31	93

Table 2
Numbers of Standards, Goals, Objectives and Assessment Items Used in the Alternate Assessment Mathematics Alignment Study

Grade	# of standards	# of goals	# of objectives	# of assessment items
3	4	12	21	63
4	4	13	20	60
5	4	13	20	60
6	4	13	20	60
7	4	10	16	48
8	4	9	13	39
10	4	7	13	39

Language Arts

The alignment analysis for grade three indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria were clearly met with respect to each of the four standards.

Table 3
Grade 3: Summary of Attainment of Acceptable Alignment Levels on Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 - Reading and Responding	YES	YES	YES	YES
2 - Exploring and Responding to Literature	YES	YES	YES	YES
3 - Communicating with Others	YES	YES	YES	YES
4 - English Language Conventions/Writing	YES	YES	YES	YES

The alignment analysis for grade four indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria were met with respect to virtually all of the four standards.

Table 4
Grade 4: Summary of Attainment of Acceptable Alignment Levels on Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 - Reading and Responding	YES	YES	YES	YES
2 - Exploring and Responding to Literature	YES	NO	YES	YES
3 - Communicating with Others	YES	YES	YES	YES
4 - English Language Conventions/Writing	YES	YES	YES	YES

The alignment analysis for grade five indicated that categorical concurrence, range of knowledge, and the balance of representation criteria were clearly met with respect to each of the four standards. The depth of knowledge factor showed mixed results.

Table 5
Grade 5: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 - Reading and Responding	YES	YES	YES	YES
2 - Exploring and Responding to Literature	YES	NO	YES	YES
3 - Communicating with Others	YES	YES	YES	YES
4 - English Language Conventions/Writing	YES	WEAK	YES	YES

The alignment analysis for grade six indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria was met with respect to each of the four standards.

Table 6
Grade 6: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 - Reading and Responding	YES	YES	YES	YES
2 - Exploring and Responding to Literature	YES	NO	YES	YES
3 - Communicating with Others	YES	YES	YES	YES
4 - English Language Conventions/Writing	YES	WEAK	YES	YES

The alignment analysis for grade seven indicated that, except for one instance (standard 2 – DOK) the alignment criteria were met for each of the four alignment criteria across the standards.

Table 7
Grade 7: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 - Reading and Responding:	YES	YES	YES	YES
2 - Exploring and Responding to Literature:	YES	NO	YES	YES
3 - Communicating with Others:	YES	YES	YES	YES
4 - Applying English Language Conventions:	YES	YES	YES	YES

The alignment analysis for grade eight indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria were generally met with respect to each of the four standards.

Table 8
Grade 8: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 - Reading and Responding	YES	YES	YES	YES
2 – Exploring and Responding to Literature	YES	NO	YES	YES
3 - Communicating with Others	YES	YES	YES	YES
4 - English Language Conventions/Writing	YES	YES	YES	YES

The alignment analysis for grade ten indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria were generally met with respect to each of the four standards.

Table 9
Grade 10: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 - Reading and Responding	YES	YES	YES	YES
2 – Exploring and Responding to Literature	YES	NO	YES	YES
3 - Communicating with Others	YES	YES	YES	YES
4 - English Language Conventions/Writing	YES	YES	YES	YES

Mathematics

The alignment analysis for grade three indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria were clearly met with respect to each of the four standards.

Table 10
Grade 3: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 – Algebraic Reasoning	YES	YES	YES	YES
2 - Geometry and Measurement	YES	YES	YES	YES
3 - Numerical and Proportional Reasoning	YES	YES	YES	YES
4 - Probability and Statistics	YES	YES	YES	YES

The alignment analysis for grade four indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria were generally met with respect to each of the four standards.

Table 11
Grade 4: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 – Algebraic Reasoning	YES	YES	YES	YES
2 - Geometry and Measurement	YES	NO	YES	YES
3 - Numerical and Proportional Reasoning	YES	YES	YES	YES
4 - Probability and Statistics	YES	YES	YES	YES

The alignment analysis for grade five indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria were generally met with respect to each of the four standards.

Table 12
Grade 5: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 – Algebraic Reasoning	YES	YES	YES	YES
2 - Geometry and Measurement	YES	YES	YES	YES
3 - Numerical and Proportional Reasoning	YES	WEAK	YES	YES
4 - Probability and Statistics	NO	YES	YES	YES

The alignment analysis for grade six indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria were clearly met with respect to each of the four standards.

