Research Data Sharing Agreement:

Between The Colorado Department of Education
And The University of Connecticut

This DATA ACCESS AND USE AGREEMENT (the "Agreement") by and between **COLORADO DEPARTMENT OF EDUCATION** (the "State"), and **UNIVERSITY OF CONNECTICUT** (the "Requester" or "University of Connecticut"), is entered into effective as of December 10, 2014 (the "Effective Date") and ends as of September 30, 2022.

I. SUMMARY

1. The Colorado Department of Education is a State Education Agency responsible for the implementation of education laws adopted by the State of Colorado. In fulfillment of law found in the Colorado Revised Statutes, CDE is charged with collecting and securely maintaining unit record data on students enrolled in the state's local education agencies (LEAs). Data Protocol (C.R.S. 24-37.5-705) provides authorization for each state agency to share data with other state agencies, political subdivisions, and nongovernmental entities and individuals.

2. The University of Connecticut is conducting research for and on behalf of the State to ascertain the impact of highly effective gifted education programs on student growth, in particular, students from underserved populations. Student, school, and district descriptive-type information (e.g., demographic information, socio-economic status, education services) can be used to predict the degree of academic student growth, as measured by state assessments in reading/English language arts and mathematics. The University of Connecticut is requesting data at the student, school, and district levels for a cohort of students. This cohort includes the students who were in kindergarten in 2008-09, 1st grade in 2009-10, 2nd grade in 2010-11, 3rd grade in 2011-12, 4th grade in 2012-13, and 5th grade in 2013-14. Multi-level modeling will be used to analyze the data, and the results will be used to identify *highly effective* gifted education programs in regards to the student growth of underrepresented populations. Requestor's research analyses will be provided to the State in order that the State may be better informed about the impact of highly effective gifted-education programs on student growth, particularly for underrepresented student populations.

Table 1. Research questions, variables of interest, and analytic approach

Question Sets	Variables	Analyses
1. Within each of the states, how many and what percentage of students are identified for participation in gifted and talented programs within an academic year? Does the proportion of identified gifted students vary by school or by district? If so, are there school or district characteristics that are related to the proportion of students that are identified within a given school?	For each school at which 5th grade is taught and for each district, we are requesting several *general* pieces of information for the 2013-14 school year. (The specific variables are identical to, and listed under, Question Set 2, below.) The data include school/district identification information, location, contact information, school characteristics, student counts, teacher counts, assessment results, and financial information.	(Modeling School Percentage of Gifted Students) **FULL MODEL** Level-1 (School) $Perc_{jk} = \beta_{0k} + \beta_{1k}(DEMO_{jk}) + r_{jk}$ Level-2 (District) $\gamma_{0k} = \mu_{00} + \mu_{01}(DEMO_k) + \mu_{01}(IDPolicies_k) + u_k$ $\gamma_{1k} = \mu_{10} + \mu_{11}(DEMO_k) + \mu_{11}(IDPolicies_k) + u_k$ DEMO=Demographics IDPolicies= Identification Policies
2. What are the demographic and other characteristics of students identified as gifted? Are traditionally underserved students proportionally represented within programs for the gifted? Does the propor-	For each school at which 5th grade is taught, we are requesting the following information for school year 2013-14: • School ID • School Name • District ID • District Name	**Part 1** Level-1 (School) $\ln\left(\frac{p(gu)}{p(g)p(u)}\right)_{jk} = \beta_{0k} + \beta_{1k}(DEMO_{jk}) + \beta_{2k}(SACH_{jk}) + r_{jk}$ Level-2 (District)

