National Assessment of Educational Progress (NAEP) 2019 and 2020 Long-Term Trend (LTT) 2020 Update 3

Supporting Statement
Part A

OMB# 1850-0928 v.17
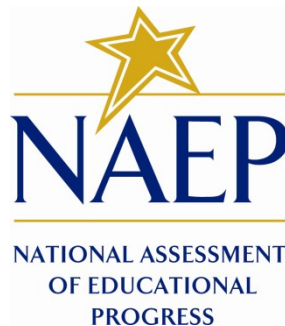
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Appendices

A.1.   Circumstances Making the Collection of Information Necessary

A.1.a. Purpose of Submission

The National Assessment of Educational Progress (NAEP) is a federally authorized survey of student achievement at grades 4, 8, and 12 in various subject areas, such as mathematics, reading, writing, science, U.S. history, civics, geography, economics, technology and engineering literacy (TEL), and the arts.

NAEP is conducted by the National Center for Education Statistics (NCES) in the Institute of Education Sciences of the U.S. Department of Education. As such, NCES is responsible for designing and executing the assessment, including designing the assessment procedures and methodology, developing the assessment content, selecting the final assessment content, sampling schools and students, recruiting schools, administering the assessment, scoring student responses, determining the analysis procedures, analyzing the data, and reporting the results.[1]

The National Assessment Governing Board (henceforth referred to as the Governing Board), appointed by the Secretary of Education but independent of the Department, is a bipartisan group whose members include governors, state legislators, local and state school officials, educators, business representatives, and members of the general public. The Governing Board sets policy for NAEP and is responsible for developing the frameworks and test specifications that serve as the blueprint for the assessments.

The NAEP assessments contain diverse items such as "cognitive" assessment items, which measure what students know and can do in an academic subject, and "survey" or "non-cognitive" items, which gather information such as demographic variables, as well as construct-related information, such as courses taken. The survey portion includes a collection of data from students, teachers, and school administrators. Since NAEP assessments are administered uniformly using the same sets of test booklets across the nation, NAEP results serve as a common metric for all states and select urban districts. The assessment stays essentially the same from year to year, with only carefully documented changes. This permits NAEP to provide a clear picture of student academic progress over time.

NAEP consists of two assessment programs: the NAEP long-term trend (LTT) assessment and the main NAEP assessment. The LTT assessments are given at the national level only and are administered to students at ages 9, 13, and 17 in a manner that is very different from that used for the main NAEP assessments. LTT reports mathematics and reading results that present trend data since the 1970s.

The possible universe of student respondents is estimated to be 12 million at grades 4, 8, and 12 for main NAEP, and at ages 9, 13, and 17[2] for Long-Term Trend (LTT), attending the approximately 154,000 public and private elementary and secondary schools in 50 states and the District of Columbia, and including Bureau of Indian Education and Department of Defense Education Activity (DoDEA) Schools. Note that territories, including Puerto Rico, are not included in the national samples.

NAEP provides results on subject-matter achievement, instructional experiences, and school environment for populations of students (e.g., all fourth-graders) and groups within those populations (e.g., female students, Hispanic students). NAEP does not provide scores for individual students or schools. The main NAEP assessments report current achievement levels and trends in student achievement at grades 4, 8, and 12 for the nation and, for certain assessments (e.g., reading and mathematics), states and select urban districts. The Trial Urban District Assessment (TUDA) is a special project developed to determine the feasibility of reporting district-level results for large urban districts. Currently, the following 27 districts participate in the TUDA program: Albuquerque, Atlanta, Austin, Baltimore City, Boston, Charlotte, Chicago, Clark County (NV), Cleveland, Dallas, Denver, Detroit, District of Columbia (DCPS), Duval County (FL), Fort Worth, Fresno,

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[1]   The role of NCES, led by the Commissioner for Education Statistics, is defined in 20 U.S.C. §9622 (https://www.law.cornell.edu/uscode/text/20/9622) and OMB Statistical Policy Directives No. 1 and 4 (https://obamawhitehouse.archives.gov/omb/inforeg_statpolicy).

[2] In some instances, students eligible for LTT may be a year younger or a year older depending on their birthday and on when the LTT assessment is administered.

Guilford County (NC), Hillsborough County (FL), Houston, Jefferson County (KY), Los Angeles, Miami-Dade, Milwaukee, New York City, Philadelphia, San Diego, and Shelby County (TN).

The request to conduct NAEP in 2019 and 2020, including operational assessments, pilot tests, and special studies was approved in September 2018, with the latest change requests approved in August 2019 (OMB# 1850-0928 v.10-16).[3] This request (OMB#1850-0928 v.17) updates Part A, Part B, Appendix D3, and Appendix F to remove references to current or future submissions and provides revised screenshots of the Long-Term Trend (LTT) content of the MyNAEP System (Appendix J5) to match previously approved text.

The approved 2020 NAEP pilot and special studies that will be cancelled given changes in the development and piloting schedule are:
- Pilot DBA for 2021 mathematics at grades 4 and 8;
- Pilot DBA for 2022 U.S. history, civics, and geography at grade 8;
- Pilot DBA for 2022 U.S. history, civics, geography, and economics at grade 12;
- Pilot DBA for 2021 writing at grades 4, 8, and 12;
- Pilot DBA for 2022 TEL at grades 8 and 12;
- Cross-subject study; and
- Assessment delivery study.

The library of possible items to be used in the NAEP 2019 and 2020 questionnaires is provided in Appendix F of this submission. The final versions of the 2019 questionnaires are provided in Appendices K1 (student questionnaires), K2 (teacher questionnaires), K3 (school questionnaires), and K-S (Spanish translations of applicable questionnaires), while the LTT 2020 questionnaires are in Appendix K4 (student questionnaires) and K4-S (Spanish translations of applicable LTT questionnaires: mathematics for ages 9 and 13). The items provided in these appendices are a subset of the item library provided in Appendix F. Some items have undergone non-substantive changes since their inclusion in Appendix F and a summary of changes is included before each final questionnaire (as applicable) in Appendices K1-K4. The final communication and recruitment materials to be used in NAEP 2019 are provided in Appendices D1 and D2 along with their Spanish translations as applicable, and final communication and recruitment materials to be used in LTT 2020 are provided in Appendix D3 along with their Spanish translations as applicable. The content of the 2019 MyNAEP system used by school coordinators to provide requested administration information is provided in Appendix J1 and for LTT 2020 in Appendix J5. The Spanish version of the 2019 MyNAEP is provided in Appendix J2, there will not be a need for the Spanish MyNAEP for LTT 2020. HSTS and MSTS MyNAEP websites are provided in Appendices J3 and J4. Some of the assessment, questionnaire, and recruitment materials are translated into Spanish. Specifically, Spanish versions of the student assessments and questionnaires are used for qualified English language learner (ELL) students when a bilingual accommodation is offered and for all students in Puerto Rico. Typically, this is done for all operational grade 4 and 8 assessments or ages 9 and 13 for LTT (note that a TEL bilingual accommodation has not been offered to date and no LTT bilingual accommodation is offered for reading). In years in which a Puerto Rico NAEP assessment is given, such as in 2019, Spanish versions of communication materials for parents, teachers, and school coordinators as well as teacher and school questionnaires are created by translating their English equivalents into Spanish. In addition, every year, Spanish versions of parent communication materials are used nationwide for Spanish-speaking parents.

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[3] In late 2018, Congress requested for NCES to administer LTT, which is legislatively mandated, earlier than its originally planned next administration scheduled for the 2023-24 school year, and passed a bill for FY 2019 (P.L. 115-245, signed on 9/28/2018) that increased NAEP FY19 funding to allow for administration of the LTT NAEP assessment during the 2019-20 school year (https://www.nagb.gov/content/nagb/assets/documents/what-we-do/quarterly-board-meeting-materials/2018-11/04-executive-committee.pdf). In order to be able to comply with the Congressional request to conduct LTT during the 2019-20 school year and to meet the LTT 2019-20 study's timeline while maintaining compliance with the Paperwork Reduction Act (PRA), due to this unanticipated event, in February 2019, the U.S. Department of Education (ED) and NCES requested under 44 U.S.C. 3507(j)(1) ("emergency clearance") to begin participant recruitment and study materials printing for LTT 2020 by May 2019. Thus, at that time, NCES submitted an Information Collection Request (ICR) to OMB utilizing emergency review procedures in accordance with the PRA (P.L. 104-13, 44 U.S.C. Chapter 35) and 5 C.F.R. §1320.13 to announce revisions to the NAEP 2020 study plans and to provide for review the LTT 2020 plans, procedures, and materials, which were approved by OMB in April 2019 (OMB# 1850-0928 v.14). In February 2019, NCES also initiated a regular clearance process for that request (including a 60-day followed by a 30-day public comment periods), which was approved by OMB in June 2019 (OMB# 1850-0928 v.15). Updates to the LTT 2020 communication materials and data collection instruments were approved in August 2019 (OMB# 1850-0928 v.16).

A.1.b. Legislative Authorization

In the current legislation that reauthorized NAEP, the National Assessment of Educational Progress Authorization Act (20 U.S.C. §9622), Congress mandates the collection of national education survey data through a national assessment program:

1. ESTABLISHMENT- The Commissioner for Education Statistics shall, with the advice of the Assessment Board established under section 302, carry out, through grants, contracts, or cooperative agreements with one or more qualified organizations, or consortia thereof, a National Assessment of Educational Progress, which collectively refers to a national assessment, State assessments, and a long-term trend assessment in reading and mathematics.

2. PURPOSE; STATE ASSESSMENTS-
   (1) PURPOSE- The purpose of this section is to provide, in a timely manner, a fair and accurate measurement of student academic achievement and reporting of trends in such achievement in reading, mathematics, and other subject matter as specified in this section.

The National Assessment of Educational Progress Authorization Act also requires the assessment to collect data on specified student groups and characteristics, including information organized by race/ethnicity, gender, socio-economic status, disability, and English language learners. This allows for the fair and accurate presentation of achievement data and permits the collection of background, non-cognitive, or descriptive information that is related to academic achievement and aids in the fair reporting of results. The intent of the law is to provide representative sample data on student achievement for the nation, the states, and a variety of populations of students, and to monitor progress over time.

The statute and regulation mandating or authorizing the collection of this information can be found at https://www.law.cornell.edu/uscode/text/20/9622.

A.1.c. Overview of NAEP Assessments

This section provides a broad overview of NAEP assessments, including information on the assessment frameworks, the cognitive and survey items, inclusion policies, the transition to digitally based assessments (DBA), and the assessment types.

A.1.c.1. NAEP Frameworks

NAEP assessments follow subject-area frameworks developed by the Governing Board and use the latest advances in assessment methodology. Frameworks capture a range of subject-specific content and thinking skills needed by students in order to deal with the complex issues they encounter inside and outside their classrooms. The NAEP frameworks are determined through a development process that ensures they are appropriate for current educational requirements. Because the assessments must remain flexible to mirror changes in educational objectives and curricula, the frameworks must be forward-looking and responsive, balancing current teaching practices with research findings.

NAEP frameworks can serve as guidelines for planning assessments or revising curricula. They also can provide information on skills appropriate to grades 4, 8, and 12 and can be models for measuring these skills in innovative ways. The subject-area frameworks evolve to match instructional practices. Developing a framework generally involves the following steps:
- widespread participation and reviews by educators and state education officials;
- reviews by steering committees whose members represent policymakers, practitioners, and members of the general public;
- involvement of subject supervisors from education agencies;
- public hearings; and
- reviews by scholars in the field, by NCES staff, and by a policy advisory panel.

The frameworks can be found at https://www.nagb.gov/focus-areas/naep-frameworks.html.

A.1.c.2. Cognitive Item Development

As part of the item development process, NCES calls on many constituents to guide the process and review the assessment. Item development is guided by a multi-year design plan, which is guided by the framework and establishes the design principles, priorities, schedules, and reporting goals for each subject. Based on this plan, the NAEP contractor creates a development plan outlining the item inventory and objectives for new items and then begins the development process by developing more items than are needed. This item pool is then subjected to:

- internal contractor review with content experts, teachers, and experts on political sensitivity and bias;
- playtesting, tryouts, or cognitive interviews with small groups of students for select items (particularly those that have new item types, formats, or challenging content); and
- refinement of items and scoring rubrics under NCES guidance.

Next, a standing committee of content experts, state and local education agency representatives, teachers, and representatives of professional associations reviews the items. The standing committee considers:

- the appropriateness of the items for the particular grade;
- the representative nature of the item set;
- the compatibility of the items with the framework and test specifications; and
- the quality of items and scoring rubrics.

For state-level assessments, this may be followed by a state item review where further feedback is received. Items are then revised and submitted to NCES and the Governing Board Assessment Development Committee for approval prior to pilot testing.

The pilot test is used to finalize the testing instrument. Items may be dropped from consideration or move forward to the operational assessment. The item set is once again subjected to review by the standing committee and NCES following generally the same procedure described above. A final set of test items is then assembled for NCES and the Governing Board's review and approval. After the operational assessment, items are once again examined. In rare cases where item statistics indicate problems, the item may be dropped from the assessment. The remaining items are secured for reuse in future assessments, with a subset of those items publicly released.

