RESEARCH SUMMARY

of

New Tech Network Interim Evaluation Report: Project Years 2013-14, 2014-15, and 2015-16 i3 and Expanded Evaluation Samples

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Executive Summary

The efficacy of the New Tech Design (NTN) was tested in several schools in the southeast region of the United States. Both academic outcomes and higher order thinking skills were measured as a part of the analysis. Data for two treatment and two matched control schools are available for all school years (AY 2013-14, AY 2014-15, and AY 2015-16); data from the remaining two treatment and matched control schools are available for the last two school years (AY 2014-15 and AY 2015-16). For higher order thinking skills, results compare NTN and non-NTN student performance on the College and Work Readiness Assessment (CWRA+). Two samples were considered—a cross-sectional sample comprising 220 NTN students and 63 non-NTN students from the same school, and a longitudinal sample comprising three observations of 58 NTN students in the same school. For the cross-sectional sample, NTN and non-NTN students were statistically matched based on several variables, including demographics and prior standardized test performance. The cross-sectional study compared students in AY 2015-16, while the longitudinal study compared performances of students across three consecutive administrations beginning in AY 2013-14 and ending in AY 2015-16.

Project Year 2013-14: i3 Sample

Sample. The effect of the NTN design on student achievement was explored using the i3 sample of 9th grade students in the first year of data collection for the project (2013-2014). The sample included 139 students in the two NTN schools and 350 students in the two control schools.

Results. Student achievement was measured by EOC Math and EOC ELA scores and analyzed through a series of ANCOVA tests. The results showed that students in the NTN schools had higher EOC Math scores (adjusted M = 71.66, SE = 3.63) than students in the control schools (adjusted M = 53.49, SE = 2.46), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 253) = 16.51$, $p < .00$, $\eta_p^2 = .06$ (see Figure 1). However, students in the treatment (adjusted M = 69.14, SE = 3.01) and control (adjusted M = 61.92, SE = 2.04) schools did not differ in their scores on EOC ELA, controlling for Baseline achievement scores, race, and poverty levels, $F\ (1, 253) = 3.79$, $p = .053$, $\eta_p^2 = .015$.

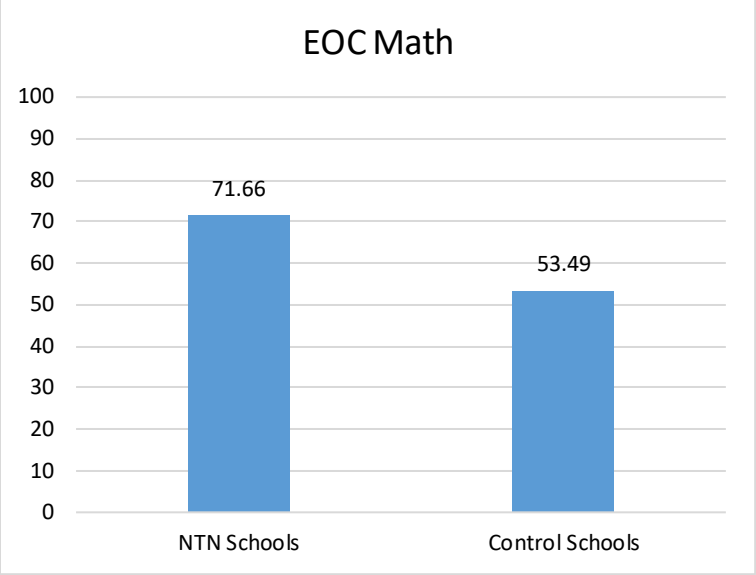

Figure 1. ANCOVA results on EOC Math controlling for race, poverty, and prior achievement

Project Year 2014-15: i3 Sample

Sample. The effect of the NTN design on student achievement was also explored using the i3 sample of 9th and 10th grade students in the second year of data collection for the project (2014-2015). For the 9th grade, the sample included students in the two NTN schools and students in the two control schools.