Question Sets	Variables	Analyses
tional representation of underserved students vary by school or by district? If so, what school and district level characteristics appear to be most linked to a school district's or school's ability to proportionally identify traditionally represented students?	• NCES ID for the school • Reporting Year • School Address • School Phone • School's Lowest grade • School's Highest grade • Average Daily Attendance • Average Daily Membership • Total Number of Free lunch eligible Students • Total Number of Students • Total Number of Black Students • Total Number of Latino Students • Total Number of Asian Students • Total Number of White Students • Total Number of Native American Students • Total Number of ELL students • Total Number of Migrant Students • Total Number of Gifted Students • Number of FTE classroom teachers • Pupil/Teacher Ratio • Title I Eligible School? • Urbanicity • Total % AYP For each district, we are requesting the following information for the 2013-14 school year: • District ID • District Name • NCES ID for the district • Reporting Year • District Address • District Phone • Total Number of Students • Total Number of Free lunch eligible Students • Total Number of Black Students • Total Number of Latino Students • Total Number of Asian Students • Total Number of White Students • Total Number of Native American Students • Total Number of ELL students • Total Number of Migrant Students • Total Number of Gifted Students • Average Per Pupil Expenditure (total)	$\beta_{0k} = \gamma_{00} + \gamma_{01}(DDEMO_k) + \gamma_{02}(DACH_k) + \gamma_{03}(IDPOLICY_k) + u_k$ $\beta_{1k} = \gamma_{10} + \gamma_{11}(DDEMO_k) + \gamma_{12}(DACH_k) + \gamma_{13}(IDPOLICY_k) + u_k$ $\beta_{2k} = \gamma_{20} + \gamma_{21}(DDEMO_k) + \gamma_{22}(DACH_k) + \gamma_{23}(IDPOLICY_k) + u_k$ Where p(gu) is the observed proportion of gifted under-represented students; p(g) is the observed proportion of gifted students, and p(u) is the observed proportion of underserved students in the school. Percentage of Gifted students in the school * Percentage of underrepresented students in the school= the "ideal" percentage of gifted students who are traditionally underrepresented groups. DEMO= demographic variables SACH= School achievement DACH= District Achievement IDPolicy= District Identification Policy **Part 2** Level-1 (Student) $Y_{ijk} = \beta_{0jk} + \beta_{1jk}(\text{Black}) + \beta_{2jk}(\text{Latino}) + \beta_{3jk}(\text{FRPL}) + r_{ijk}$ Level-2 (Student) $\pi_{0jk} = \beta_{00jk} + \beta_{01jk}(\text{ind\_cov}) + r_{0jk}$ $\pi_{1jk} = \beta_{10jk} + \beta_{11jk}(\text{ind\_cov}) + r_{1jk}$ Level-3 (School) $\beta_{0jk} = \gamma_{00k} + \gamma_{01k}(PERCUNDER_{jk}) + u_{0jk}$ $\beta_{1jk} = \gamma_{10k} + \gamma_{11k}(PERCUNDER_{jk}) + u_{1jk}$ $\beta_{2jk} = \gamma_{20k} + \gamma_{21k}(PERCUNDER_{jk}) + u_{2jk}$ $\beta_{3jk} = \gamma_{30k} + \gamma_{31k}(PERCUNDER_{jk}) + u_{3jk}$ Level-4 (District)--- $\gamma_{00k} = \mu_{000} + \mu_{001}(DISTRICTUNDER_k) + \mu_{002}(IDPolicy_k) + \mu_{003}(Prep_k) + \mu_{004}(PreID_k) + f_{00k}$ $\gamma_{01k} = \mu_{010} + \mu_{011}(DISTRICTUNDER_k) + \mu_{012}(IDPolicy_k) + \mu_{013}(Prep_k) + \mu_{014}(PreID_k) + f_{01k}$ $\gamma_{10k} = \mu_{100} + \mu_{101}(DISTRICTUNDER_k) + \mu_{102}(IDPolicy_k) + \mu_{103}(Prep_k) + \mu_{104}(PreID_k) + f_{10k}$ $\gamma_{11k} = \mu_{110} + \mu_{111}(DISTRICTUNDER_k) + \mu_{112}(IDPolicy_k) + \mu_{113}(Prep_k) + \mu_{114}(PreID_k) + f_{11k}$ $\gamma_{20k} = \mu_{200} + \mu_{201}(DISTRICTUNDER_k) + \mu_{202}(IDPolicy_k) + \mu_{213}(Prep_k) + \mu_{204}(PreID_k) + f_{20k}$ $\gamma_{21k} = \mu_{210} + \mu_{211}(DISTRICTUNDER_k) + \mu_{212}(IDPolicy_k) + \mu_{213}(Prep_k) + \mu_{214}(PreID_k) + f_{21k}$ $\gamma_{30k} = \mu_{300} + \mu_{301}(DISTRICTUNDER_k) + \mu_{302}(IDPolicy_k) + \mu_{303}(Prep_k) + \mu_{304}(PreID_k) + f_{30k}$ $\gamma_{31k} = \mu_{310} + \mu_{311}(DISTRICTUNDER_k) + \mu_{312}(IDPolicy_k) + \mu_{313}(Prep_k) + \mu_{314}(PreID_k) + f_{31k}$ Where PERCUNDER is the percentage of underserved students in the school, DISTUNDER is the percentage of underserved students in the school, Prep indicates whether the district has a preparation program for underserved students and PreID indicates whether the district uses a pre-identification system for the preparation program.