Table 12
Grade 6: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 – Algebraic Reasoning	YES	YES	YES	YES
2 - Geometry and Measurement	YES	YES	YES	YES
3 - Numerical and Proportional Reasoning	YES	YES	YES	YES
4 - Probability and Statistics	YES	YES	YES	YES

The alignment analysis for grade seven indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria were clearly met with respect to each of the four standards.

Table 13
Grade 7: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 – Algebraic Reasoning	YES	YES	YES	YES
2 - Geometry and Measurement	YES	YES	YES	YES
3 - Numerical and Proportional Reasoning	YES	YES	YES	YES
4 - Probability and Statistics	YES	YES	YES	YES

The alignment analysis for grade eight indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria were clearly met with respect to each of the four standards.

Table 14
Grade 8: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 – Algebraic Reasoning	YES	YES	YES	YES
2 - Geometry and Measurement	YES	YES	YES	YES
3 - Numerical and Proportional Reasoning	YES	YES	YES	YES
4 - Probability and Statistics	YES	YES	YES	YES

The alignment analysis for grade ten indicated that categorical concurrence, depth of knowledge, range of knowledge, and the balance of representation criteria were generally met with respect to each of the four standards.

Table 15
Grade 10: Summary of Attainment of Acceptable Alignment Levels on
Four Content Focus Criteria

Standards	Alignment Criteria			
	Categorical Concurrence	Depth-of-Knowledge Consistency	Range of Knowledge	Balance of Representation
1 – Algebraic Reasoning	NO	YES	YES	YES
2 - Geometry and Measurement	YES	YES	YES	YES
3 - Numerical and Proportional Reasoning	YES	YES	YES	YES
4 - Probability and Statistics	YES	YES	YES	YES

Summary and Recommendations

An alignment analysis of Connecticut's standards and assessment skills checklist for alternate assessment for grades 3 – 8, and 10 was conducted in January 2006. The alignment study was conducted by six reviewers from within and outside the state. The reviewers utilized standards, goals and objectives provided by the Connecticut Department of Education and CMT/CAPT Skills Checklist instrument. Both mathematics and English language arts were included as part of the alternate assessment alignment study. The three day institute used the well regarded alignment method developed by Dr. Norman Webb and his research team at the University of Wisconsin, Center for Educational Research.

The study found that:

- With few exceptions, the Skills Checklist is capturing the alignment with the content standards very well. The four major criteria – Categorical Concurrence (degree to which standards and assessments address the same content categories); Depth of Knowledge Consistency (degree to which the complexity of knowledge is required by both the standards and the assessments); Range of Knowledge Correspondence (degree to which a comparable span of knowledge expected of students by a standard corresponds to comparable span of knowledge called for by the assessment items); and Balance of Representation (degree to which knowledge is distributed equally in both standards and assessments) – were all rated strongly.
- The alignment across the four criteria was evident in both mathematics and language arts.

We recommend that the Connecticut Department of Education:

- Review the specific detailed information provided in the technical volumes for each of the grades to determine which changes to the current test instruments might be needed. The sources of challenge and comments by the reviewers section may provide additional useful information to assessment and curriculum staff. This technical information may also be useful in informing test development committees and the staff that will be assembling future versions of the checklist instruments.

References

- Valencia, S. W., & Wixson, K. K. (2000). Policy-oriented research on literary standards and assessment. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research: Vol. III*. Mahwah, NJ: Lawrence Erlbaum.
- Webb, N. L. (1997). Criteria for alignment of expectations and assessments in mathematics and science education. Council of Chief State School Officers and National Institute for Science Education Research Monograph No. 6. Madison: University of Wisconsin, Wisconsin Center for Education Research
- Webb, N.L. (2005). Web Alignment Tool (WAT) Training Manual. Council of Chief State School Officers and the University of Wisconsin, Center for Educational Research.