A.1.c.3. Survey Items

In addition to assessing subject-area achievement, NAEP collects information that serves to fulfill the reporting requirements of the federal legislation and to provide context for the reporting of student performance. The legislation requires that, whenever feasible, NAEP includes information on special groups (e.g., information reported by race, ethnicity, socioeconomic status, gender, disability, and limited English proficiency).

As part of most NAEP assessments, three types of questionnaires are used to collect information: student, teacher, and school. An overview of the questionnaires is presented below, and additional information about the content of the questionnaires is presented in Part C.

Student Questionnaires

Each NAEP student assessment booklet includes non-cognitive items, also known as the student questionnaire. The questionnaires appear in separately timed blocks of items in the assessment forms. The items collect information on students' demographic characteristics, classroom experiences, and educational support. Students' responses provide data that give context to NAEP results and/or allow researchers to track factors associated with academic achievement. Students complete the questionnaires voluntarily (for confidentiality provisions see Section A.10 for more information). Student names are never reported with their responses or with the other information collected by NAEP.

Each student questionnaire includes three types of items:

- General student information: Student responses to these items are used to collect information about factors such as race or ethnicity and parents' education level. Answers on the questionnaires also provide information about factors associated with academic performance, including homework habits, the language spoken in the home, and the number of books in the home.
- Other contextual/policy information: These items focus on students' educational settings and experiences and collect information about students' attendance (i.e., days absent), family discourse (i.e., talking about school at home), reading load (i.e., pages read per day), and exposure to English in the home. There are also items that ask about students' effort on the assessment and the difficulty of the assessment. Answers on the questionnaires provide information on how aspects of education and educational resources are distributed among different groups.
- Subject-specific information: In most NAEP administrations, these items cover three categories of information: (1) time spent studying the subject; (2) instructional experiences in the subject; and (3) student factors (e.g., effort, confidence) related to the subject and the assessment.

Teacher Questionnaires

To provide supplemental information about the instructional experiences reported by students, teachers are asked to complete a questionnaire about their instructional practices, classroom organization, teaching background and training, and the subject in which students are being assessed. Teacher responses are then matched to student data. While completion of the questionnaire is voluntary, NAEP encourages teachers' participation since their responses improve the accuracy and completeness of the NAEP assessment.

Teacher questionnaires are typically only given to teachers at grades 4 and 8; NAEP typically does not collect teacher information for grade 12. By grade 12, there is such variation in student course-taking experiences that students cannot be matched to individual teachers for each tested subject. For example, a student may not be taking a mathematics class in grade 12, so he or she cannot be matched to a teacher. Conversely, a student could be taking two mathematics classes at grade 12 and have multiple teachers related to mathematics. Only an economics teacher questionnaire has been developed and administered at grade 12. However, these data were not released (with either the 2006 or the 2012 results) due to a student-teacher match rate below statistical standards.[4]

Teacher questionnaires are organized into different parts. The first part of the teacher questionnaire covers background and general training and includes items concerning years of teaching experience, certifications, degrees, major and minor fields of study, coursework in education, coursework in specific subject areas, the amount of in-service training, the extent of control over instructional issues, and the availability of resources for the classroom. Subsequent parts of the teacher questionnaire tend to cover training in the subject area, classroom instructional information, and teacher exposure to issues related to the subject and the teaching of the subject. They also ask about pre- and in-service training, the ability level of the students in the class, the length of homework assignments, the use of particular resources, and how students are assigned to particular classes.

School Questionnaires

The school questionnaire provides supplemental information about school factors that may influence students' achievement. It is given to the principal or another official of each school that participates in the NAEP assessment. While schools' completion of the questionnaire is voluntary, NAEP encourages schools' participation since it makes the NAEP assessment more accurate and complete.

The school questionnaire is organized into different parts. The first part tends to cover characteristics of the school, including the length of the school day and year, school enrollment, absenteeism, dropout rates, and the size and composition of the teaching staff. Subsequent parts of the school questionnaire tend to cover tracking policies, curricula, testing practices, special priorities, and schoolwide programs and problems. The

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[4] The grade 12 economics teacher match rate was 56 percent in 2012. For comparison, the 2015 teacher match rates for grades 4 and 8 were approximately 94 percent and 86 percent, respectively.

questionnaire also collects information about the availability of resources, policies for parental involvement, special services, and community services.

The supplemental charter school questionnaire designed to collect information on charter school policies and characteristics is provided to administrators of charter schools who are sampled to participate in NAEP. The supplement covers organization and school governance, parental involvement, and curriculum and offerings.

<u>Development of Survey Items</u>

The Background Information Framework and the Governing Board's Policy on the Collection and Reporting of Background Data (located at https://www.nagb.gov/content/nagb/assets/documents/policies/collection-report-backg-data.pdf), guide the collection and reporting of non-cognitive assessment information. In addition, subject-area frameworks provide guidance on subject-specific, non-cognitive assessment questions to be included in the questionnaires. The development process is very similar to the cognitive items, including review of the existing item pool; development of more items than are intended for use; review by experts (including the standing committee); and cognitive interviews with students, teachers, and schools. When developing the questionnaires, NAEP uses a pretesting process so that the final questions are minimally intrusive or sensitive, are grounded in educational research, and the answers can provide information relevant to the subject being assessed.

In the web-based NAEP Data Explorer,[5] (located at https://www.nationsreportcard.gov/ndecore/landing) the results of the questionnaires are sorted into eight broad categories: Major Reporting Groups, Student Factors, Factors Beyond School, Instructional Content and Practice, Teacher Factors, School Factors, Community Factors, and Government Factors.

To minimize burden on the respondents and maximize the constructs addressed via the questionnaires, NAEP may spiral items across respondents and/or rotate some non-required items across assessment administrations. The "library" of items for the NAEP 2019 and 2020 questionnaires, for each subject and respondent, are included in Appendix F. Not all of the items presented will be given to an individual respondent or in a specific administration. In addition, some of the items included in the appendix are being pilot tested in 2018. The data from the pilot will be used to determine the viability of the new items. The final versions of the 2019 questionnaires, including a spiral map where appropriate, are provided in Appendix K.

A.1.c.4. Inclusion in NAEP

It is important for NAEP to assess as many students selected to participate as possible. Assessing representative samples of students, including students with disabilities (SD) and English language learners (ELL), helps to ensure that NAEP results accurately reflect the educational performance of all students in the target population and can continue to serve as a meaningful measure of U.S. students' academic achievement over time.

The National Assessment Governing Board, which sets policy for NAEP, has been exploring ways to ensure that NAEP continues to appropriately include as many students as possible and to do so in a consistent manner for all jurisdictions assessed and reported on. In March 2010, the Governing Board adopted a policy, *NAEP Testing and Reporting on Students with Disabilities and English Language Learners* (located at https://www.nagb.gov/content/nagb/assets/documents/policies/naep_testandreport_studentswithdisabilities.pdf). This policy was the culmination of work with experts in testing and curriculum and those who work with exceptional children and students learning to speak English. The policy aims to:

- maximize participation of sampled students in NAEP;
- reduce variation in exclusion rates for SD and ELL students across states and districts;
- develop uniform national rules for including students in NAEP; and
- ensure that NAEP is fully representative of SD and ELL students.

The policy defines specific inclusion goals for NAEP samples. At the national, state, and district levels, the goal is to include 95 percent of all students selected for the NAEP samples, and 85 percent of those in the

[5] See Section A.2 for more information about how NAEP results are reported.

NAEP sample who are identified as SD or ELL.

Students are selected to participate in NAEP based on a sampling procedure[6] designed to yield a sample of students that is representative of students in all schools nationwide and in public schools within each state. First, schools are selected, and then students are sampled from within those schools without regard to disability or English language proficiency. Once students are selected, those previously identified as SD or ELL may be offered accommodations or excluded.

Accommodations in the testing environment or administration procedures are provided for SD and ELL students. Some examples of accommodations permitted by NAEP are extra time, testing in small-group or one-on-one sessions, reading aloud to a student, and scribing a student's responses. Some examples of testing accommodations not allowed are giving the reading assessment in a language other than English or reading the passages in the reading assessment aloud to the student.

States and jurisdictions vary in their proportions of special-needs students and in their policies on inclusion and the use of accommodations. Despite the increasing identification of SD and ELL students in some states, in particular of ELL students at grade 4, NAEP inclusion rates have generally remained steady or increased since 2003. This reflects efforts on the part of states and jurisdictions to include all students who can meaningfully participate in the NAEP assessments. The NAEP inclusion policy is an effort to ensure that this trend continues.

A.1.c.5. Transition to Digitally Based Assessments (DBA)

Virtually all of our nation's schools are equipped with computers, and an increasing number of schools are making digital tools an integral component of the learning environment, reflecting that the knowledge and skills needed for future post-secondary success involve the use of new technologies. NAEP is evolving to address the changing educational landscape through its transition to DBA.

NAEP DBA use current technology, and as technology evolves, so will the nature of delivery of the assessments. NAEP currently administers the digital assessments on tablets, which NAEP field staff bring into the schools.[7] Other administration models may be considered in the future, including the use of school equipment or a combination of approaches.

DBA allow NAEP to:
- more accurately reflect what is happening in today's classrooms;
- improve measurement of knowledge and skills; and
- collect new types of data that provide depth in our understanding of what students know and can do, including how they engage with new technologies to approach problem solving.

Approach to the DBA Transition

Given NAEP's decades of valuable performance information, maintaining trend lines into the future is a high priority. As such, NAEP is using a multistep process to move from paper to digital technology in careful stages that are designed to protect trend reporting. The process involves two stages of piloting before implementing an operational NAEP DBA administration:

- Stage 1 is to adapt the paper-based items for tablet delivery. Comparing results from paper- and digitally-based versions of the same assessment content, administered in the same year allows NAEP to establish a link between administration modes and help its audiences interpret performance trends across the transition from paper to digital delivery. Inclusion of the paper-based component is designed to support a bridge study that both measures and potentially adjusts the metric in which results are reported for differences due to the change in mode. Details of the bridge study are presented in Section A.1.d.

- Stage 2 is to develop new assessment items and innovative item types and tasks that make use of digital technologies. This new DBA content is gradually introduced into the assessment after first studying the

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[6] See Section B.1.a for more information on the NAEP sampling procedures.

[7] See Section B.2 regarding procedures for data collection.

effects of including these new items and item types. In the Stage 2 pilots, new items and item types are piloted alongside previously administered items so that the performance of the new items relative to the existing assessment content—and the existing trend line—can be evaluated.

Both stages of piloting are important for ensuring that NAEP's trend lines can be maintained. For each NAEP subject and grade, the first operational DBA will be composed of the items from the Stage 1 pilots and the relatively modest amount of new content from the Stage 2 pilots. Over time, more digital content and new item types and tasks will be developed and gradually incorporated into the assessments. Proceeding in this manner helps to ensure that NAEP can continue to meaningfully and reliably report on changes in student performance over time.

<u>Leveraging New Technologies</u>

NAEP DBA will use new testing methods and item types that reflect the growing use of technology in education. Examples of such new item types include:

- Multimedia elements, such as videos and audio clips: The NAEP computer-based writing assessment, administered in 2011 at grades 8 and 12, made use of multimedia. These elements will be incorporated into other NAEP DBA as well. The 2011 writing tasks were presented to students on computers in a variety of ways, including text, audio, photographs, video, and animation. Examples of these tasks are available at http://www.nationsreportcard.gov/writing_2011/sample_quest.aspx.

- Interactive items and tools: Some questions may allow the use of embedded technological features to form a response. For example, students may use "drag and drop" functionality to place labels on a graphic or may tap an area or zone on the screen to make a selection. Other questions may involve the use of digital tools. In the mathematics DBA, an online calculator is available for students to use when responding to some items. An equation editor is also provided for the entry of mathematical expressions and equations, and we have incorporated some digital tools, such as rulers, data graph builders, and function graphers, and continue to explore more tools that can be used to gauge students' mathematical skills. Students are shown how to use many of these interactive features and tools in the brief tutorials that are included at the beginning of each NAEP DBA. The 2018 tutorial is available at https://enaep-public.naepims.org/2018/Tutorial_Intro_Webpage/index.html.

- Immersive scenario-based tasks: Scenario-based tasks use multimedia features and tools to engage students in rich, authentic problem-solving contexts. NAEP's first scenario-based tasks were administered in 2009, when students at grades 4, 8, and 12 were assessed with interactive computer tasks in science. The science tasks asked students to solve scientific problems and perform experiments, often by simulation. They provide students more opportunities than a paper-based assessment (PBA) to demonstrate skills involved in doing science without many of the logistical constraints associated with a natural or laboratory setting. The science tasks administered in 2009 can be explored at http://www.nationsreportcard.gov/science_2009/ict_summary.aspx. NAEP also administered scenario-based tasks in the 2014 technology and engineering literacy (TEL) assessment, where students were challenged to work through computer simulations of real-world situations they might encounter in their everyday lives. A sample TEL task can be viewed at http://nces.ed.gov/nationsreportcard/tel/wells_item.aspx. NAEP is exploring the use of scenario-based tasks to measure knowledge and skills in other subject areas such as mathematics and reading.