Question Sets	Variables	Analyses
3. Which schools and districts demonstrate particularly high growth in academic achievement for their gifted students? What program characteristics explain achievement growth among identified gifted students?	In addition to the school and district information, listed in Question Set 2, for each student we are requesting the following information for *all* grades and school years noted above: • District ID • School ID • Reporting Year • Unique Student ID • Student Birthdate • Free/Reduced Lunch Status • Race/Ethnicity Special Education Status • Gifted Status • Exceptionality • LEP Status • LEP Native Language • Gender • Grade • Number of Absences • Number of Days of School Membership • Retained • Homeless • Migrant • Number of Absences Additionally, for the 3rd, 4th, and 5th grade students, we are requesting the following variables: • 3rd grade Math score (Vertically Scaled) – 2012 • 3rd grade Reading score (Vertically Scaled) – 2012 • 4th grade Math score (Vertically Scaled) – 2013 • 4th grade Reading score (Vertically Scaled) – 2013 • 5th grade Math score (Vertically Scaled) – 2014 • 5th grade Reading score (Vertically Scaled) – 2014	**ALL STUDENTS:** Level-1 (Observations across time) $Y_{tijk} = \pi_{0ijk} + \pi_{1ijk}(YEAR_{tijk}) + e_{tijk}$ Level-2 (Student) $\pi_{0ijk} = \beta_{00jk} + \beta_{01jk}(\text{Gifted}_{ijk}) + r_{0ijk}$ $\pi_{1ijk} = \beta_{10jk} + \beta_{11jk}(\text{Gifted}_{ijk}) + r_{1ijk}$ Level-3 (School) *Level3School* $\beta_{00jk} = \gamma_{000k} + \gamma_{001k}(SDEMO_{jk}) + \gamma_{002k}(DOSAGE_{jk}) + \gamma_{003k}(ADV_{jk}) + u_{00jk}$ $\beta_{01jk} = \gamma_{010k} + \gamma_{011k}(SDEMO_{jk}) + \gamma_{012k}(DOSAGE_{jk}) + \gamma_{013k}(ADV_{jk}) + u_{01jk}$ $\beta_{10jk} = \gamma_{100k} + \gamma_{101k}(SDEMO_{jk}) + \gamma_{102k}(DOSAGE_{jk}) + \gamma_{103k}(ADV_{jk}) + u_{10jk}$ $\beta_{11jk} = \gamma_{110k} + \gamma_{111k}(SDEMO_{jk}) + \gamma_{112k}(DOSAGE_{jk}) + \gamma_{113k}(ADV_{jk}) + u_{11jk}$ Level 4- District $\gamma_{000k} = \mu_{0000} + \mu_{0001}(DDEMO_k) + \mu_{0002}(DProgram_k) + f_{000k}$ $\gamma_{001k} = \mu_{0010} + \mu_{0011}(DDEMO_k) + \mu_{0012}(DProgram_k) + f_{001k}$ $\gamma_{002k} = \mu_{0020} + \mu_{0021}(DDEMO_k) + \mu_{0022}(DProgram_k) + f_{002k}$ $\gamma_{003k} = \mu_{0030} + \mu_{0031}(DDEMO_k) + \mu_{0032}(DProgram_k) + f_{003k}$ $\gamma_{010k} = \mu_{0100} + \mu_{0101}(DDEMO_k) + \mu_{0102}(DProgram_k) + f_{010k}$ $\gamma_{011k} = \mu_{0110} + \mu_{0111}(DDEMO_k) + \mu_{0112}(DProgram_k) + f_{011k}$ $\gamma_{012k} = \mu_{0120} + \mu_{0121}(DDEMO_k) + \mu_{0122}(DProgram_k) + f_{012k}$ $\gamma_{013k} = \mu_{0130} + \mu_{0131}(DDEMO_k) + \mu_{0132}(DProgram_k) + f_{013k}$ $\gamma_{100k} = \mu_{1000} + \mu_{1001}(DDEMO_k) + \mu_{1002}(DProgram_k) + f_{100k}$ $\gamma_{101k} = \mu_{1010} + \mu_{1011}(DDEMO_k) + \mu_{1012}(DProgram_k) + f_{101k}$ $\gamma_{102k} = \mu_{1020} + \mu_{1021}(DDEMO_k) + \mu_{1022}(DProgram_k) + f_{102k}$ $\gamma_{103k} = \mu_{1030} + \mu_{1031}(DDEMO_k) + \mu_{1032}(DProgram_k) + f_{103k}$ $\gamma_{110k} = \mu_{1100} + \mu_{1101}(DDEMO_k) + \mu_{1102}(DProgram_k) + f_{010k}$ $\gamma_{111k} = \mu_{1110} + \mu_{1111}(DDEMO_k) + \mu_{1112}(DProgram_k) + f_{111k}$ $\gamma_{112k} = \mu_{1120} + \mu_{1121}(DDEMO_k) + \mu_{1122}(DProgram_k) + f_{112k}$ $\gamma_{113k} = \mu_{1130} + \mu_{1131}(DDEMO_k) + \mu_{1132}(DProgram_k) + f_{113k}$ Where DOSAGE refers to the dosage of gifted education received, ADV refers to advanced curricular and instructional opportunities, DDEMO refers to district demographics and DProgram refers to district program characteristics. **GIFTED ONLY ANALYSES** Level-1 (Observations across time) $Y_{tijk} = \pi_{0ijk} + \pi_{1ijk}(YEAR_{tijk}) + e_{tijk}$ Level-2 (Student) $\pi_{0ijk} = \beta_{00jk} + \beta_{01jk}(\text{ind\_cov}) + r_{0ijk}$ $\pi_{1ijk} = \beta_{10jk} + \beta_{11jk}(\text{ind\_cov}) + r_{1ijk}$