APPENDIX K

Standard Setting Results

Raw Cut Scores by Grade by Content Standard

Score Distribution for School Year 2005-2006 Testing

Figure 1

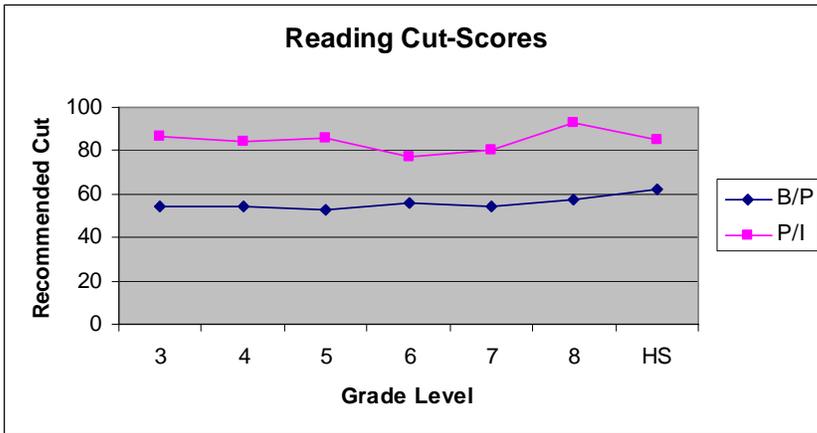


Figure 2

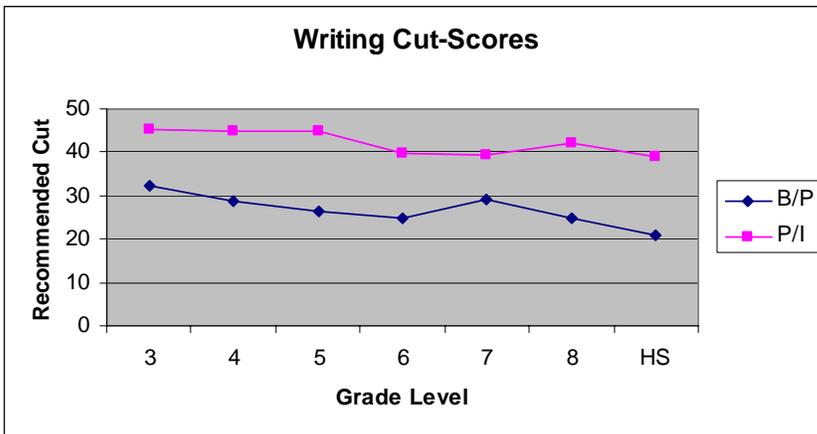


Table 3
Standards by Performance by Grade
Recommended Cut Scores for CMT/CAPT Skills Checklist

Reading

	Proficient	Independent	Maximum Points
Grade	Raw	Raw	
3	53	87	126
4	54	84	126
5	55	85	126
6	54	80	126
7	56	80	126
8	57	87	126
10	62	85	126

Communication

	Proficient	Independent	Maximum Points
Grade	Raw	Raw	
3	30	45	60
4	31	45	60
5	29	45	60
6	25	40	60
7	27	40	60
8	25	42	60
10	21	39	60

Mathematics

	Proficient	Independent	Maximum Points
Grade	Raw	Raw	
3	59	88	126
4	55	87	120
5	54	89.5	120
6	55	80.5	120
7	43.5	68	96
8	35	54	78
10	42	61.5	78

Access Skills (No Changes)

	Practice	Application	Maximum Points
Grade	Raw	Raw	
3	37	72.5	100
4	38.5	71	100
5	52	71.5	100
6	37	64.5	100
7	40.5	71	100
8	41.5	70	100
10	49	77	100

Table 4
 Final Standards by Performance Level
 CMT/CAPT Skills Checklist
 CSDE Test Interpretive Guide

Content Area	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 10
Reading							
Independent	87 or above	84 or above	85 or above	80 or above	80 or above	87 or above	85 or above
Proficient	53-86	54-83	55-84	54-79	56-79	57-86	62-84
Basic	52 or below	53 or below	54 or below	53 or below	55 or below	56 or below	61 or below

Content Area	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 10
Communication							
Independent	45 or above	45 or above	45 or above	40 or above	40 or above	42 or above	39 or above
Proficient	30-44	31-44	29-44	25-39	27-39	25-41	21-38
Basic	29 or below	30 or below	28 or below	24 or below	26 or below	24 or below	20 or below