In addition to new item types, the transition to DBA makes it possible for NAEP to employ an adaptive testing design, in which assessment content is targeted to a student's ability based on performance during the test administration. Thus, students see items that are tailored to their ability levels, and they may be more likely to be able to engage in the assessment and demonstrate what they know and can do. The goal of implementing adaptive testing is to achieve better measurement of student knowledge and skills across the wide range of student performance levels on which NAEP reports. NAEP is considering using adaptive testing initially in the mathematics DBA and possibly in other NAEP assessments in the future.

The type of adaptive testing being used for NAEP is a multi-stage test (MST) design that uses two stages.

Students take two sections of cognitive items, just as in past NAEP administrations. Based on their performance on the first section of items, students receive a second section of items that is targeted to their ability level. For example, students who do not perform well on the first section of items receive a second section composed of somewhat easier items. The implementation of this two-stage MST design for NAEP mathematics grades 4 and 8 has been informed by previous research on the benefits, applicability, and feasibility of adaptive testing for NAEP. In particular, in 2011 NAEP conducted the mathematics computer-based study, which evaluated the use of a two-stage MST design for the grade 8 mathematics assessment.[8] In addition, the 2015 Stage 1 pilots in mathematics and science also incorporated an MST design. Finally, an MST mathematics study was conducted in 2017 (approved in August 2016, OMB# 1850-0928 v.1), which informed the operational MST design for the 2019 and future mathematics assessments. Prior to adopting an MST design in other subject areas/grades, additional testing will be conducted for each subject area/grade.

The DBA technology allows NAEP to capture information about what students do while attempting to answer questions. While PBA only yields the final responses in the test booklet, DBA capture actions students perform while interacting with the assessment tasks, as well as the time at which students take these actions. These student interactions with the assessment interface are generally not used to assess students' knowledge and skills, but rather this information might be used to provide context for student performance. For example, more proficient students may use digital tools such as the calculator in mathematics or the spell-checker in writing assessments, compared to less proficient students. As such, NAEP will potentially uncover more information about which actions students use when they successfully (or unsuccessfully) answer specific questions on the assessment. Unless specifically required by the scoring rubrics, process data are not scored; they are primarily used for improving assessment design and for providing contexts for interpreting reported scores.

NAEP will capture the following actions in the DBA, although not all actions will be captured for all assessments:
- Student navigation (e.g., clicking back/next; clicking on the progress navigator; clicking to leave a section);
- Student use of tools (e.g., zooming; using text to speech; turning on scratchwork mode; using the highlighter tool; opening the calculator; using the equation editor; clicking the change language button);
- Student responses (e.g., clicking a choice; eliminating a choice; clearing an answer; keystroke log of student typed text);
- Writing interface (e.g., expanding the response field; collapsing the prompt; using keyboard commands such as CTRL+C to copy text; clicking buttons on the toolbar such as using the bold or undo button);
- Other student events (e.g., vertical and horizontal scrolling; media interaction such as playing an audio stimulus);
- Tutorial events (records student interactions with the tutorial such as correctly following the instructions of the tutorial; incorrectly following the instructions of the tutorial; or not interacting with the tutorial when prompted); and
- Scratchwork canvas (the system saves an image of the final scratchwork canvas for each item where the scratchwork tool is available).

Development of Digitally Based Assessments (DBA)

NAEP's item and system development processes include several types of activities that help to ensure that our DBA measure the subject-area knowledge and skills outlined in the NAEP frameworks and not students' ability to use the tablet or the particular software and digital tools included in the DBA.

During item development, new digitally-based item types and tasks are studied and pretested with diverse groups of students. The purpose of these pretesting activities is to determine whether construct-irrelevant features, such as confusing wording, unfamiliar interactivity or contexts, or other factors, prevent students

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[8]   The study design and results are summarized in Oranje, A., Mazzeo, J., Xu, X., & Kulick, E. (2014). A multistage testing approach to group-score assessments. In D. Yan, A. A. von Davier, & C. Lewis (Eds.), *Computerized multistage testing: Theory and applications* (pp. 371-389). Boca Raton, FL: CRC Press.

from demonstrating the targeted knowledge, skills, and abilities. Such activities help identify usability, design, and validity issues so that items and tasks may be further revised and refined prior to administration.

Development of the assessment delivery system, including the interface that students interact with when taking NAEP DBA, is informed by best practices in user experience design. Decisions about the availability, appearance, and functionality of system features and tools are also made based on the results of usability testing with students.

To help ensure that students know how to use the assessment system and tools, each administration of a NAEP DBA begins with a brief interactive tutorial that teaches students how to use the system features to take the assessment. Students actively engage with the tutorial, as they are asked to use specific tools and features. Help screens are also built into the system, and students can access them at any time while taking the assessment. The 2018 tutorial is available at https://enaep-public.naepims.org/2018/Tutorial_Intro_Webpage/index.html.

Accommodations and Universal Design Features with DBA

New technologies are improving NAEP's ability to offer accommodations to increase participation and provide universal access to students of all learning backgrounds, including students with disabilities and English language learners. In a digital environment, what used to be an accommodation for PBA becomes a seamless part of universal design, available to all students. This means that things like adjusting font size, having test items read aloud in English (text-to-speech), changing the appearance of the testing interface to have a higher and a lower contrast, using a highlighter tool, and eliminating answer choices can be accomplished by all students during the test administration.

In addition to these universal design features, NAEP also continues to offer accommodations to students with Individualized Education Programs (IEPs), Section 504 plans, and English language learning (ELL) plans requiring that they have them. Some accommodations are available in the testing system (such as additional time, a magnification tool, or a Spanish/English version of the test), while others are provided by the test administrator or the school (such as breaks during testing, sign language interpretation of the test, or a bilingual dictionary). Section B.2.b provides more information on the classification of students and the assignment of accommodations.

A.1.c.6. Assessment Types

NAEP uses three types of assessment activities, which may simultaneously be in the field during any given data collection effort. Each is described in more detail below.

Operational Assessments

Operational NAEP administrations, unlike pilot administrations, collect data to publicly report on the educational achievement of students as required by federal law. The NAEP results are reported in The Nation's Report Card (http://nationsreportcard.gov/), which is used by policymakers, state and local educators, principals, teachers, and parents to inform educational policy decisions.

Pilot Assessments

Pilot testing (also known as field testing) of cognitive and non-cognitive items is carried out in all subject areas. Pilot assessments are usually conducted in conjunction with operational assessments and use the same procedures as the operational assessments. The purpose of pilot testing is to obtain information regarding clarity, difficulty levels, timing, and feasibility of items and conditions. In addition to ensuring that items measure what is intended, the data collected from pilot tests serve as the basis for selecting the most effective items and data collection procedures for the subsequent operational assessments. Pilot testing is a cost-effective means for revising and selecting items prior to an operational data collection because the items are administered to a small nationally representative sample of students, and data are gathered about performance that crosses the spectrum of student achievement. Items that do not work well can be dropped or modified before the operational administration.

Prior to pilot testing, many new items are pre-tested with small groups of sample participants (cleared under the NCES pretesting generic clearance agreement; OMB #1850-0803). All non-cognitive items undergo one-on-one cognitive interviews, which are useful for identifying questionnaire and procedural problems before larger-scale pilot testing is undertaken. Select cognitive items also undergo pre-pilot testing, such as item tryouts or cognitive interviews, in order to test out new item types or formats, or challenging content. In addition, usability testing is conducted on new technologies and technology-based platforms and instruments.

<u>Special Studies</u>

Special studies are an opportunity for NAEP to investigate particular aspects of the assessment without impacting the reporting of NAEP results. Previous special studies have focused on linking NAEP to other assessments or linking across NAEP same-subject frameworks, investigating the expansion of the item pool, evaluating specific accommodations, investigating administration modes (such as DBA alternatives), and providing targeted data on specific student populations.

In addition to the overarching goal of NAEP to provide data about student achievement at the national, state, and district levels, NAEP also provides specially targeted data on an as-needed basis. At times, this may only mean that a special analysis of the existing data is necessary. At other times, this may include the addition of a short, add-on questionnaire targeted at specified groups. For example, in the past, additional student, teacher, and school questionnaires were developed and administered as part of the National Indian Education Study (NIES) that NCES conducted on behalf of the Office of Indian Education. Through such targeted questionnaires, important information about the achievement of a specific group is gathered at minimal additional burden. These types of special studies are intentionally kept to a minimum and are designed to avoid jeopardizing the main purpose of the program.

A.1.d. Overview of 2019–2020 NAEP Assessments

The Governing Board determines NAEP policy and the assessment schedule,[9] and future Governing Board decisions may result in changes to the plans represented here. Any changes will be presented in subsequent clearance packages or revisions to the current package.

The <u>2019</u> data collection will consist of the following:

- Operational national DBA in mathematics and reading at grades 4, 8, and 12 (+ state at grades 4 and 8, and Puerto Rico in mathematics at grades 4 and 8);
- Operational national DBA in science at grades 4, 8, and 12;
- Pilot DBA for 2021 reading and mathematics at grades 4 and 8;
- PBA to DBA bridge studies in mathematics and reading at grade 12, and science at grades 4, 8, and 12;
- National Indian Education Study (NIES);
- Computer Access and Familiarity Study (CAFS);
- Socioeconomic Status (SES) Questionnaire Study;
- High School Transcript Study (HSTS); and
- Middle School Transcript Study (MSTS).

The <u>2020</u> data collection will consist of the following:

- Operational national PBA Long-term trend (LTT) at ages 9-, 13-, and 17-year old students. Each age group will be administered mathematics and reading assessments.

<u>PBA to DBA Bridge Studies</u>

To support the transition from PBA to DBA, NAEP is conducting bridge studies that will compare student performance on paper versus digital platforms. The term "bridge study" is used to describe a study conducted so that the interpretation of the assessment results remains constant over time. A bridge study involves administering two assessments: one that replicates the assessment given in the previous assessment year using the same questions and administration procedures (the bridge assessment; in NAEP 2019 these are

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[9] The Governing Board assessment schedule can be found at https://www.nagb.gov/about-naep/assessment-schedule.html.

PBA) and one that represents the new design (the modified assessment; in NAEP 2019 these are DBA). For example, in 2019 the same science content will be given to two groups of students, with one group taking a paper version and one group taking a digital version. Comparing the results from the two assessments, given in the same year to randomly equivalent groups of students (two distinct samples of students, each drawn from the same student population, and each using probability sampling methods that ensure that the sample is representative of that population, as described on page 20 of the Appendix C1 in this submission, provides an indication of whether there are any significant changes in results caused by the changes in the mode of assessment. A statistical linking procedure can then be employed, if necessary, to adjust the scores so they are on the same metric, allowing trends to be reported. The following bridge studies are planned in 2019: PBA-DBA NAEP bridge studies in science, reading, and mathematics in addition to the operational DBA to confirm the findings from the 2015 initial bridge studies.

As described in section A.1.c.5 of this document, NAEP is using a multi-step process designed to protect trend reporting to transition from PBA to DBA. The questionnaire and assessment content are the same for PBA and DBA. The questionnaire items are presented in the Appendix F library. As noted in Appendix F, the item-level directions sometimes differ between PBA and DBA versions. The final versions of the 2019 questionnaires are provided in Appendices K1, K2, K3, and K-S. The final versions provide both the final PBA and DBA questionnaire versions. While the PBA and DBA content is the same, the assessment items from PBA were converted to the DBA platform in order to support digital delivery. This conversion included adjustments such as adapting the visual layout, modifying answer selection mechanisms (e.g., selecting objects rather than circling them), and using digital tools to facilitate responding to the items (e.g., digital equation editor). The assessment items are not included in this request because they are not subject to the Paperwork Reduction Act.

The PBA will be administered to a representative sample, enabling the examination of the relationship between PBA and DBA performance. In 2019, DBA bridge studies will be conducted for reading and mathematics at grade 12 and science at grades 4, 8, and 12. Given that the operational assessments of these subjects are at the national level, the DBA bridge study will be administered to a nationally representative sample for each of the subjects. In 2019, the total sample size across the grades and subjects is 69,000. The size of the national sample is primarily driven by the need for sufficient numbers of student responses at item level to support IRT calibration.

National Indian Education Survey (NIES)

NIES is designed to describe the condition of education for American Indian and Alaska Native (AI/AN) students in the United States. The study provides educators, policymakers, and the public with information about the academic performance in reading and mathematics of AI/AN fourth- and eighth-graders as well as their exposure to Native American culture and language.

Conducted in conjunction with the NAEP assessments in 2005, 2007, 2009, 2011, and 2015, NIES provides data on a nationally representative sample of American Indian and Alaska Native students in public, private, Department of Defense, and Bureau of Indian Education funded schools. It is an important source of data on American Indian and Alaska Native students, especially for educators, administrators, and policymakers who address the educational needs of these students. The study is sponsored by the Office of Indian Education and conducted by NCES for the U.S. Department of Education. A Technical Review Panel (see Appendix A-4), whose members include American Indian and Alaska Native educators and researchers from across the country, help design the study.

This study was conducted through a survey to explore the educational experiences of the fourth- and eighth-grade American Indian and Alaska Native students based on responses to the NIES student, teacher, and school questionnaires. The survey focused on the integration of native language and culture into school and classroom activities.