Question Sets	Variables	Analyses
		Level3School $\beta_{00jk} = \gamma_{000k} + \gamma_{001k}(SDEMO_{jk}) + \gamma_{002k}(DOSAGE_{jk}) + \gamma_{003k}(ADV_{jk}) + u_{00jk}$ $\beta_{01jk} = \gamma_{010k} + \gamma_{011k}(SDEMO_{jk}) + \gamma_{012k}(DOSAGE_{jk}) + \gamma_{013k}(ADV_{jk}) + u_{01jk}$ $\beta_{10jk} = \gamma_{100k} + \gamma_{101k}(SDEMO_{jk}) + \gamma_{102k}(DOSAGE_{jk}) + \gamma_{103k}(ADV_{jk}) + u_{10jk}$ $\beta_{11jk} = \gamma_{110k} + \gamma_{111k}(SDEMO_{jk}) + \gamma_{112k}(DOSAGE_{jk}) + \gamma_{113k}(ADV_{jk}) + u_{11jk}$ Level-4 (District) $\gamma_{000k} = u_{0000} - u_{0001}(DDEMO_k) - u_{0002}(DProgram_k) - f_{000k}$ $\gamma_{001k} = u_{0010} - u_{0011}(DDEMO_k) - u_{0012}(DProgram_k) - f_{001k}$ $\gamma_{002k} = u_{0020} - u_{0021}(DDEMO_k) - u_{0022}(DProgram_k) - f_{002k}$ $\gamma_{003k} = u_{0030} - u_{0031}(DDEMO_k) - u_{0032}(DProgram_k) - f_{003k}$ $\gamma_{010k} = u_{0100} - u_{0101}(DDEMO_k) - u_{0102}(DProgram_k) - f_{010k}$ $\gamma_{011k} = u_{0110} - u_{0111}(DDEMO_k) - u_{0112}(DProgram_k) - f_{011k}$ $\gamma_{012k} = u_{0120} - u_{0121}(DDEMO_k) - u_{0122}(DProgram_k) - f_{012k}$ $\gamma_{013k} = u_{0130} - u_{0131}(DDEMO_k) - u_{0132}(DProgram_k) - f_{013k}$ $\gamma_{100k} = u_{1000} - u_{1001}(DDEMO_k) - u_{1002}(DProgram_k) - f_{100k}$ $\gamma_{101k} = u_{1010} - u_{1011}(DDEMO_k) - u_{1012}(DProgram_k) - f_{101k}$ $\gamma_{102k} = u_{1020} - u_{1021}(DDEMO_k) - u_{1022}(DProgram_k) - f_{102k}$ $\gamma_{103k} = u_{1030} - u_{1031}(DDEMO_k) - u_{1032}(DProgram_k) - f_{103k}$ $\gamma_{110k} = u_{1100} - u_{1101}(DDEMO_k) - u_{1102}(DProgram_k) - f_{110k}$ $\gamma_{111k} = u_{1110} - u_{1111}(DDEMO_k) - u_{1112}(DProgram_k) - f_{111k}$ $\gamma_{112k} = u_{1120} - u_{1121}(DDEMO_k) - u_{1122}(DProgram_k) - f_{112k}$ $\gamma_{113k} = u_{1130} - u_{1131}(DDEMO_k) - u_{1132}(DProgram_k) - f_{113k}$ Where ind-cov refers to individual, student-level covariates, DOSAGE refers to the dosage of gifted education received, ADV refers to advanced curricular and instructional opportunities, DDEMO refers to district demographics and DProgram refers to district program characteristics.
4. What program characteristics appear to be most linked to favorable academic outcomes for underserved gifted students?	For each school at which 5th grade is taught and for each district, we are requesting several *general* pieces of information for the 2013-14 school year. (The specific variables are identical to, and listed under, Question Set 2, below.) The data include school/district identification information, location, contact information, school characteristics, student counts, teacher counts, assessment results, and financial information. The student variables are the same as the ones listed for Question Set 3. The school and district variables are the same as those listed for Question Set 2.	**ALL STUDENTS** Level-1 (Observations across time) $Y_{tijk} = \pi_{0ijk} + \pi_{1ijk}(YEAR_{tijk}) + e_{tijk}$ Level-2 (Student) $\pi_{0ijk} = \beta_{00jk} + \beta_{01jk}(\text{Gifted}) + \beta_{02jk}(\text{under}) + \beta_{03jk}(\text{gifted X under}) + r_{0ijk}$ $\pi_{1ijk} = \beta_{10jk} + \beta_{11jk}(\text{Gifted})\ \beta_{12jk}(\text{under}) + + \beta_{13jk}(\text{gifted X under}) + r_{1ijk}$ Level-3 (School) $\beta_{00jk} = \gamma_{000k} + \gamma_{001k}(SDEMO_{jk}) + \gamma_{002k}(CULTURE_{jk}) + u_{00jk}$ $\beta_{01jk} = \gamma_{010k} + \gamma_{011k}(SDEMO_{jk}) + \gamma_{012k}(CULTURE_{jk}) + u_{01jk}$ $\beta_{02jk} = \gamma_{020k} + \gamma_{021k}(SDEMO_{jk}) + \gamma_{022k}(CULTURE_{jk}) + u_{02jk}$ $\beta_{03jk} = \gamma_{030k} + \gamma_{031k}(SDEMO_{jk}) + \gamma_{032k}(CULTURE_{jk}) + u_{03jk}$ $\beta_{10jk} = \gamma_{100k} + \gamma_{101k}(SDEMO_{jk}) + \gamma_{102k}(CULTURE_{jk}) + u_{10jk}$ $\beta_{11jk} = \gamma_{110k} + \gamma_{111k}(SDEMO_{jk}) + \gamma_{112k}(CULTURE_{jk}) + u_{11jk}$ $\beta_{02jk} = \gamma_{120k} + \gamma_{121k}(SDEMO_{jk}) + \gamma_{122k}(CULTURE_{jk}) + u_{12jk}$ $\beta_{03jk} = \gamma_{130k} + \gamma_{131k}(SDEMO_{jk}) + \gamma_{132k}(CULTURE_{jk}) + u_{13jk}$