Content Area	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 10
Mathematics							
Independent	88 or above	87 or above	89.5 or above	80.5 or above	68 or above	54 or above	61.5 or above
Proficient	59-87	55-86	54-89	55-80	43.5-67	35-53	42-61
Basic	58 or below	54 or below	53 or below	54 or below	43 or below	34 or below	41 or below

Content Area	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 10
Access Skills							
Application	72.5 or above	71 or above	71.5 or above	64.5 or above	71 or above	70 or above	77 or above
Practice	37-72	38.5-70	52-71	37-64	40.5-70	41.5-69	49-76
Awareness	36 or below	38 or below	51 or below	36 or below	40 or below	41 or below	48 or below

Table 5
Connecticut Alternate Assessment: 2006
Impact Data (% of Students by Performance Level)
2005-2006 School Year Testing

Connecticut Alternate Assessment 2006 Impact				
	%	%	%	
Access	Awareness	Practice	Application	N
3	15.68	34.62	49.7	338
4	9.97	25.93	64.1	351
5	17.1	17.1	65.8	345
6	11.84	20.25	67.91	321
7	14.58	16.07	69.35	336
8	10.74	14.98	74.38	363

	%	%	%	
Reading	Basic	Proficient	Independent	N
3	90.83	7.4	1.78	338
4	86.89	10.54	2.56	351
5	81.74	14.78	3.48	345
6	89.72	8.1	2.18	321
7	84.52	12.5	2.98	336
8	87.05	10.74	2.2	363

	%	%	%	
Writing	Basic	Proficient	Independent	N
3	89.94	7.99	2.07	338
4	72.08	24.5	3.42	351
5	70.43	24.06	5.51	345
6	80.06	15.58	4.36	321
7	85.12	11.31	3.57	336
8	79.06	17.08	3.86	363

	%	%	%	
Math	Basic	Proficient	Independent	N
3	73.08	20.12	6.8	338
4	76.35	19.66	3.99	351
5	74.49	20.87	4.64	345
6	87.85	10.28	1.87	321
7	86.61	11.31	2.08	336
8	89.26	6.89	3.86	363

APPENDIX L

**Connecticut Mastery Test Skills Checklist Profile
Sample Score Report**

APPENDIX M

Learner Characteristics Inventory

APPENDIX N

Connecticut Mastery Test Fourth Generation

Content Validation Study: A survey of Item/Strand Match

APPENDIX O

Relating Items from the CMT/CAPT Skills Checklist
To the Connecticut Curriculum Framework

I. Relating CMT/CAPT Skills Checklist Items to the Language Arts Framework

Relating specific Expected Performance statements on the CMT/CAPT Skills Checklist to the Connecticut Language Arts Curriculum Framework is facilitated by the use of an alpha-numeric “link” provided at the end of each Expected Performance statement. These links direct the reader to a specific Expected Performance statement on the Language Arts scope and sequence table entitled, GRADE 3 TO 10 LANGUAGE ARTS PERFORMANCE STANDARDS AND EXPECTED PERFORMANCES BY GRADE BY CONTENT STANDARD INCLUDED IN THE CMT/CAPT SKILLS CHECKLIST: SECOND GENERATION in Appendix H of this document. This scope and sequence table presents a summary of the Connecticut Language Arts Curriculum Framework in tabular form.

To illustrate: the link provided on the first test item on the Grade 10 Language Arts Section of the Checklist is “RR 9/10-1” (this Test Item is found on Page 17 of 32 on the Grade 10 Checklist). This means that the Expected Performance statement on which this item is based relates to Reading and Responding (“RR”), is found in the 10th grade Language Arts Framework (the “10”) and is the first Expected Performance statement in this area (the “1”). This Expected Performance statement is the first item in the Column labeled “Grade 9-12” on the Language Arts scope and sequence table in Appendix P.

Relating CMT/CAPT Skills Checklist assessment items to the Connecticut Curriculum Framework in the area of Language Arts is somewhat complicated by the fact that the State Board of Education approved a revised Language Arts Framework in February, 2006, after the second generation of the CMT/CAPT Skills Checklist was completed. The second generation of the Checklist was developed utilizing the draft 2005 Language Arts Framework. To connect Checklist items to the approved 2006 Framework, a second link has been provided at the end of each Expected Performance statement on the Language Arts scope and sequence table in Appendix P which was discussed in the previous paragraph. To illustrate, the Expected Performance item that is identified as item RR 9/10-1 (as used in the example above) on the Language Arts scope and sequence table reads as follows:

9/10-1 Activate prior knowledge, establish purposes for reading and adjust the purposes while reading **(1.1 a.)**.