9th Grade Results. Achievement of 9th grade students was measured by EOC Math and EOC ELA scores and analyzed through a series of ANCOVA tests. The results showed that 9th grade students in the NTN schools scored higher on their EOC Math scores (adjusted M = 78.73, SE = .80) from 9th grade students in the control schools (adjusted M = 76.98, SE = .44), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 278) = 3.78$, $p = .05$, $\eta_p^2 = .012$. Students in the NTN schools (adjusted M = 77.34, SE = .86) had higher EOC ELA scores than students in the control schools (adjusted M = 73.54, SE = .44), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 283) = 15.33$, $p < .001$, $\eta_p^2 = .04$ (see Figure 2).

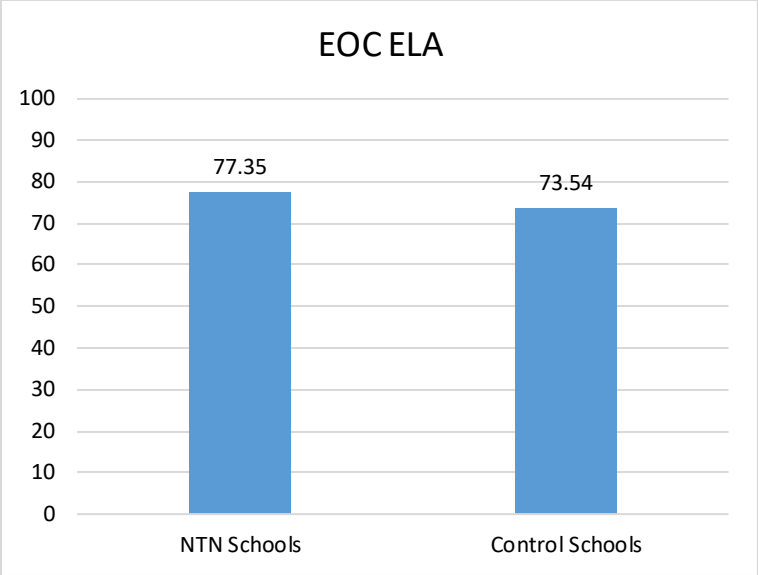

Figure 2. ANCOVA results on EOC Math controlling for race, poverty, and prior achievement for the 9th grade sample

Project Year 2014-15: Expanded Sample

Sample. The effect of the NTN design on student achievement was also explored using the expanded sample. The expanded sample included students in the four NTN schools and students in the four control schools.

9th Grade Results. Student achievement was measured by EOC Math and EOC ELA scores and analyzed through a series of ANCOVA tests. For the 9th grade sample, the results showed that students in the NTN schools had higher EOC Math scores (adjusted M = 79.85, SE = .51) than students in the control schools (adjusted M = 75.59, SE = .30), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 686) = 50.98, p < .001, \eta_p^2 = .07$ (see Figure 3). Similar results were found for EOC ELA (adjusted M = 77.44, SE = .52 for NTN students; adjusted M = 73.15, SE = .29 for control students), $F\ (1, 809) = 50.89, p < .001, \eta_p^2 = .06$ (see Figure 4).

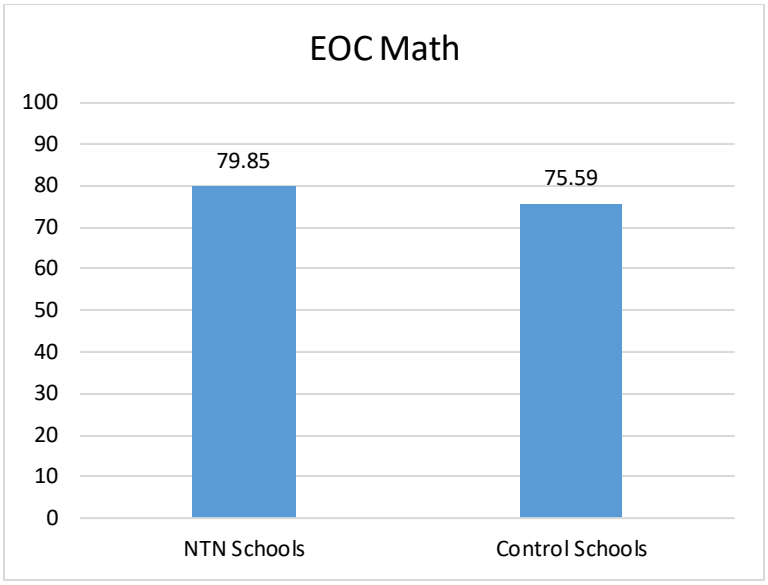

Figure 3. ANCOVA results on EOC Math controlling for race, poverty, and prior achievement for the 9th grade sample