Question Sets	Variables	Analyses
		Level-4 (District) $\gamma_{000k} = \mu_{0000} + \mu_{0001}(DDEMO_k) + \mu_{0002}(\mathrm{Prep}_k) + f_{000k}$ $\gamma_{001k} = \mu_{0010} + \mu_{0011}(DDEMO_k) + \mu_{0012}(\mathrm{Prep}_k) + f_{001k}$ $\gamma_{002k} = \mu_{0020} + \mu_{0021}(DDEMO_k) + \mu_{0022}(\mathrm{Prep}_k) + f_{002k}$ $\gamma_{010k} = \mu_{0100} + \mu_{0101}(DDEMO_k) + \mu_{0102}(\mathrm{Prep}_k) + f_{010k}$ $\gamma_{011k} = \mu_{0110} + \mu_{0111}(DDEMO_k) + \mu_{0112}(\mathrm{Prep}_k) + f_{011k}$ $\gamma_{012k} = \mu_{0120} + \mu_{0121}(DDEMO_k) + \mu_{0122}(\mathrm{Prep}_k) + f_{012k}$ $\gamma_{020k} = \mu_{0200} + \mu_{0201}(DDEMO_k) + \mu_{0202}(\mathrm{Prep}_k) + f_{020k}$ $\gamma_{021k} = \mu_{0210} + \mu_{0211}(DDEMO_k) + \mu_{0212}(\mathrm{Prep}_k) + f_{021k}$ $\gamma_{022k} = \mu_{0220} + \mu_{0221}(DDEMO_k) + \mu_{0222}(\mathrm{Prep}_k) + f_{022k}$ $\gamma_{030k} = \mu_{0300} + \mu_{0301}(DDEMO_k) + \mu_{0302}(\mathrm{Prep}_k) + f_{030k}$ $\gamma_{031k} = \mu_{0310} + \mu_{0311}(DDEMO_k) + \mu_{0312}(\mathrm{Prep}_k) + f_{031k}$ $\gamma_{032k} = \mu_{0320} + \mu_{0321}(DDEMO_k) + \mu_{0322}(\mathrm{Prep}_k) + f_{032k}$ $\gamma_{100k} = \mu_{1000} + \mu_{1001}(DDEMO_k) + \mu_{1002}(\mathrm{Prep}_k) + f_{100k}$ $\gamma_{101k} = \mu_{1010} + \mu_{1011}(DDEMO_k) + \mu_{1012}(\mathrm{Prep}_k) + f_{101k}$ $\gamma_{102k} = \mu_{1020} + \mu_{1021}(DDEMO_k) + \mu_{1022}(\mathrm{Prep}_k) + f_{102k}$ $\gamma_{110k} = \mu_{1100} + \mu_{1101}(DDEMO_k) + \mu_{1102}(\mathrm{Prep}_k) + f_{010k}$ $\gamma_{111k} = \mu_{1110} + \mu_{1111}(DDEMO_k) + \mu_{1112}(\mathrm{Prep}_k) + f_{111k}$ $\gamma_{112k} = \mu_{1120} + \mu_{1121}(DDEMO_k) + \mu_{1122}(\mathrm{Prep}_k) + f_{112k}$ $\gamma_{120k} = \mu_{1200} + \mu_{1201}(DDEMO_k) + \mu_{1202}(\mathrm{Prep}_k) + f_{120k}$ $\gamma_{121k} = \mu_{1210} + \mu_{0211}(DDEMO_k) + \mu_{1212}(\mathrm{Prep}_k) + f_{121k}$ $\gamma_{122k} = \mu_{1220} + \mu_{1221}(DDEMO_k) + \mu_{1222}(\mathrm{Prep}_k) + f_{122k}$ $\gamma_{130k} = \mu_{1300} + \mu_{1301}(DDEMO_k) + \mu_{1302}(\mathrm{Prep}_k) + f_{130k}$ $\gamma_{131k} = \mu_{1310} + \mu_{1311}(DDEMO_k) + \mu_{1312}(\mathrm{Prep}_k) + f_{131k}$ $\gamma_{132k} = \mu_{1320} + \mu_{1321}(DDEMO_k) + \mu_{1322}(\mathrm{Prep}_k) + f_{132k}$ Where GIFTED represents whether the student was identified as gifted, under represents whether the student is underrepresented, gifted X under is the gifted by underrepresented same level interaction term. SDEMO are school level demographics, DDEMO are district level demographics CULTURE is the cultural responsiveness of the program, measured at the school level, and PREP is the preparation variable, measured at the district level. Time specific residuals are represented by e's, student level residuals are represented by r's, School level residuals are represented by u's, and district level residuals are represented by fs. t indexes time, i indexes individual, j indexes school, and k indexes district. **GIFTED ONLY ANALYSES** Level-1 (Observations across time) $Y_{tijk} = \pi_{0ijk} + \pi_{1ijk}(YEAR_{tijk}) + e_{tijk}$

Question Sets	Variables	Analyses
		Level-2 (Student) $\pi_{0ijk} = \beta_{00jk} + \beta_{01jk}(\text{UNDER}) + r_{0ijk}$ $\pi_{1ijk} = \beta_{10jk} + \beta_{11jk}(\text{UNDER}) + r_{1ijk}$ *Level3School* $\beta_{00jk} = \gamma_{000k} + \gamma_{001k}(SDEMO_{jk}) + \gamma_{002k}(SPROGRAM_{jk}) + u_{00jk}$ $\beta_{01jk} = \gamma_{010k} + \gamma_{011k}(SDEMO_{jk}) + \gamma_{012k}(PROGRAM_{jk}) + u_{01jk}$ $\beta_{10jk} = \gamma_{100k} + \gamma_{101k}(SDEMO_{jk}) + \gamma_{102k}(SPROGRAM_{jk}) + u_{10jk}$ $\beta_{11jk} = \gamma_{110k} + \gamma_{111k}(SDEMO_{jk}) + \gamma_{112k}(SPROGRAM_{jk}) + u_{11jk}$ Level-4 (District) $\gamma_{000k} = \mu_{0000} + \mu_{0001}(DDEMO_k) + \mu_{0002}(\text{Prep}_k) + f_{000k}$ $\gamma_{001k} = \mu_{0010} + \mu_{0011}(DDEMO_k) + \mu_{0012}(\text{Prep}_k) + f_{001k}$ $\gamma_{002k} = \mu_{0020} + \mu_{0021}(DDEMO_k) + \mu_{0022}(\text{Prep}_k) + f_{002k}$ $\gamma_{010k} = \mu_{0100} + \mu_{0101}(DDEMO_k) + \mu_{0102}(\text{Prep}_k) + f_{010k}$ $\gamma_{011k} = \mu_{0110} + \mu_{0111}(DDEMO_k) + \mu_{0112}(\text{Prep}_k) + f_{011k}$ $\gamma_{012k} = \mu_{0120} + \mu_{0121}(DDEMO_k) + \mu_{0122}(\text{Prep}_k) + f_{012k}$ $\gamma_{100k} = \mu_{1000} + \mu_{1001}(DDEMO_k) + \mu_{1002}(\text{Prep}_k) + f_{100k}$ $\gamma_{101k} = \mu_{1010} + \mu_{1011}(DDEMO_k) + \mu_{1012}(\text{Prep}_k) + f_{101k}$ $\gamma_{102k} = \mu_{1020} + \mu_{1021}(DDEMO_k) + \mu_{1022}(\text{Prep}_k) + f_{102k}$ $\gamma_{110k} = \mu_{1100} + \mu_{1101}(DDEMO_k) + \mu_{1102}(\text{Prep}_k) + f_{010k}$ $\gamma_{111k} = \mu_{1110} + \mu_{1111}(DDEMO_k) + \mu_{1112}(\text{Prep}_k) + f_{111k}$ $\gamma_{112k} = \mu_{1120} + \mu_{1121}(DDEMO_k) + \mu_{1122}(\text{Prep}_k) + f_{112k}$

As shown in the table, this project requires the use of de-identified student-level data on students' demographic information, gifted status, exceptionality, LEP information, attendance information, retention information, and state assessment scores; school-level data on school contact information, student-population demographics summarized at the school level, Title I status, attendance/membership information, teacher counts, AYP, and region-type classifications; district-level data on district-identification information, contact information, student-population counts, and total per-pupil expenditures; as well as study-administered surveys to gifted-education personnel (one person at the district level and one person at the school level for each Colorado district and school, respectively) to gather information regarding the gifted-education programs in the Colorado elementary schools.