In this link, **(1.1 a.)**, the initial “1” indicates this item relates to Content Standard 1: Reading and Responding, on the approved Language Arts Framework. The second “1” refers to the first Performance Standard on this Framework (labeled component statement) which is “Students use appropriate strategies before, during and after reading in order to construct meaning.” The “a.” refers to the Expected Performance statement on the framework which is “activate prior knowledge, establish purposes for reading and adjust the purposes while reading.” By following this procedure each Expected Performance statement in the Language Arts portion of the Checklist can be similarly connected to the approved 2006 Language Arts Framework.

II. Relating CMT/CAPT Skills Checklist Items to the Mathematics Framework

Relating specific Expected Performance statements on the CMT/CAPT Skills Checklist to the Connecticut Mathematics Curriculum Framework is also possible using the same type of alphanumeric “links” provided at the end of each Expected Performance statement. Again, these links direct the reader to a specific Expected Performance statement on the Mathematics scope and sequence table entitled GRADE 3 to 10 MATHEMATICS PERFORMANCE STANDARDS AND EXPECTED PERFORMANCES BY GRADE BY CONTENT STANDARD INCLUDED ON THE CMT/CAPT SKILLS CHECKLIST: SECOND GENERATION in Appendix Q.

To illustrate, the link provided for the first test item on the Grade 10 Mathematics Checklist is “AR 10-1” (this test item is found on Page 27 of 32 in the Grade 10 CMT/CAPT Skills Checklist). This means that the Expected Performance statement which serves as the basis for this test item relates to Algebraic Reasoning (“AR”); is found in the 10th grade Mathematics Framework (the “10”) and is the first Expected Performance statement in this area (the “-1”). If one then refers to Appendix Q one will find that this Expected Performance statement is the first item in the far right hand Column of the first page of the document. The Column is labeled “Grade 9/10.”

Relating CMT/CAPT Skills Checklist assessment items to the Connecticut Curriculum Framework in the area of Mathematics is again somewhat complicated by the fact that the State

Board of Education approved a revised Mathematics Framework in September, 2005, after the second generation of the CMT/CAPT Skills Checklist had been completed. To connect Checklist items to the approved 2005 Mathematics Curriculum Framework an additional link is provided following each Expected Performance statement on the mathematics scope and sequence table discussed in the previous paragraph. To illustrate, the Expected Performance item that is identified as item 9/10-1 on the mathematics scope and sequence table in Appendix Q reads as follows:

9/10-1 Identify, describe, create and generalize numerical and spatial patterns with tables, graphs, words, and symbolic rules.

9-12:1.1a (1)

The link at the end of this item, **9-12:1.1a (1)**, directs the reader to the equivalent item in the approved 2005 Mathematics Curriculum Framework. In the approved Framework this Expected Performance statement appears as follows:

9-12 Core		
ALGEBRAIC REASONING: PATTERNS AND FUNCTIONS		
Patterns and functional relationships can be represented and analyzed using a variety of strategies, tools and technology.		
How do patterns and functions help us describe data and physical phenomena and solve a variety of problems?		
Students should...	Performance Standards	Expected Performances
1.1 Understand and describe patterns and functional relationships.	a. Describe relationships and make generalizations about patterns and functions.	(1) Identify, describe, create and generalize numeric, geometric, and statistical patterns with tables, graphs, words, and symbolic rules. (2) Etc.

Note: in some instances an Expected Performance from the draft 2004 Framework was split into two or more separate Expected Performances in the approved 2005 Mathematics Curriculum Framework. For these items a link is provided for each location in the approved 2005 Framework.

Each Expected Performance statement in the Mathematics section of the Checklist can be similarly linked to the approved 2005 Mathematics Framework by using the links following each item on the scope and sequence table in Appendix Q.

APPENDIX P

Scope and Sequence Tables
Language Arts Performance Standards Utilized in the
Development of the CMT/CAPT Skills Checklist Second Edition

APPENDIX Q

Scope and Sequence Tables
Mathematics Performance Standards Utilized in the
Development of the CMT/CAPT Skills Checklist Second Edition