The 2019 NIES study will use similar methods as those used in previous years. All grade 4 and 8 students in the reading and mathematics operational sample identified as being AI/AN will be given an additional

questionnaire. In addition, students' reading and mathematics teachers will also respond to the NIES teacher questionnaire, as will administrators of the schools from which the AI/AN students were selected. Approximately 8,000 fourth-grade and 6,500 eighth-grade students will participate in the 2019 NIES study. Information related to the sampling, design, data collection methods, and analyses, as well as results from previous studies can be found at http://nces.ed.gov/nationsreportcard/nies/.

Computer Access and Familiarity Study (CAFS)

As NAEP transitions from PBA to DBA, an area of desired research involves the degree to which all children are ready for such a transition. Do all students have the same access and experience with the technologies (computers and tablets) that will be used to collect the data? What is the relationship between access and experience with these technologies and performance on NAEP assessments? CAFS will analyze a core set of items to measure access to, and familiarity with, the DBA equipment that has been used by NAEP or might be used for future NAEP assessments. The goal is to build reliable composites that measure technology access and familiarity. The study contains a supplemental questionnaire related to computer familiarity and access. This study will be the third iteration of the study conducted in 2015 and 2017.

The 2019 CAFS sample will be a nationally representative subsample of 725 public schools participating in the science operational assessments at grades 4 and 8 and the reading, mathematics, and science operational assessments at grade 12. The sample will be stratified on characteristics such as census region, urban/rural, school race/ethnicity composition, and school enrollment size. All NAEP sampled students in the respective subjects in the subsample of schools will participate in the CAFS study. The teachers of sampled students will also participate in the CAFS study by completing a questionnaire on technology in instruction. Within a school selected for the NAEP assessments, students will be randomly assigned to either DBA or PBA.

The expected yield is approximately 4,000 DBA students per grade and 2,000 PBA students per grade at grades 4 and 8 and approximately 1,600–2,100 DBA students per grade/subject and 1,200–1,600 per grade/subject at grade 12. Based on the results of the 2015 and 2017 studies, it was determined that a minimum sample size of 1,000 students was needed for each grade, subject, and mode from a sample of at least 150 schools per grade. For the PBA sample, after the students complete their regular printed NAEP booklet, they will be given a separate booklet of CAFS questions. For the DBA sample, the CAFS questions will be an additional section of the student questionnaire, which is administered on the tablet.

Some analyses will be conducted combining the data in the different NAEP subjects, while other analyses will focus within subject only. Analyses, including factor analyses, Item Response Theory (IRT) scaling, and correlational analyses, will examine the relationship between access and familiarity and performance on NAEP (overall and for certain subgroups), whether the relationship varies by subject area or mode of administration, and whether reliable composites related to computer access and familiarity can be constructed. The goal of the study is to inform the development and use of computer access and familiarity items in the questionnaires and reports for future NAEP assessment years.

Socioeconomic Status (SES) Questionnaire Study

The 2019 SES questionnaire special study entails administering existing and newly developed SES items (including household composition, caregiver education, and caregiver occupation) as a separate extended student questionnaire (i.e., "SES block") with a subset of the 2021 pilot assessments, similar to previous questionnaire-focused special studies (e.g., extended student questionnaire, CAFS). The extended "SES block" student questionnaire is approximately 10 minutes long and new items reflect items developed based on focus group and cognitive interview results from the NAEP Socioeconomic Status (SES) Indicator Items Development Studies (OMB# 1850-0803 v.201).

This 2019 special study links directly to the NAEP program's efforts to improve the measurement of SES and to develop survey items that are more inclusive of students living in diverse households, including students living with single parents, adults other than their birth parents, or other non-traditional households. Administering new SES items as a special study will also allow balancing stakeholder concerns about including potentially sensitive questions in the operational questionnaires with stakeholder requests for a

major revision of currently used SES questions.

The study will be conducted in a nationally representative subsample of 500 public schools participating in the grades 4 and 8 DBA reading and mathematics pilot assessments. The sample will be stratified on characteristics such as census region, urban/rural, school race/ethnicity composition, and school enrollment size. All NAEP sampled students in the respective subjects in the subsample of schools will participate in the SES Questionnaire study. As such, approximately 8,190 students per grade will participate in the study.

High School Transcript Study (HSTS)

The 2019 HSTS is designed to provide information about the course taking behavior of students graduating from high schools in the United States in 2019. The study is being conducted at schools participating in the twelfth-grade 2019 NAEP. Transcript information is linked to NAEP scores for those graduates who participated in the science or mathematics NAEP assessments, permitting analysis of the relationships between assessment scores and course taking behavior.

High school transcript studies have been conducted in 1987, 1990, 1994, 1998, 2000, 2005, and 2009. The 2019 HSTS will, with slight modifications, use the same procedures that were used in 2009. The main change from the 2009 HSTS is that the 2019 HSTS allows for electronic submission of transcripts by states and TUDA districts on behalf of all schools. It is expected that up to 50 percent of the 2019 transcripts will be electronic.

HSTS will be conducted in high schools selected for NAEP 2019 and will collect transcripts for grade 12 graduates selected for participation in mathematics and science assessments. Districts and schools participating in HSTS will be notified about their selection at the same time as the regular NAEP schools. Initial notification will be done as part of the regular NAEP notification correspondence with districts and schools. Participating schools will be notified of their selection for the study and asked to identify an HSTS coordinator to manage the HSTS activities. HSTS will be conducted in several phases:

- **Collecting course catalogs**: In October 2018, the HSTS school coordinator will be contacted via email to request the current year's course catalog (2018–2019) and the three previous years' catalogs (2017–2018, 2016–2017, and 2015–2016). If these course catalogs can be sent electronically, then the coordinator will be given the address of a secure File Transfer Protocol (FTP) website where the catalogs can be uploaded. If only physical copies of the catalogs are available, then prepaid and pre-addressed return mailers will be provided to the HSTS school coordinator. In some cases, the state or TUDA coordinator may provide both course catalogs and the student transcripts directly on behalf of all the schools in the state or TUDA district.

- **Collecting the School Information Form and sample transcripts**: In January 2019, the participating schools will be asked to complete an online School Information Form (see Appendix I-1), provide a sample student transcript with the student name redacted, and to place the Family Educational Rights and Privacy Act (FERPA) disclosure notices with the files of students selected to take the NAEP 2019 science and mathematics assessments. These notices will include the provisions from FERPA, which explain the disclosure safeguards that grant NCES the authority to obtain transcript information. Normal procedures for the transcript study, as specified by FERPA, are to provide FERPA notices for the school, but not to notify parents of their child's inclusion because no student time is involved and all transcript information is collected with the student name redacted. However, parent information and notification letters are made available to schools (see Appendices D2-22 and D2-23) to use if they wish to use them.

- **Collecting student transcripts**: Between June and October 2019, NCES will collect transcripts and other student-level information (see Appendix I-2), using one of two collection methods: electronically or during in-person visits by NAEP field staff. Whenever possible, NAEP will obtain transcript data electronically from the states (or school districts, in case of TUDAs); otherwise, transcript data are collected directly from schools. If the transcripts cannot be transmitted electronically by a school, then a trained NAEP representative will return to the school to collect photocopies of the requested student transcripts. If the transcripts can be transmitted electronically, NAEP staff will provide information to

either the NAEP state or TUDA coordinator or the HSTS school coordinator about the data the transcripts must include and directions on how to transmit the transcripts.

States, districts, and schools must meet the following minimum criteria for electronic transcript submissions: a) maintain electronic student course information system at the high school level; b) maintain electronic high school course catalogs; and c) have unique course identification numbers on both student course information and course catalog at the high school level. Files can be transmitted in a number of formats, including Microsoft Excel, Comma Separated Value (CSV), Microsoft Word, Microsoft Access, XML, or plain text files. Electronic transcripts will be transmitted via a secure FTP website where the electronic high school transcripts can be uploaded.

If the HSTS school coordinator submits the transcripts, a list of only the students sampled for grade 12 mathematics and science can be obtained from the secure MyNAEP website and transcripts will be provided for those students only. If, however, the state or TUDA coordinator submits the transcripts, he or she will need to submit transcripts without realizing the student sample. Therefore, one of two methods can be used:
   a) Download a data template from MyNAEP containing a list of all grade 12 students.
   b) Download a data template from MyNAEP containing a list of students sampled for grade 12 mathematics and science, plus an additional 10 percent of students who were not sampled.

Upon receiving the transcripts, the school and student information listed on the file will be used to link to the 2019 NAEP grade 12 assessments' student records. Once the link is established, the school name and student directly identifying information will be removed.

Information related to the sampling, design, data collection methods, and analyses, as well as results from previous studies, can be found at http://nces.ed.gov/nationsreportcard/hsts/.

Middle School Transcript Study (MSTS)

The goal of MSTS will be to examine middle school course taking patterns. A pilot study was conducted in 2017 (OMB# 1850-0803 v.180) to inform this study. The pilot study found that all participating TUDA jurisdictions could submit required MSTS data files electronically. The TUDA jurisdictions were able to provide course IDs on both the course catalogs and student course records, which made coding student course records more efficient. The majority of the TUDA jurisdictions were able to offer course catalogs with course descriptions or web links to where course descriptions were available. Course descriptions offer valuable information that helps to assign accurate SCED codes, especially if a course title includes information about different subject areas (e.g., History of Science and Technology). The study also demonstrated the feasibility of linking student course taking information with NAEP assessment data.

The 2019 MSTS will be the first operational transcript study to be conducted entirely using electronic records submissions and the first to focus on middle grades. It will be limited to TUDAs and will not be conducted at the state level. As a component of NAEP, MSTS will be conducted in conjunction with the 2019 NAEP grade 8 mathematics and reading assessments. MSTS data will be linked to NAEP assessment scores, as well as school and student background questionnaire data, so that any relationships between student course taking and performance may be evaluated. While similar transcript studies have been conducted at the twelfth-grade level, this study will provide educators and educational researchers with valuable information that will allow for the analyses and reporting of national trends in middle school course taking.

The 2019 MSTS plans to collect middle school student course taking information in the 27 TUDA jurisdictions that are part of the NAEP 2019 grade 8 sample, including data on courses taken, credits earned, and grades received. Electronic transcripts will be collected at the district level. As such, there will be no burden for the schools. Furthermore, the burden on the districts will be minimal, given that the data will be collected entirely via the submission of electronic records.

One of the main objectives of an operational MSTS would be to supplement NAEP data with valuable course taking information, which would provide TUDAs with more contextual data to explain their eighth-grade

students' NAEP assessment scores. What courses students took and their performance in those courses, combined with their attitudes toward mathematics and reading courses as asked in the student questionnaire, will provide a more complete picture of how students perform on the eighth-grade NAEP. An operational MSTS allows comparisons of student course taking information within and across TUDA jurisdictions at the middle school level. These comparisons will provide more insights about student achievement in critical middle school grades, while the addition of other demographic information, data sources, and questionnaire data will allow for identification of differences between the participating TUDAs.

TUDAs will have the opportunity to participate in this study if they meet the minimum requirements of being able to provide electronic records. The data collection process has two main phases:

- **Collecting course catalogs**: Starting in October 2018, participating TUDAs will be contacted to collect information for the study and acquire the district-level course catalog. The catalog should contain a list of secondary school courses offered to students in the district between sixth and eighth grade. District staff will be given the address of a secure FTP website where the catalogs can be uploaded.

- **Collecting student transcripts**: Between June and October 2019, NCES will collect transcripts and other student-level information (see Appendix I-3). The student transcripts will record all courses taken by students between sixth and eighth grade. Files can be transmitted in a number of formats, including Microsoft Excel, Comma Separated Value (CSV), Microsoft Word, Microsoft Access, XML, or plain text files. Electronic transcripts will be transmitted via a secure FTP website where the electronic middle school transcripts can be uploaded.

  The TUDA staff will need to submit transcripts without realizing the student sample. Therefore, one of two methods can be used:
  a) Download a data template from MyNAEP containing a list of all grade 8 students.
  b) Download a data template from MyNAEP containing a list of students sampled for grade 8 mathematics and reading, plus an additional 10 percent of students who were not sampled.

  Upon receiving the transcripts, the school and student information listed on the file will be used to link to the 2019 NAEP grade 8 assessments' student records. Once the link is established, the school name and student directly identifying information will be removed.

Analyses of the 2019 MSTS will focus on academic tracking, identification of potential student dropouts, performance gaps, and the impact of unequal access to technology on students. The results of MSTS will be published in an overall report incorporating all participating TUDAs' results. In addition, participating districts will receive individualized district-level reports. Furthermore, MSTS results will be made available to the public through an online data tool, similar to other NAEP data tools.

Long-term trend (LTT)

Since the early 1970s, NAEP has monitored student performance in mathematics and reading through LTT assessments. These assessments measure students' educational progress over long time periods to look for and monitor trends in performance. Results from the LTT assessments are based on nationally representative samples of 9-, 13-, and 17-year old students.

Unlike the main NAEP assessments, which develop assessment instruments that reflect current educational content and assessment methodology, LTT has remained relatively unchanged since 1990. In the 1970s and 1980s, the assessments changed to reflect changes in curriculum in the nation's schools. Continuity of assessment content was sufficient not to require a break in trends. LTT assessment is administered on paper only.