3. Both parties agree that this project will potentially lead to a greater understanding of the impact(s) of highly effective gifted-education programs.

NOW, THEREFORE, in consideration of the mutual promises contained herein, the parties hereby agree as follows:

II. AGREEMENT

1. **Objective; Intent of the Parties.** To conduct analysis through the use of student information, educational records, and data (hereinafter "student records") in order to assess the impacts (if any) on student growth of underserved-student populations from identifying highly effective gifted-education programs.

2. To effectively address the research questions outlined above including potential impacts. The specific minimum data points to be provided are outlined in Appendix A.

3. Period of Performance. Subject to its other provisions, the period of performance of this Agreement shall commence on December 10, 2014 regardless of the date of execution, and be completed on September 30, 2022, unless terminated sooner as provided herein.

4. **Responsibilities of the State.** During the term of this Agreement, the State shall:

a. Prepare data files as defined in *Appendix A - Data File Description.*

5. **Responsibilities of the Requestor**. The Requester, representing all members of the research team supporting the aforementioned research study, shall:

a. Provide the State with a list of researchers participating in the project to be responsible for the student records obtained;
b. Use student records appropriately and only for authorized purposes, in accordance with federal and state law and as specified in this Agreement, including the Confidentiality provisions contained herein;
c. Shall implement appropriate electronic safeguards to prevent use or disclosure of data not authorized by this agreement.
d. Shall ensure that the data are kept in a secured environment at all times and that only authorized users have access. Any breach in security is to be immediately reported to the Colorado Department of Education.
e. Destroy student records that have been provided from the State pursuant to time limitations defined in the Agreement and, if requested, provide certification that such records have been destroyed;
f. Prior to public dissemination/release, if requested in writing by the State at least thirty (30) days before scheduled release, and subject to the following, provide reports generated as a result of using student records received from State to permit the State to verify that the intended purpose has been adhered to and that the publication contains no confidential student information;
    - The State will ensure that access to the report is permitted on a need-to-know basis only for this verification purpose and will protect the report from public dissemination or release.
    - Understand that deliberate or accidental misuse of student records may result in one or more of the following: loss of access, dismissal from work, legal action including prosecution under the scope of any applicable federal and state laws.

The Requester shall not:

a. Share student records with any individuals or third parties not included in the Agreement;
b. Make or allow any unauthorized use of information provided/generated;
c. Publish reports with a cell size of less than 16. (Reports must mask these cells so that results are not revealed.)

6. **Review by the State.** The State reserves the right to review at least fifteen (15) days before release any report using this student data if the report is to be released publicly; the State's review will be limited to ensuring that the publication contains no confidential student information and that the intended purpose has been adhered to.

7. **Legal Obligations**

Both parties acknowledge separate obligations in accordance with the requirements of Public Law 93-380--Privacy Rights of Parents and Students, commonly known as the "Buckley Amendment", the Federal Family Educational Rights and Privacy Act (FERPA), 20 U.S.C. § 1232g and 34 CFR Part 99 and Colorado privacy law.

III. AGREEMENT TERMINATION

The State may terminate this Agreement at any time, for its own convenience, for any reason, with written notice to the Requester. The Requester may terminate this Agreement for any reason, with 30 days written notice to the State. Otherwise, the Agreement will end December 31, 2015.

IV. CONFIDENTIALITY

1. The term "confidential information" as used in this Agreement means any and all student information provided by the State to REQUESTER which is protected by the Family Educational Rights and Privacy Act (FERPA), 20 U.S.C. Sec. 1232g and all other

similar federal and state laws. Such personal information is also exempt from mandatory disclosure by the State under the terms of the state public disclosure laws codified as Title 24, Article 72, regarding Colorado Laws Concerning Public (Open) Records. For the purposes of this agreement, confidential information also means personally identifiable information (PII). PII includes, but is not limited to the student's name; the name of the student's parent or other family members; the address of the student or student's family; a personal identifier, such as the student's social security number, student number, or biometric record; other indirect identifiers, such as the student's date of birth, place of birth, and mother's maiden name; other information that, alone or in combination, is linked or linkable to a specific student that would allow a reasonable person in the school community, who does not have personal knowledge of the relevant circumstances, to identify the student with reasonable certainty; or information requested by a person who the educational agency or institution reasonably believes knows the identity of the student to whom the education record relates. PII also means a dataset that is linked to a specific individual and that would allow a reasonable person in a school community, who does not have knowledge of the relevant circumstances, to identify the individual with reasonable certainty.