The LTT assessment measures students' knowledge in mathematics and reading. Survey questionnaires, administered to students who participate in an LTT assessment, are used to collect and report contextual information about the students' learning experience in and out of the classroom.

Student performance on the NAEP LTT assessment is presented in two ways: scale scores[10] and performance

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[10] For LTT, there are separate scale scores for mathematics and reading.

levels:

- Scale scores represent the average performance of students who took the LTT assessment in mathematics and reading. Scores are aggregated and reported for the nation and groups of students based on gender, race/ethnicity, etc.

- Performance levels are reported as the percentages of students attaining specific levels of performance corresponding to five points on the NAEP long-term trend reading and mathematics scales (150, 200, 250, 300, and 350).

Information related to the 1970-2012 Trends can be found at https://nces.ed.gov/nationsreportcard/ltt/.

A.2. How, by Whom, and for What Purpose the Data Will Be Used

Results will be reported on the 2019 operational assessments in mathematics, reading, and science and the 2020 operational LTT assessments in mathematics and reading. In addition, the DBA bridge studies will be used to inform the operational DBA results. Results will also be reported from the 2019 HSTS, MSTS, and NIES special studies. Results from the other special studies may be published as research reports. NAEP will use the results from the 2019 pilot tests to inform future assessments and procedures.

The main NAEP and LTT operational results are reported in The Nation's Report Card, which is used by policymakers, state and local educators, principals, teachers, and parents to help inform educational policy decisions. The main NAEP report cards provide national results, trends for different student groups, results on scale scores and achievement levels, and sample items. In reports with state or urban district results, there are sections that provide overview information on the performance of these jurisdictions. The LTT report will provide scale scores disaggregated by student group, performance levels, and selected questionnaire results. If NCES elects to release sample items, percentage correct statistics on those items will be provided in the report. NAEP does not provide scores for individual students or schools.

Results from each NAEP assessment are provided online in an interactive website (http://nationsreportcard.gov/) and in one-page summary reports, called snapshots, for each participating state or urban district. Additional data tools are available online for those interested in:

- analyzing NAEP data and creating tables and graphics (http://nces.ed.gov/nationsreportcard/naepdata/);
- comparing state performance by various demographic groups (http://nces.ed.gov/nationsreportcard/statecomparisons/);
- seeing NAEP performance results and student demographics for each state (http://nces.ed.gov/nationsreportcard/states/);
- browsing results for each of the participating large urban districts (http://nces.ed.gov/nationsreportcard/districts/);
- searching, sorting, and providing data for sample NAEP items (http://nces.ed.gov/nationsreportcard/itmrlsx/); and
- seeing the knowledge and skills demonstrated by students performing at different scale scores (http://nces.ed.gov/nationsreportcard/itemmaps/).

In addition to contributing to the reporting tools mentioned above, data from the questionnaires are used as part of the marginal estimation procedures that produce the student achievement results. Questionnaire data are also used to perform quality control checks on school-reported data and in special reports, such as the *Black–White Achievement Gap* report (http://nces.ed.gov/nationsreportcard/studies/gaps/). Finally, teacher and school questionnaire frequency data are made available to teacher and principal participants that request them prior to the release of the results to provide additional contextual information to the participants.

Lastly, there are numerous opportunities for secondary data analysis because of NAEP's large scale, the regularity of its administrations, and its stringent quality control processes for data collection and analysis. NAEP data are used by researchers and educators who have diverse interests and varying levels of analytical experience.

A.3. Improved Use of Technology

NAEP has continually moved to administration methods that include greater use of technology, as described below.

Online Teacher and School Questionnaires

The teacher and school questionnaires that accompany the NAEP assessment were traditionally available as paper-based questionnaires. Starting in 2001, NAEP offered teachers and school administrators an option of either completing the questionnaires on paper or online. In an effort to reduce costs and to streamline the data collection, starting in 2014 the NAEP program moved to the practice of having the teacher and school questionnaires available primarily online. To support respondents who have limited internet connections, NAEP field staff have a limited number of printed copies of the questionnaires that can be distributed at the school's request.

Electronic Pre-Assessment Activities

Each school participating in NAEP has a designated staff member to serve as its NAEP school coordinator. Pre-assessment and assessment activities include functions such as finalizing student samples, verifying student demographics, reviewing accommodations, and planning logistics for the assessment. NAEP is moving in the direction of paperless administrations. An electronic pre-assessment system (known as MyNAEP) was developed so that school coordinators would provide requested administration information online, including logistical information, updates of student and teacher information, and the completion of inclusion and accommodation information.[11]

Digitally Based Assessments (DBA)

As described in Section A.1.c.5, NAEP is transitioning to DBA. The move to DBA allows NAEP to provide assessments consistent with other large-scale assessments (such as those given by the Partnership for Assessment of Readiness for College and Careers [PARCC] and the Smarter Balanced Assessment Consortium). In addition, the transition to DBA allows NAEP to more accurately reflect what is happening in today's classrooms, improve measurement of knowledge and skills, and collect new types of data that provide depth in our understanding of what students know and can do.

Automated Scoring

NAEP administers a combination of selected-response items and open-ended or constructed-response items. NAEP currently uses human scorers to score the constructed-response items, using detailed scoring rubrics and proven scoring methodologies. With the increased use of technologies, the methodology and reliability of automated scoring (i.e., the scoring of constructed-response items using computer software) has advanced. While NAEP does not currently employ automated scoring methodologies, these are being investigated for possible future use.

One study involved using two different automated scoring engines and comparing the scores to those previously given by human scorers. This study was conducted on items from the 2011 writing assessment. For each constructed-response item, approximately two-thirds of responses were used to develop the automated scoring model (the Training/Evaluation set) and the other third of responses were used to test and validate the automated scoring model (the Test/Validation set). The sample was selected from approximately 2,000 responses to each of the 22 different grade 8 prompts, plus approximately 2,000 responses to each of the 22 different grade 12 prompts. Approximately 80,000 existing responses were scored using automated scoring models for this study. No new data collection or human scoring was required.

The Training/Evaluation set was used to train, evaluate, and tune each scoring engine so as to produce the best possible scoring models for each constructed response item. The final scoring models were then applied to the Test/Validation set producing a holistic score for each response. Automated scoring performance is typically evaluated by comparison with human scoring performance. Evaluation criteria for the scoring

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[11] Additional information on the MyNAEP site is included in the Section B.2.

models included measures of scorability, correlation with word count, overall mean and standard deviation calculations, and agreement with human scores using kappa, quadratic-weighted kappa, and Pearson correlation coefficients. Fairness was also examined for focal and reference groups and compared to results of human raters.[12] In addition to comparing how well each individual scoring engine agreed with human scorers, we also compared how well the two scoring engines agreed with each other. Results of these investigations will inform whether automated scoring could be utilized for specific NAEP assessments or if additional investigations are required.

<u>Electronic Transcripts</u>

As described in Part A.1.d, as part of the HSTS and MSTS studies, states, TUDAs, and schools will be able to submit student transcripts electronically. This process reduces the school burden as well as the staff costs associated with the transcript submission.

A.4. Efforts to Identify Duplication

The proposed assessments, including the questionnaires, do not exist in the same format or combination in the U.S. Department of Education or elsewhere. The non-cognitive data gathered by NAEP comprise the only comprehensive cross-sectional survey performed regularly on a large-scale basis that can be related to extensive achievement data in the United States. No other federally funded studies have been designed to collect data for the purpose of regularly assessing trends in educational progress and comparing these trends across states. None of the major non-federal studies of educational achievement were designed to measure changes in national achievement. In short, no existing data source in the public or private sector duplicates NAEP.

While the survey items in NAEP are unique, the items are not developed in a vacuum. Their development is informed by similar items in other assessments and survey programs. In addition, in future rounds of development, NCES will continue to better align the NAEP survey questions with other surveys (particularly, but not limited to, those from other NCES and federal survey programs).

Historically, NAEP has served as a critical national "audit" function, offering an extremely helpful reference point in the interpretation of score trends on "high-stakes" tests used for school accountability. The main NAEP scales have served this function well even though high-stake state assessments were not always closely aligned with the corresponding NAEP assessments. Given the significant changes currently underway in the American educational landscape, including the Next Generation Science Standards, the Common Core State Standards, and Partnership for Assessment of Readiness for College and Careers (PARCC), and Smarter Balanced consortia, this "audit" function is even more important.

NAEP has provided the best available information about the academic achievement of the nation's students in relation to consensus assessment frameworks, maintaining long-term trend lines for decades. In addition to reporting at the national level, NAEP has offered achievement comparisons among participating states for more than two decades, and since 2003, all states have participated in the NAEP mathematics and reading assessments at the fourth and eighth grades. More recently, NAEP has also reported achievement for selected large urban school districts. In addition to characterizing the achievement of fourth-, eighth-, and twelfth-grade students in a variety of subject areas, NAEP has also served to document the often substantial disparities in achievement across demographic groups, tracking both achievement and achievement gaps over time. In addition to describing educational achievement, NAEP has furthered deliberation as to the scope and meaning of achievement in mathematics, reading, and other subject areas. NAEP assessments are aligned to ambitious assessment frameworks developed by a thoughtful process to reflect the best thinking of educators and content specialists. These frameworks have served as models for the states and other organizations to follow. Finally, NAEP has also served as a laboratory for innovation, developing and demonstrating new item formats, as well as statistical methods and models now emulated by large-scale assessments worldwide.

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[12] These evaluation criteria were largely based on criteria advocated in Williamson, D. M., Xi, X., & Breyer, F. J. (2012). A framework for evaluation and use of automated scoring. *Educational Measurement: Issues and Practices, 31*(1), 2-13.

NAEP has functioned well as a suite of complex survey modules conducted as assessments of student achievement in fixed testing windows. The complexity of NAEP evolved by necessity to address its legal and policy reporting requirements and the complex sampling of items and students needed to make reliable and valid inferences at the subgroup, district, state, and national level for stakeholders, ranging from policymakers to secondary analysts, and do so without creating an undue burden on students and schools.

A.5. Burden on Small Businesses or Other Small Entities

The school samples for NAEP contain small-, medium-, and large-size schools, including private schools. Schools are included in the sample proportional to their representation in the population, or as necessary to meet reporting goals. It is necessary to include small and private schools so that the students attending such schools are represented in the data collection and in the reports. The trained field staff work closely with all schools to ensure that the pre-assessment activities and the administration can be completed with minimal disruption.

A.6. Consequences of Collecting Information Less Frequently

Under the National Assessment of Educational Progress Authorization Act, Congress has mandated the on-going collection of NAEP data. Failure to collect the 2019–2020 assessment data on the current schedule would affect the quality and schedule of the NAEP assessments and would result in assessments that would not fulfill the mandate of the legislation.

A.7. Consistency with 5 CFR 1320.5

No special circumstances are involved. This data collection observes all requirements of 5 CFR 1320.5.

A.8. Consultations Outside the Agency

The NAEP assessments are conducted by an alliance of organizations under contract with the U.S. Department of Education.[13] The Alliance includes the following:

- Management Strategies is responsible for managing the integration of multiple NAEP project schedules and providing data on timeliness, deliverables, and cost performance.
- Educational Testing Service (ETS) is responsible for coordinating Alliance contractor activities, developing the assessment instruments, analyzing the data, preparing the reports, and platform development.
- Fulcrum is responsible for NAEP web technology, development, operations, and maintenance including the Integrated Management System (IMS).
- Gunnison is responsible for the NAEP data warehouse
- Pearson is responsible for printing and distributing the assessment materials, and for scanning and scoring students' responses.
- Westat is responsible for selecting the school and student samples and managing field operations and data collection.

In addition to the NAEP Alliance, other organizations support the NAEP program, all of which are under contract with the U.S. Department of Education. The current list of organizations include:[14]

- American Institutes for Research (AIR) is responsible for providing technical support, conducting studies on state-level NAEP assessments, and running the NAEP Validity Studies Panel.
- Council of Chief State School Officers (CCSSO) is responsible for providing ongoing information about state policies and assessments.
- CRP, Inc. is responsible for providing logistical and programmatic support.
- Hager Sharp is responsible for supporting the planning, development, and dissemination of NAEP 2019 publications and outreach activities.

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[13] The current contract expires on June 30, 2024.

[14] The current contracts expire at varying times. As such, the specific contracting organizations may change during the course of the time period covered under this submittal.

- Human Resources Research Organization (HumRRO) is responsible for performing formative evaluation of the NAEP Alliance activities.
- Optimal Solutions Group is responsible for providing technical support.
- Tribal Tech is responsible for providing support for the National Indian Education Study.

In addition to the contractors responsible for the development and administration of the NAEP assessments, the program involves many consultants and is also reviewed by specialists serving on various technical review panels. These consultants and special reviewers bring expertise concerning students of different ages, ethnic backgrounds, geographic regions, learning abilities, and socioeconomic levels; the specific subject areas being assessed; the analysis methodologies employed; and large-scale assessment design and practices. Contractor staff and consultants have reviewed all items for bias and sensitivity issues, grade appropriateness, and appropriateness of content across states.

In particular, subject-area standing committees play a central role in the development of NAEP assessment instruments and have been essential in creating assessment content that is appropriate for the targeted populations, and that meets the expectations outlined in the Governing Board frameworks. One of the most important functions of the committees is to contribute to the validation of the assessments. Through detailed reviews of items, scoring guides, tasks, constructed-response item training sets for scorers, and other materials, the committees help establish that the assessments are accurate, accessible, fair, relevant, and grade-level appropriate, and that each item measures the knowledge and skills it was designed to measure. When appropriate, members of subject-area standing committees will also review the questionnaires with regards to appropriateness with existing curricular and instructional practices.

Appendix A lists the current members of the following NAEP advisory committees:

- NAEP Design and Analysis Committee
- NAEP Validity Studies Panel
- NAEP Quality Assurance Technical Panel
- NAEP National Indian Education Study Technical Review Panel
- NAEP Geography Standing Committee
- NAEP Civics Standing Committee
- NAEP Economics Standing Committee
- NAEP Mathematics Standing Committee
- NAEP Reading Standing Committee
- NAEP Science Standing Committee
- NAEP Survey Questionnaires Standing Committee
- NAEP Technology and Engineering Literacy Standing Committee
- NAEP U.S. History Standing Committee
- NAEP Mathematics Translation Review Committee
- NAEP Science Translation Review Committee
- NAEP Social Studies Translation Review Committee
- NAEP Survey Questionnaire and eNAEP DBA System Translation Review Committee
- NAEP Writing Standing Committee
- NAEP Principals' Panel Standing Committee

As has been the practice for the past few years, OMB representatives will be invited to attend the technical review panel meetings that are most informative for OMB purposes.

In addition to the contractors and the external committees, NCES works with the NAEP State Coordinators, who serve as the liaison between each state education agency and NAEP, coordinating NAEP activities in his or her state. NAEP State Coordinators work directly with the schools sampled for NAEP.

A.9. Payments or Gifts to Respondents

In general, there will be no gifts or payments to respondents, although students do get to keep the NAEP pencils or earbuds used in PBA and DBA, respectively. On occasion, NAEP will leave educational materials

at schools for their use (e.g., science kits from the science hands-on assessments). Some schools also offer recognition parties with pizza or other perks for students who participate; however, these are not reimbursed by NCES or the NAEP contractors. If any incentives are proposed as part of a future special study, they would be justified as part of that future clearance package. As appropriate, the amounts would be consistent with amounts approved in other studies with similar conditions.

For the HSTS and MSTS studies, individual schools who either submit electronic transcripts or hard copies will receive $2 for each transcript for students sampled for the selected assessments. States and TUDAs who submit electronic transcripts will not receive payments for transcripts.

A.10. Assurance of Confidentiality

Data security and confidentiality protection procedures have been put in place for NAEP to ensure that all NAEP contractors and agents (see A.8 in this document) comply with all privacy requirements, including:

1. The Statements of Work of NAEP contracts;
2. *National Assessment of Educational Progress Authorization Act* (20 U.S.C. §9622);
3. *Family Educational Rights and Privacy Act (FERPA) of 1974* (20 U.S.C. §1232(g));
4. *Privacy Act of 1974* (5 U.S.C. §552a);
5. *Privacy Act Regulations* (34 CFR Part 5b);
6. *Computer Security Act of 1987;*
7. *U.S.A. Patriot Act of 2001* (P.L. 107-56);
8. *Education Sciences Reform Act of 2002* (ESRA 2002, 20 U.S.C. §9573);
9. *Cybersecurity Enhancement Act of 2015* (6 U.S.C. §151);
10. *Foundations of Evidence-Based Policymaking Act of 2018,* Title III, Part B, Confidential Information Protection;
11. The U.S. Department of Education General Handbook for Information Technology Security General Support Systems and Major Applications Inventory Procedures (March 2005);
12. The U.S. Department of Education Incident Handling Procedures (February 2009);
13. The U.S. Department of Education, ACS Directive OM: 5-101, Contractor Employee Personnel Security Screenings;
14. NCES Statistical Standards; and
15. All new legislation that impacts the data collected through the contract for this study.

Furthermore, all NAEP contractors and agents will comply with the Department's IT security policy requirements as set forth in the Handbook for Information Assurance Security Policy and related procedures and guidance, as well as IT security requirements in the Federal Information Security Management Act (FISMA), Federal Information Processing Standards (FIPS) publications, Office of Management and Budget (OMB) Circulars, and the National Institute of Standards and Technology (NIST) standards and guidance. All data products and publications will also adhere to the revised NCES Statistical Standards, as described at the website: http://nces.ed.gov/statprog/2012/. In addition, the Sampling and Data Collection (SDC) contractor has obtained an Authority to Operate (ATO) for the NCESLS System from the Education OCIO to operate at the FISMA moderate level through the Certification & Accreditation (C&A) process. Security controls include secure data processing centers and sites; properly vetted and cleared staff; and data sharing agreements.

An important privacy and confidentiality issue is the protection of the identity of assessed students, their teachers, and their schools. To assure this protection, NAEP has established security procedures, described below, that closely control access to potentially identifying information.

All assessment and questionnaire data are encrypted at all times. This means that NAEP applications that handle assessment and questionnaire data:

- enforce effective authentication password management policies, making it difficult to hack into the data;
- limit authorization to individuals who truly need access to the data, only granting the minimum access to individuals as they need (i.e., least privilege user access);
- keep data encrypted, both in storage and in transport, utilizing volume encryption and transport layer security protocols;
- utilize SSL certificates and HTTPS protocols for web-based applications;
- limit access to data via software and firewall configurations as well as not using well known ports for data connections; and
- restrict access to the portable networks utilized to administer an assessment to only assessment devices.

Students' names are submitted to the Sampling and Data Collection (SDC) contractor for selecting the student sample. This list also includes the month/year of birth, race/ethnicity, gender, and status codes for students with disabilities, English language learners, and participation in the National School Lunch Program. This data request for NAEP fully conforms to the requirements of the Family Educational Rights and Privacy Act of 1974 (FERPA) [20 U.S.C. 1232g; 34 CFR Part 99]. FERPA is designed to protect the privacy rights of students and their families, by providing consistent standards for the release of personally identifiable student and family information. NCES and its agents are explicitly authorized under an exception to FERPA's general consent rule to obtain student level data from institutions. For the purposes of this collection of data, FERPA permits educational agencies and institutions to disclose personally identifiable information from students' education records, without consent, to authorized representatives of the Secretary of Education in connection with an evaluation of federally supported education programs (34 CFR §§ 99.31(a)(3)(iii) and 99.35).

After the student sample is selected, the data for selected students are submitted to the Materials Preparation, Distribution, Processing and Scoring (MDPS) contractor, who includes the data in the packaging and distribution system for the production of student-specific materials (such as labels to attach to the student booklets or log-in ID cards), which are then forwarded to field staff and used to manage and facilitate the assessment. These data are also uploaded to the MyNAEP Prepare for Assessments online system for review by schools and added to the MyNAEP School Control System (SCS) used by field staff to print materials used by the schools. Student information is deleted from the packaging and distribution system after the assessment begins. Student information is deleted from the MyNAEP system typically two weeks after all quality control activities for the assessment are complete.

All paper-based student-specific materials linking personally identifiable information (PII) to assessment materials are destroyed at the schools upon completion of the assessment. The field staff remove names from forms and place the student names in the school storage envelope. The school storage envelope contains all of the forms and materials with student names and is kept at the school until the end of the school year and then destroyed by school personnel.[15]

In addition to student information, teacher and principal names are collected and recorded in the MyNAEP Prepare for Assessment online system, which is used to keep track of the distribution and collection of NAEP teacher and school questionnaires. A paper copy of the questionnaire report is printed for use during the assessment, and this paper copy is left in the school storage envelope, which is destroyed at the end of the school year. The teacher and principal names are deleted from the MyNAEP system at the same time the student information is deleted.

For DBA, NAEP data are stored on systems in a locked-down environment at a secure hosting facility with strict measures in place to prevent unauthorized online access. The student names are not included on the assessment tablets or stored by the same contractor or on the same database as the student responses. Shortly before, during, and after assessments, assessment data are transmitted through secure, encrypted channels

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[15] In early May, schools receive an email from the MyNAEP system reminding them to securely destroy the contents of the NAEP storage envelope and confirm that they have done so. The confirmation is recorded in the system and tracked.

(SSL, SSH) between NAEP systems, the NAEP assessment servers, and the assessment administration devices. Data on those devices are also encrypted—these data can be read only by the assessment software—and the devices are secured against unauthorized use.

Furthermore, to protect collected data, NAEP staff will use the following precautions:

- Assessment and questionnaire data files will not identify individual respondents.
- No personally identifiable information, either by schools or respondents, will be gathered or released by third parties. No permanent files of names or other direct identifiers of respondents will be maintained.
- Student participation is voluntary.
- NAEP data are perturbed. Data perturbation is a statistical data editing technique implemented to ensure privacy for student and school respondents to NAEP's assessment questionnaires for assessments in which data are reported or attainable via restricted-use licensing arrangements with NCES. The process is coordinated in strict confidence with the IES Disclosure Review Board (DRB), with details of the process shared only with the DRB and a minimal number of contractor staff.

The following text appears on all student assessments and teacher and school questionnaires:

Paperwork Burden Statement, OMB Information
According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this voluntary information collection is 1850-0928. The time required to complete this information collection is estimated to average [xx] minutes, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate, suggestions for improving this collection, or any comments or concerns regarding the status of your individual submission, please write to: *National Assessment of Educational Progress (NAEP), National Center for Education Statistics (NCES), Potomac Center Plaza, 550 12th St., SW, 4th floor, Washington, DC 20202.*

Authorization and Confidentiality Assurance
National Center for Education Statistics (NCES) is authorized to conduct NAEP by the National Assessment of Educational Progress Authorization Act (20 U.S.C. §9622) and to collect students' education records from education agencies or institutions for the purposes of evaluating federally supported education programs under the Family Educational Rights and Privacy Act (FERPA, 34 CFR §§ 99.31(a)(3)(iii) and 99.35).

All of the information provided by participants may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573 and 6 U.S.C. §151). By law, every NCES employee as well as every NCES agent, such as contractors and NAEP coordinators, has taken an oath and is subject to a jail term of up to 5 years, a fine of $250,000, or both if he or she willfully discloses ANY identifiable information about participants. Electronic submission of participant's information will be monitored for viruses, malware, and other threats by Federal employees and contractors in accordance with the Cybersecurity Enhancement Act of 2015. The collected information will be combined across respondents to produce statistical reports.

In addition, the following text appears on the MyNAEP log-in screen, before the Authorization and Confidentiality Assurance citation listed above:

Note: the NAEP data security and confidentiality citations have changed, as reflected below.

and the following text appears on the MyNAEP log-in screen after the above citations:

Notice: You are accessing a U.S. Government information system.
This warning banner provides privacy and security notices consistent with applicable federal laws, directives, and other federal guidance for accessing this Government system, which includes all devices/storage media attached to this system. This system is provided for Government-authorized use only. Unauthorized or improper use of this system is prohibited and may result in disciplinary action and/or civil and criminal penalties.

In addition, the following text appears on the log-in screen for the teacher and school administrator questionnaires:

WARNING: UNATHORIZED ACCESS PROHIBITED

This is a U.S. Federal Government owned computer system, for use by authorized users conducting NAEP business only. Unauthorized access violates U.S. Code sections 1029 & 1030 and other applicable statues. Violations are punishable by civil and criminal penalties. Use of this system implies consent to have all activities on this system monitored and recorded, which can be provided as evidence to law enforcement officials.

More specific information about how NAEP handles PII is provided in the table below:

PII is created in the following ways	1. Public and non-public school samples are released by the SDC contractor to NAEP State Coordinators (public schools only), NAEP TUDA Coordinators (public schools only), and SDC Gaining Cooperation Field Staff (non-public schools only) using the secure MyNAEP for Schools website.
	2. Schools are recruited by SDC field staff for participation in NAEP.
	3. Participating schools need to submit a current roster of students for the sampled grade for student sampling.
	4. Rosters of students can be created by NAEP State Coordinators, NAEP TUDA Coordinators, or NAEP School Coordinators.
	a. Rosters are submitted through the secure MyNAEP for Schools website
	b. Rosters must be in Excel
	5. PII is contained in the roster files: state unique identifiers (optional), student names, month/year of birth, race/ethnicity, gender, and status codes for students with disabilities, English language learners, and participation in the National School Lunch Program.
	6. PII is stored in the SDC contractor's secure data environments.
PII is moved in the following ways	1. Student names (PII) are moved to the MDPS contractor via a secure FTP site. These names are used to print Student Login Cards.
	2. Student Login Cards are only created for students taking DBA, so the student names for the PBA students are not moved.
	3. Student PII data is available to the NAEP School Coordinators and the SDC contractor's Field Staff through the secure MyNAEP for Schools website.
	a. NAEP School Coordinators can view and update PII for their own schools
	b. NAEP School Coordinators can print materials containing PII for their own schools
	c. NAEP School Coordinators store materials containing PII for their own schools in the "NAEP Secure Storage Envelope"
	d. SDC contractor Field Staff can update PII for schools within their assignment
	e. SDC contractor Field Staff can print materials containing PII for schools within their assignment
	f. SDC contractor Field Staff store materials containing PII for schools within their assignment in their "NAEP School Folders"
	4. At no point in time does any individual contractor have access to both the student name and student assessment and questionnaire responses. MDPS has access to both the student name and student assessment and questionnaire responses, but never at the same time. MDPS uses student PII to print Student Login Cards months in advance of the NAEP assessment window and destroys the student PII file after the assessment begins. SDC never has access to student responses, and no other contractor has access to Student PII.
PII is destroyed in the following ways	1. MDPS contractor destroys the PII after the assessment begins.
	2. School Coordinators destroy the materials containing PII on or before the end of the school year, or by the end of the calendar year for the HSTS or MSTS.
	3. SDC contractor Field Staff destroy the materials containing PII after the school assessment has been completed. SDC contractor Field Staff return their NAEP School Folders to Westat Home Office for secure storage, and eventual secure destruction.
	4. SDC contractor destroys student names after all weighting quality control checks have been completed. This activity is completed approximately six months following the end of the administration or six months after the end of data collection for the HSTS or MSTS.