2. To effect the transfer of data and information that is subject to federal and state confidentiality laws and to ensure that the required confidentiality of personally identifiable information shall always be maintained, Requestor agrees to the following in compliance with 34 C.F.R. Sec. 99.31 (a) (6):

    a. In all respects, Requestor will comply with the provisions of FERPA along with all other applicable federal privacy law and Colorado privacy law. Nothing in this Agreement may be construed to allow either party to maintain, use, disclose, or share student record information in a manner not allowed under Federal or state law or regulation;

    b. For purposes of this Agreement and ensuring Requestor's compliance with the terms of this Agreement and all applicable state and Federal laws, Requestor designates **Del Siegle, Ph.D.** the temporary custodians of the data that the State shares with Requestor. The State will release all data and information under this Agreement to a named temporary custodian. **Del Siegle** shall be responsible for transmitting all data requests and maintaining a log or other record of all data requested and received pursuant to the Agreement, including confirmation of the return or destruction of data as described below. The State or its agents may, upon requests, review the records Requestor is required to keep under this Agreement. The State designates **Dan Jorgensen, Ph.D.** as its liaison for all communications with **Del Siegle, Ph.D.** regarding this Agreement;

    c. Requestor will use data shared under this Agreement for no purpose other than the goals outlined in this Agreement. Nothing in the Agreement shall be construed to authorize Requestor to have access to additional data from the State that is not included in the scope of the Agreement (or addenda). Requestor understands that the Agreement does not convey ownership of data to Requestor;

    d. Requestor will require all employees, contractors, and agents of any kind to comply with the Agreement and all applicable provisions of FERPA and other laws and regulations with respect to the data and information shared under this Agreement. Requestor agrees to require and maintain an appropriate confidentiality agreement from each employee, contractor, or agency with access to data pursuant to the Agreement. Nothing in this section authorizes Requestor to share data and information provided under this Agreement with any other individual, agency, or entity for any purpose other than completing Requestor's work as authorized by the State for and on behalf of the State, consistent with this Agreement;

    e. Requestor will not disclose data produced to it under this Agreement in any manner that could identify any individual student or teacher, except as authorized by FERPA, to any entity other than the State or authorized employees, contractors, or agents of Requestor also working for and on behalf of the State pursuant to the terms of this Agreement. Publications and reports of data and information shared, including preliminary descriptions and draft reports, shall involve only aggregate data and no personally identifiable information or other information that could lead to the identification of any student or teacher;

    f. Requestor will not provide any data obtained under this Agreement to any individual, agency, or entity without the prior written consent of the State, unless required to make such disclosure under an applicable law or court order;

    g. Upon termination of the Agreement, Requestor will return all data files and hard copy records to the State and purge any copies of data from its computer systems. Requestor agrees to require all employees, contractors, or agents of any kind using the State data to comply with this provision. No other entity is authorized to continue research using the

data obtained under this Agreement upon termination of the Agreement. Requestor will destroy all data obtained under the Agreement and addenda when no longer needed for the purpose for which it was released by the State. Upon request, Requestor agrees to provide certification to the State that such records have been destroyed;

h. Requestor agrees that disclosure of confidential student information, without permission of the State, is just cause for the State to immediately terminate the Agreement.

i. Requestor shall notify the State immediately of any breach or suspected breach, but in no event no later than twenty-four (24) hours after Requestor learns of suspected breach.

j. If Requestor becomes aware of a data security breach, it shall cooperate with the State regarding recovery, remediation, and the necessity to involve law enforcement, if any. Requestor shall be responsible for performing an analysis to determine the cause of the breach, and for producing a remediation plan to reduce the risk of incurring a similar type of breach in the future. The State reserves the right to adjust this plan, in its sole discretion. A breach of PII shall have occurred when there has been unauthorized acquisition of unencrypted PII data (electronic or otherwise) used in performance of the Agreement, or any subcontract from the Requestor's or any agent's possession which compromises security, confidentiality, or integrity of such PII.

k. If Requestor provides physical or logical storage, processing or transmission of confidential or sensitive State data, Requestor shall provide, and shall cause its agents to provide, physical and logical protection for State hardware, software, applications and data that meet or exceed industry standards and requirements as set forth in the Agreement. Requestor, if it retains, stores, or is given protected or confidential information, at all times shall maintain, and shall cause its agents to maintain, network, system, '3rd application security, which includes network firewalls, intrusion detection, and annual security testing. Requestor, if it retains, stores, or is given protected or confidential information, shall comply and shall cause its agents to comply, with State and federal regulations and guidelines related to security, confidentiality and auditing, including but not limited to regulations and guidelines issued by the Federal Bureau of Investigation (FEB), the U.S. Department of Homeland Security (DHS), the Governor's Office of Homeland Security (DHS), the Colorado Bureau of Investigation (CBI), the Governor's Office of Information Security (OIS), or related to the Health Insurance Portability and Accountability Act (HIPAA) Guidelines, 4S C.F.R. Parts 160, 162, and 164, the Health Information Technology for Economic and Clinical Health Act (HITECH), Title XIII of Division A and Title IV of Division B of the American Recovery and Reinvestment Act of 2009 (ARRA), Pub. L No. 111-S (Feb. 17, 2009), codified at 42 USC Sections 300jj et seq.; Sections 17901et seq., the Family Educational Rights and Privacy Act (FERPA), 20 U.S.C. 1232g and 34 C.F.R. Part 99. Requestor, if it retains, stores, or is given protected or confidential information shall ensure, and shall cause its agents to ensure that security is not compromised by unauthorized access to computers, program, software, databases, or other electronic environments and shall promptly report all breaches or attempted breaches to a representative of the OIS. Neither requestor nor its agents shall have any rights to use or access any OIT or other State agency data or information, except with the prior approval of the State. Requestor shall review, on a semi-annual basis, the Colorado Cyber Security Program (CCSP), posted at: http://www.colorado.gov/cs/Satellite/Cyber/CISO/1207820732279, and its related documents, including its policies and procedures to ensure compliance with the standards and guidelines published therein. Requestor shall cooperate, and shall cause its agents to cooperate, with the performance of security audit and penetration tests by OIS. Requestor shall follow, and shall cause its agents to follow, the State's Data Handling and Disposal policy, which can be found at www.colorado.gov/oit/security_policies. Requestor shall perform, and shall cause its agents to perform, in a form reasonably acceptable to the State, background checks on all of its respective employees and agents performing services or having access to State confidential information provided under the agreement.