In addition, parents are notified of the assessment. Appendices D2-11 and D2-12 provide a sample parental notification letter regarding NAEP 2019 and Appendices D3-7 and D3-8 regarding LTT 2020. The letter is adapted for each grade or age/subject combination and the school principal may edit it. However, the

information regarding confidentiality and the appropriate law reference will remain unchanged. Please note that parents/guardians are required to receive notification of student participation but NAEP does not require explicit parental consent (by law, parents/guardians of students selected to participate in NAEP must be notified in writing of their child's selection prior to the administration of the assessment).

For the HSTS and MSTS studies, student transcripts are collected from states, districts, or schools for sampled students. Student transcript disclosure is permitted under FERPA's exception to the general consent requirement that permits disclosures to authorized representatives of the Secretary for the purpose of evaluating federally supported education programs (34 CFR §§ 99.31 (a)(3)(iii) and 99.35). Participant information is protected during transmission to and from NAEP systems by the use of robust secure file transfer protocol (FTP) platforms and of data encryption technologies, such as secure sockets layer (SSL), secure shell (SSH), and digital certificates and signatures that encrypt data, validate data integrity, and authenticate the parties in a transaction. NCES ensures that the data collected from schools and students are used for statistical purposes only. To maintain the privacy of student and school identities, for transcripts submitted on paper, students' names are removed from the transcripts and questionnaires at the school and given a unique identification number, which is used to match the transcript records to the NAEP questionnaire and performance information, on an individual basis. For transcripts submitted electronically, linking students in the NAEP assessment and HSTS/MSTS is done using a unique student identifier that was assigned to all students sampled for NAEP. Specifically,

- When the electronic transcripts are provided by school staff, they complete the following process:
  – download a list of only the students sampled for grade 12 mathematics and science, which includes student names and NAEP-assigned student identifier;
  – add transcript information to the downloaded file; and
  – delete student names from the student transcript file and upload the file to the FTP site.
- When the electronic transcripts are provided by state or district personnel, they complete the following process:
  – download a list of all students included on the roster of students, plus any new enrollees added during the Update Student List process [this includes the information previously provided by the state or district];
  – add transcript information to the downloaded file; and
  – upload the transcript file to secure FTP site.

The SDC contractor then adds the transcript data to the student demographic records, matching on the NAEP-assigned student identifier. This transcript information is then sent to the DAR contractor, who matches it with the data from NAEP assessment, again using the NAEP-assigned student identifier. At no time is any PII transmitted with the transcripts sent to the DAR contractor, nor merged with the NAEP assessment data.

The NAEP website, for which links are provided throughout this package, uses language that describes the study and its data security and confidentiality procedures consistent with the description presented here.

A.11. Sensitive Questions

NAEP emphasizes voluntary respondent participation. Insensitive or offensive items are prohibited by the National Assessment of Educational Progress Authorization Act, and the Governing Board reviews all items for bias and sensitivity. The nature of the questions is guided by the reporting requirements in the legislation, the Governing Board's Policy on the Collection and Reporting of Background Data, and the expertise and guidance of the NAEP Survey Questionnaire Standing Committee (see Appendix A-11). Additional information on the constructs included in the questionnaires is provided in Part C. Throughout the item development process, NCES staff works with consultants, contractors, and internal reviewers to identify and eliminate potential bias in the items.

The NAEP student questionnaires include items that require students to provide responses on factual questions about their family's socioeconomic background, self-reported behaviors, and learning contexts, both in the school setting as well as more generally. In compliance with legislation, student questionnaires do

not include items about family or personal beliefs (e.g., religious or political beliefs). The student questionnaires focus only on contextual factors that clearly relate to academic achievement.

Educators, psychologists, economists, and others have called for the collection of non-cognitive student information that can explain why some students do better in school than others. Similar questions have been included in other NCES administered assessments such as the Trends in International Mathematics and Science Study (TIMSS), the Program for International Student Assessment (PISA), the National School Climate Survey, and other federal questionnaires, including the U.S. Census. The insights achieved by the use of these well-established survey questions will help educators, policymakers, and other stakeholders make better informed decisions about how best to help students develop the knowledge and skills they need to succeed.

All questions proposed for piloting have gone through multiple rounds of reviews, including but not limited to reviews by NAEP subject-matter expert groups, organizational Internal Review Board (IRB), and the Governing Board, and have successfully passed extensive pre-testing via cognitive interviews with all respondent groups. Furthermore, NAEP does not report student responses at the individual or school level, but strictly in aggregate forms. To reduce the impact of any individual question on NAEP reporting, the program has shifted to a balanced reporting approach that includes multi-item indices, where possible, to maximize robustness and validity. In compliance with legislation and established practices through previous NAEP administrations, students may skip any question.

A.12. Estimation of Respondent Reporting Burden (2019–2020)

The burden numbers for NAEP data collections fluctuate considerably, with the number of students sampled every other year being much larger than in the years in between. As such, the average annual burden estimates for the two years described in this submission differ from those estimated for any given year.

Exhibit 1 provides the burden information per respondent group, by grade and by year, for the 2019–2020 data collections. Exhibit 2 summarizes the burden across the two years.

A description of the respondents or study is provided below, as supporting information for Exhibit 1:

- **Students**—Students in fourth, eighth, and twelfth grades complete main NAEP assessment forms that contain 50 or 60 minutes of cognitive blocks,[16] followed by non-cognitive block(s) which require a total of 15 minutes to complete. Nine-, 13-, and 17-year old students complete LTT assessment forms that contain 45 minutes of cognitive blocks, followed by non-cognitive block(s) which require a total of 5 minutes to complete. The core non-cognitive items are answered by students across subject areas and are related to demographic information. In addition, students answer subject-specific non-cognitive items. Based on timing data collected from cognitive interviews and previous DBA, fourth-grade students can respond to approximately four non-cognitive items per minute, while eighth- and twelfth-grade students can respond to approximately six non-cognitive items per minute. Using this information, the non-cognitive blocks are assembled so that most students can complete all items in the allocated amount of time. Each cognitive and non-cognitive block is timed so that the burden listed above is the maximum burden time for each student. The administrators and/or test delivery system will move students to the next section once the maximum amount of time is reached. Additional student burden accounts for time to read directions, distribute test booklets (for PBA), and log on to the computer and view a tutorial (for DBA). This additional burden is estimated at 10 minutes for PBA and 15 minutes for DBA. The cognitive or assessment items are not included in the burden estimate because they are not subject to the Paperwork Reduction Act. Therefore, the total burden for main NAEP students is 25 minutes for PBA and 30 minutes for DBA, while the total burden for LTT students is 15 minutes.
- **Teachers**—The teachers of fourth- and eighth-grade students participating in main NAEP are asked to complete questionnaires about their teaching background, education, training, and classroom organization. Average fourth-grade teacher burden is estimated to be 30 minutes because fourth-grade teachers often

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[16] The assessments given in Puerto Rico are translated into Spanish. To account for the language complexities, additional time is provided for the cognitive blocks (for a total of 80 minutes).

have multiple subject-specific sections to complete. Average eighth-grade teacher burden is 20 minutes if only one subject is taught and an additional 10 minutes for each additional subject taught. While a teacher questionnaire is not administered at grade 12, the economics department chair will also be asked to complete questions about economics-related course and teacher information. The burden for the department chairs is estimated to be 20 minutes. Based on timing data collected from cognitive interviews, adults can respond to approximately six non-cognitive items per minute. Using this information, the teacher questionnaires are assembled so that most teachers can complete the questionnaire in the estimated amount of time. For adult respondents, the burden listed is the estimated average burden. A teacher questionnaire is not administered as part of LTT.

- **Principals/Administrators**—The school administrators in the sampled schools are asked to complete a questionnaire. The core items are designed to measure school characteristics and policies that research has shown are highly correlated with student achievement. Subject-specific items concentrate on curriculum and instructional services issues. The burden for school administrators is determined in the same manner as burden for teachers (see above) and is estimated to average 30 minutes per principal/administrator, although burden may vary depending on the number of subject-specific sections included. A school administrator's questionnaire is not administered as part of LTT.
- **SD and ELL**—SD and ELL information is provided by school personnel concerning students identified as SD or ELL. This information will be used by those personnel to determine the appropriate accommodations for students. The burden for school administrators is estimated at 10 minutes, on average, for each student identified as SD and/or ELL.
- **Submission of Samples**— Survey sample information is collected from schools in the form of lists of potential students who may participate in NAEP. This sample information can be gathered manually or electronically at the school, district, or state level. If done at the state level, some states require a data security agreement, which is customized based on the specific requests of the state and provides verbatim security and confidentiality information from section A.10 above. If done at the school or district level, some burden will be incurred by school personnel. It is estimated that it will take two hours, on average, for school personnel to complete the submission process. Based on recent experience, the estimated percent of the schools or districts that will complete the sample submission process depends upon the nature of the sample (i.e., national or state). As such, it is estimated that 26 percent of the schools or districts will complete the submission process in state assessment years (i.e., 2019; based on the data from 2017) and 30 percent of the schools or districts will complete the submission process in national-only assessment years (i.e., 2020; based on the data from 2018).
- **Pre-Assessment and Assessment Activities**—Each school participating in main NAEP or LTT has a designated staff member to serve as its NAEP school coordinator. Pre-assessment and assessment activities include functions such as finalizing student samples, verifying student demographics, reviewing accommodations, and planning logistics for the assessment. An electronic pre-assessment system (known as MyNAEP) was developed so that school coordinators would provide requested administration information online, including logistical information, updates of student and teacher information, and the completion of inclusion and accommodation information. More information about the school coordinators' responsibilities is included in Section B.2. Based on information collected from previous years' use of MyNAEP, it is estimated that it will take four hours and 30 minutes, on average, for school personnel to complete these activities, including looking up information to enter into the system. We will continue to use MyNAEP system data to learn more about participant response patterns and use this information to further refine the system to minimize school coordinator burden.
- **School Coordinator Wrap-Up**—After each assessment, the field staff will meet with the school coordinator to wrap-up the assessment. The purpose of this activity is to obtain feedback on how well the assessment went in that school and any issues that were noted, as well as review the next steps. The wrap-up activities form is included in Appendix E1-1 for 2019 and Appendix E2-1 for 2020. It is estimated that this activity will take on average seven minutes.

- **Post-assessment Follow-up Survey**—As part of the on-going quality control of the assessment process, 25 percent of the schools will be randomly selected for an additional follow-up survey. Survey questions solicit feedback on pre-assessment, assessment, and procedural processes. The post-assessment follow-up survey is included in Appendix E1-2 for 2019 and Appendix E2-2 for 2020. It is estimated that this interview will take on average 10 minutes.
- **HSTS**—The NAEP HSTS periodically surveys the curricula being followed in our nation's high schools and the course taking patterns of high school students through a collection of transcripts. To facilitate this study, school personnel submit the school information form and additional information, estimated at 1 hour. The course catalog and student transcripts can be submitted electronically or via paper copies. It is estimated that 40% of the states and most TUDAs will submit them electronically (estimated at 10 hours for these state or district personnel, which will account for the submissions for 30% of the schools) and 10% of the schools will submit them electronically (estimated at 2.5 hours for school personnel). For the remaining 60% of the schools, school personnel will support NAEP field staff collection of paper student transcripts (estimated at 2 hours).
- **MSTS**—MSTS will examine the course taking patterns of middle school students through collection of transcripts in the 27 TUDA jurisdictions. The burden is 12 hours for district personnel to participate in the interviews, gather the information, upload the course catalogue, and upload student transcripts.
- **NIES**—NIES is designed to describe the condition of education for American Indian and Alaska Native (AI/AN) students in the United States. Additional questionnaires designed for NIES are given to students (estimated at 20 minutes), teachers (20 minutes), and school administrators (30 minutes).
- **CAFS**—The CAFS study contains a supplemental questionnaire related to computer familiarity and access. It is given to a subset of students and the time to complete this additional questionnaire is limited to 15 minutes. Additionally grade 4 and 8 teachers in the CAFS study will complete a 10 minute questionnaire.
- **SES Questionnaire**—The SES questionnaire study contains a supplemental questionnaire related to household composition. It is given to a subset of students and the time to complete this additional questionnaire is limited to 15 minutes.