3. The Requestor has the right consistent with scientific standards, to present, publish, or use student results it has gained in the course of the research for and on behalf of the State under this Agreement, but only if the publication, presentation, or use does not permit personal identification of parents, students, or teachers by individuals other than representatives of the Requestor. Any violation of this Agreement and/or the provisions of FERPA or accompanying regulations related to the nondisclosure of protected student information may result in a determination by the Department of Education that the violating party is prohibited from accessing student education records for up to five (5) years, pursuant to 34 CFR Sec. 99.31 (a) (6) (iv).

4. Del Siegle will be reporting findings to the Colorado Department of Education, provided that the presentations, publications, and/or reporting of such findings do not contain personal identification of parents, students, or teachers by individuals. The reporting will be intended to:

a. Increase State understanding of the impact of highly effective gifted programs for underserved populations.

V. NONDISCRIMINATION

Both the State and the Requestor agree that no individual shall be excluded from participation in, denied the benefits of, subjected to discrimination under, or denied employment in the administration of or in connection with any aspect of this Agreement because of sex, race, creed, religion, color, national origin, age, honorably discharged veteran or military status, sexual orientation including gender expression or identity, the presence of any sensory, mental or physical disability, or the use of trained dog guide or service animal by a person with a disability. The parties agree to abide by the standards of responsibility toward the disabled as specified by the Americans with Disabilities Act and Colorado Law against Discrimination. In the event that one of the parties hereto refuses to comply with the above provision, this Agreement may be canceled, terminated, or suspended in whole or in part by the other party.

VI. ASSIGNMENT

Neither party shall assign its rights or responsibilities under this Agreement without the written authorization of all the other parties.

VII. SEVERABILITY

If any term of this Agreement is held invalid or unenforceable, the remainder of the Agreement will not be affected, but continue in full force.

VIII. INDEMNITY

The State will be held harmless from all claims, liabilities, damages, or judgments involving a third party, including the State's costs and attorney's fees, resulting from Del Siegle breach of its obligations under this Agreement.

IX. INTEGRATION

This writing contains all terms and conditions of the Agreement. Modifications to the Agreement must be in writing and be signed by each party.

X. NOTICE

Any notice required or permitted by the terms of the Agreement shall be sent to:

If to the State:
Colorado Department of Education
Dan D. Jorgensen, Ph.D., Accountability & Research Manager
Accountability & Data Analysis Unit
201 East Colfax, Denver, Colorado 80203
Phone: 303-866-6763
Email: Jorgensen_d@cde.state.co.us

If to the Requestor:
University of Connecticut
Del Siegle, Ph. D., Department Head, Educational Psychology
249 Glenbrook Rd., Unit 3064, Storrs, CT 06269-3064
Phone: (800) 486-0616
Email: del.siegle@uconn.edu

XI. Stewards

The Stewards shall ensure that access to the original data covered by this data sharing agreement shall be limited to eligible personnel between the agencies and the minimum number of individuals necessary to achieve the purposes stated in the IDSA.

XII. Signatures

To further the collection and analysis of Colorado educational data, the Colorado Department of Education, represented by the Commissioner of Education Robert Hammond and The University of Connecticut represented by Del Siegle, agree to the cooperative sharing of data between the two agencies pursuant to the conditions set forth herein.

Robert Hammond
Commissioner of Education
Colorado Department of Education

Del Siegle
Department Head, Educational Psychology
The University of Connecticut

Appendix A. Data File Description

	Fields Requested from State		
	Student-Level Variables	**School-Level Variables (2012-14)**	**District-Level Variables (2012-14)**
Demographic Information (Independent Variables)	District ID	School ID	District ID
	School ID	School Name	District Name
	Reporting Year	District ID	NCES ID for the district
	Unique Student ID	District Name	Reporting Year
	Student Birthdate	NCES ID for the school	District Address
	Free/Reduced Lunch Status	Reporting Year	District Phone
	Race/Ethnicity	School Address	Total # of Students
	Special Education Status	School Phone	Total # of Free lunch eligible students
	Gifted Status	School's Lowest grade	Total # of Black Students
	Exceptionality	School's Highest grade	Total # of Latino Students
	LEP Status	Average Daily Attendance	Total # of Asian Students
	LEP Native Language	Average Daily Membership	Total # of White Students
	Gender	Total # of Free lunch eligible Students	Total # of Native American Students
	Grade	Total # of Students	Total # of ELL students
	# of Days of School Membership	Total # of Black Students	Total # of Migrant Students
	Retained?	Total # of Latino Students	Total # of Gifted Students
	Homeless	Total # of Asian Students	Average Per Pupil Expenditure (total)
	Migrant	Total # of White Students	
	Number of Absences	Total # of Native American Students	
		Total # of ELL students	
		Total # of Migrant Students	
		Total # of Gifted Students	
		Number of FTE classroom teachers	
		Pupil/Teacher Ratio	
		Title I Eligible School?	
		Urbanicity	
Achievement Information, Academic Growth (Dependent Variables)	3rd grade Math score (Vertically Scaled) – 2012	Total % AYP	Total % AYP
	3rd grade Reading score (Vertically Scaled) – 2012	Summarized school-assessment data	Summarized district-assessment data
	4th grade Math score (Vertically Scaled) – 2013		
	4th grade Reading score (Vertically Scaled) – 2013		
	5th grade Math score (Vertically Scaled) – 2014		
	5th grade Reading score (Vertically Scaled) – 2014		