EXHIBIT 1
Estimated Burden for NAEP 2019–2020 Assessments
(Note: all explanatory notes and footnotes are displayed following the 2020 table)

2019

Subjects	Students			Teachers			School Questionnaire (school principal)			Pre-assessment, sample submission, & assessment feedback (school coordinator)		SD/ELL (school personnel)				Total Burden (in hours)
	# of Students	Avg. minutes per response	Burden (in hours)	# of Teachers	Avg. minutes per response	Burden (in hours)	# of Schools	Avg. minutes per response	Burden (in hours)	# of Schools	Burden (in hours)[1]	# of Schools	# of SD/ELL Students[2]	Avg. minutes per response	Burden (in hours)	
4th Grade																
Operational (math, reading, science, Puerto Rico math); Pilot (reading, math)	366,200	30	183,100	46,800	30	23,400	9,360	30	4,680	9,360	48,469	9,360	87,888	10	14,648	274,297
PBA-DBA Bridge Study (science)[4]	9,000	25	3,750	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9,360	2,160	10	360	4,110
NIES[5]	8,000	20	2,667	2,000	20	667	2,200	30	1,100	N/A	N/A	N/A	N/A	N/A	N/A	4,434
CAFS[6]	6,300	15	1,575	1,250	10	208	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,783
SES SQ[7]	8,190	15	2,048	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,048
4th Grade Totals	**375,200**	**N/A**	**193,140**	**46,800**	**N/A**	**24,275**	**9,360**	**N/A**	**5,780**	**9,360**	**48,469**	**9,360**	**90,048**	**N/A**	**15,008**	**286,672**
8th Grade																
Operational (math, reading, science, Puerto Rico math); Pilot (reading, math)	376,200	30	188,100	43,322	20 for teachers who teach 1 subject; additional 10 for each additional subject[3]	18,412	8,144	30	4,072	8,144	42,172	8,144	71,478	10	11,913	264,669
PBA-DBA Bridge Study (science)[4]	10,000	25	4,167	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8,144	1,900	10	317	4,484
NIES[5]	6,500	20	2,167	1,500	20	500	2,000	30	1,000	N/A	N/A	N/A	N/A	N/A	N/A	3,667
CAFS[6]	6,525	15	1,631	750	10	125	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,756
SES SQ[7]	8,190	15	2,048	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,048
MSTS[8]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	27	324	N/A	N/A	N/A	N/A	324
8th Grade Totals	**386,200**	**N/A**	**198,113**	**43,322**	**N/A**	**19,037**	**8,144**	**N/A**	**5,072**	**8,171**	**42,496**	**8,144**	**73,378**	**N/A**	**12,230**	**276,948**
12th Grade																
Operational (math, reading, science)	48,000	30	24,000	N/A	N/A	N/A	1,763	30	882	1,763	9,129	1,763	7,200	10	1,200	35,211
PBA-DBA Bridge Study (science, reading, math)	38,000	25	15,833	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,763	5,700	10	950	16,783
NIES[5]	6,500	20	2,167	N/A	N/A	N/A	2,000	30	1,000	N/A	N/A	N/A	N/A	N/A	N/A	3,167
CAFS[6]	9,677	15	2,419	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,419
HSTS[9]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,763	4,789	N/A	N/A	N/A	N/A	4,789
12th Grade Totals	**86,000**	**N/A**	**44,419**	**N/A**	**N/A**	**N/A**	**1,763**	**N/A**	**1,882**	**3,526**	**13,918**	**1,763**	**12,900**	**N/A**	**2,150**	**62,369**
Total	**847,400**	**N/A**	**435,672**	**90,122**	**N/A**	**43,312**	**19,267**	**N/A**	**12,734**	**21,057**	**104,883**	**19,267**	**176,326**	**N/A**	**29,388**	**625,989**

Total number of respondents	997,113	**Total number of responses**	1,225,754

2020

Subjects	Students			Teachers[1]			School Questionnaire (school principal)[1]			Pre-assessment, sample submission, & assessment feedback (school coordinator)		SD/ELL (school personnel)			
	# of Students	Avg. minutes per response	Burden (in hours)	# of Teachers	Avg. minutes per response	Burden (in hours)	# of Schools	Avg. minutes per response	Burden (in hours)	# of Schools	Burden (in hours)[2]	# of Schools	# of SD/ELL Students[3]	Avg. minutes per response	Burden (in hours)
Age 9															
LTT Operational Mathematics and Reading	16,000	15	4,000	N/A	N/A	N/A	N/A	N/A	N/A	380	1,998	380	3,840	10	640
Age 9 Totals	**16,000**	**N/A**	**4,000**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**380**	**1,998**	**380**	**3,840**	**N/A**	**640**
Age 13															
LTT Operational Mathematics and Reading	16,000	15	4,000	N/A	N/A	N/A	N/A	N/A	N/A	380	1,998	380	3,040	10	507
Age 13 Totals	**16,000**	**N/A**	**4,000**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**380**	**1,998**	**380**	**3,040**	**N/A**	**507**
Age 17															
LTT Operational Mathematics and Reading	16,000	15	4,000	N/A	N/A	N/A	N/A	N/A	N/A	380	1,998	380	2,400	10	400
Age 17 Totals	**16,000**	**N/A**	**4,000**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**380**	**1,998**	**380**	**2,400**	**N/A**	**400**
Total	**48,000**	**N/A**	**12,000**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**1,140**	**5,994**	**1,140**	**9,280**	**N/A**	**1,547**

Total number of respondents 50,280   Total number of responses 58,420

Notes for 2019 table in Exhibit 1

1. The burden for the school coordinator is as follows: Pre-assessment burden is 4.5 hours, sample submission burden is 2 hours (for 26% of schools in 2019 based on 2017 data), school coordinator wrap-up activities is 7 minutes and post-assessment follow-up survey is 10 minutes (for 25% of the schools).
2. The estimated percent of SD/ELL students (based on the NAEP 2017 sample) is 24%, 19%, and 15%, at grades 4, 8, and 12, respectively.
3. Grade 8 teachers who teach one subject have an estimated burden of 20 minutes, with an additional 10 minutes for each additional subject. The estimated number of teachers who teach 1 subject is 50%, 2 subjects is 45%, 3 subjects is 4%, and 4 subjects is 1%.
4. The PBA are administered in the same schools as the DBA. As such, there are not additional teacher or school questionnaires associated with the PBA. In addition, the same school personnel will provide the SD and ELL information for the DBA and PBA students and this does not add to the total number of respondents.
5. The burden for NIES is associated with the additional questionnaire that is given to the same students, teachers, and school administrators that respond to the main NAEP questionnaires. As such, the NIES questionnaire does not impact the total number of respondents. The estimated number of students, teachers, and school administrators that will respond to the NIES questionnaires is based on the 2015 sample.
6. The burden for CAFS is associated with the additional questionnaire that is given to the same students and teachers that respond to the main NAEP questionnaires. As such, the CAFS questionnaire does not impact the total number of respondents. The CAFS questionnaires are administered to all science students and their science teachers in 25% of the schools in the science sample.
7. The burden for SES-SQ is associated with the additional questionnaire that is given to the same students that respond to the main NAEP questionnaires. As such, the SES-SQ questionnaire does not impact the total number of respondents. The SES-SQ questionnaires are administered to all pilot students in 50% of the schools in the pilot sample.
8. The burden for MSTS is 12 hours for district personnel to participate in the interviews, gather the information, upload the course catalogue, and upload student transcripts.
9. The burden for HSTS is as follows: school personnel in all 12th grade schools will submit the school information form and additional information (1 hour); state or district personnel will submit the course catalog and student

transcripts electronically (10 hours for 30% of the schools which come from 40% of the states and all TUDAs); school personnel in 10% of the schools will submit the course catalog and student transcript electronically (2.5 hours); and school personnel in 60% of the schools will support NAEP field staff collection of paper student transcripts (2 hours).

<u>Notes for 2020 table in Exhibit 1</u>

1. There are no survey questionnaires for teachers or schools.
2. The burden for the school coordinator is as follows: Pre-assessment burden is 4.5 hours, sample submission burden is 2 hours (for 30% of schools in 2020, based on 2018 data, respectively), school coordinator wrap-up activities is 7 minutes and post-assessment follow-up survey is 10 minutes (for 25% of the schools).
3. The estimated percent of SD/ELL students is 24%, 19%, and 15%, at ages 9, 13, and 17, respectively.

EXHIBIT 2
Total Annual Estimated Burden Time Cost for NAEP 2019–2020 Assessments

Data Collection Year	Number of Respondents	Number of Responses	Total Burden (in hours)
2019	997,113	1,225,754	625,989
2020	50,280	58,420	19,541
2-year Sum Total	*1,047,393*	*1,284,174*	*645,530*
2-year Annual Average	**523,697**	**642,087**	**322,765**

The estimated respondent burden across all these activities translates into an estimated total burden time cost of $9,639,654 for 645,530 hours[17], broken out by year and respondent group in the table below.

	Students		Teachers and School Staff		Principals		Total	
	Hours	**Cost**	**Hours**	**Cost**	**Hours**	**Cost**	**Hours**	**Cost**
2019	435,672	$3,158,622	177,583	$5,605,016	12,734	$613,553	**625,989**	**$9,377,191**
2020	12,000	$87,000	7,541	175,463	0	0	**19,541**	**262,463**
Total	**447,672**	**$3,245,622**	**185,124**	**$5,780,479**	**12,734**	**$613,553**	**645,530**	**$9,639,654**

A.13. Cost to Respondents

There are no direct costs to respondents.

A.14. Estimates of Cost to the Federal Government

The total cost to the federal government for the administrations of the 2019 and 2020 NAEP data collections (contract costs and NCES salaries and expenses) is estimated to be $289,200,600 million for the two years (annualized average of $144,600,300 million). The combined 2019 and 2020 cost estimate is shown in the table below.

NCES salaries and expenses	**$2,800,600**
Contract costs	**$286,400,000**
Printing, packaging, and distribution, and scoring	$15,000,000
Item Development	$30,000,000
Data collection	$121,200,000

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[17] This is based on 447,672 hours for students at $7.25 an hour (based on the federal minimum wage), 181,698 hours for teachers and school staff at $31.54 an hour (based on a 10-month salary from data from Bureau of Labor Statistics, U.S. Department of Labor, *The Economics Daily, Employment and annual wages for preschool, primary, middle, and secondary school teachers*, on the Internet at http://www.bls.gov/opub/ted/2015/employment-and-annual-wages-for-preschool-primary-middle-and-secondary-school-teachers.htm [visited December 08, 2015]), and 14,371 hours for principals at $48.18 an hour (based on data from Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook,* Elementary, Middle, and High School Principals, on the Internet at https://www.bls.gov/ooh/management/elementary-middle-and-high-school-principals.htm [visited March 7, 2018]).

Recruitment and State Support	$15,200,000
Analysis and Reporting	$45,000,000
Securing and transferring DBA assessment data	$60,000,000

A.15. Reasons for Changes in Burden (from last Clearance submittal)

The nature of NAEP is that burden alternates from a relatively low burden in national-level administration years (i.e., even years) to a substantial burden increase in state-level administration years that include one or more assessments that support national, state-by-state, and certain urban districts reporting (i.e., odd years). In state/district assessment years, NAEP samples approximately 1,000,000 students, while in national-only assessment years, approximately 50,000-100,000 students. In 2019, NAEP will conduct state/district assessments, and in 2020 national-level assessments. The previous two-year clearance included burden for one state/district assessments year (2019) and one national-level assessments year (2018). Therefore, the annualized number of respondents and responses was similar in the clearance request for NAEP 2019 and 2020, as it was in the request for NAEP 2018 and 2019. In February 2019, when NCES had to submit an update request to revise the NAEP 2020 data collection plan, at which time a number of pilot and special studies had to be removed and LTT 2020 added, the total burden hours decreased by 15% from the previous clearance. This Update 2 request does not involve any changes to the estimated burden.

A.16. Time Schedule for Data Collection and Publications

The time schedule for the data collection for the 2019–2020 assessments is shown below.

NAEP 2019	January–March 2019
LTT 2020	Age 13: October–December 2019 Age 9: January–March 2020 Age 17: March–May 2020

The grades 4 and 8 reading and mathematics national and state results are typically released to the public around October of the same year (i.e., about 6-7 months after the end of data collection). All other operational assessments are typically released 12-15 months after the end of data collection.

The operational schedule for the NAEP assessments generally follows the same schedule for each assessment cycle (with the exception for LTT that different age groups are assessed at different times – see the previous table in this section). The dates below show the specifics for the 2019 state-level assessments:

- Spring 2018: Select the school sample and notify schools
- October–November 2018: States, districts, or schools submit the list of students
- December 2018: Select the student sample
- December 2018–January 2019: Schools prepare for the assessments using the MyNAEP system
- January–March 2019: Administer the assessments
- March–May 2019: Process the data, score constructed response items, and calculate sampling weights
- June–July 2019: Analyze the data
- July–September 2019: Prepare the reports, obtaining feedback from reviewers
- October 2019: Release the results

A.17. Approval for Not Displaying OMB Approval Expiration Date

No exception is requested.

A.18. Exceptions to Certification Statement

No exception is requested.