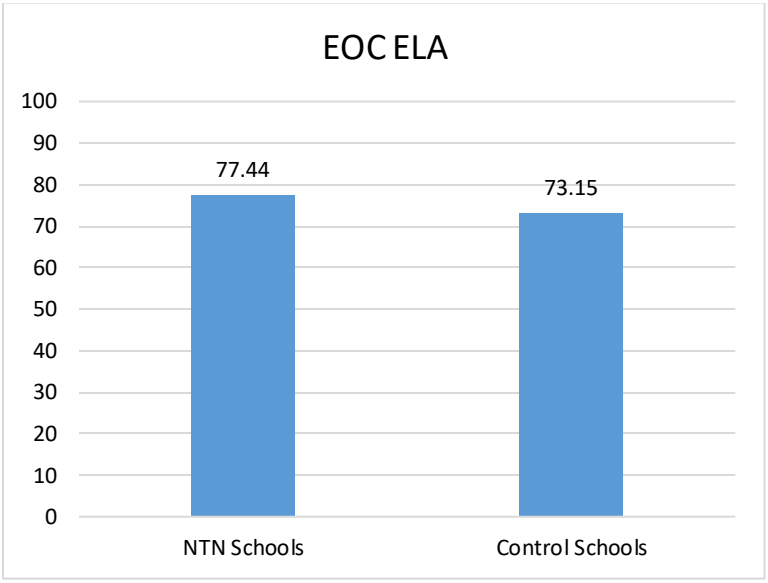

Figure 4. ANCOVA results on EOC ELA controlling for race, poverty, and prior achievement for the 9th grade sample

Project Year 2015-16: i3 Sample ONLY

Sample. The effect of the NTN design on student achievement was also explored using the i3 sample of 9th, 10th, and 11th grade students in the third year of data collection for the project (2015-2016). For the 9th grade, the sample included students in the two NTN schools and students in the two control schools.

9th grade results. Student achievement in the 9th grade was measured by EOC Math and EOC

ELA scores, and analyzed through a series of ANCOVA tests. The results showed that students in the NTN schools did not differ on EOC Math scores (adjusted M = 76.40, SE = .81) from students in the control schools (adjusted M = 77.72, SE = .74), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 168) = 1.39, p = .24, \eta_p^2 = .008$. On the EOC ELA exam, students in the NTN schools scored slightly higher (adjusted M = 76.61, SE = .83) than students in the control schools (adjusted M = 75.85, SE = .51), controlling for Baseline achievement scores, race, and poverty levels, but this difference was not significant, $F\ (1, 312) = .60, p = .44, \eta_p^2 = .002$.

11th grade results. Student achievement in the 11th grade was measured by the ACT and Workkeys and analyzed through a series of ANCOVA tests. The results showed that students in the NTN schools had higher ACT Composite scores (adjusted M = 37.45, SE = 1.57) than students in the control schools (adjusted M = 32.36, SE = 1.01), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 280) = 7.37, p < .007, \eta_p^2 = .03$ (see Figure 5). On the ACT Math, students in the NTN schools (adjusted M = 35.32, SE = 1.61) did not differ from students in the control schools (adjusted M = 36.19, SE = 1.03), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 281) = .21, p = .65, \eta_p^2 = .001$. On the ACT English, students in the NTN schools scored higher (adjusted M = 40.19, SE = 1.83) compared to students in the control schools (adjusted M = 33.17, SE = 1.17), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 281) = 10.39, p < .001, \eta_p^2 = .04$. Similar results were observed on the ACT Writing (adjusted M = 43.69, SE = 2.49 for the NTN schools; adjusted M = 35.78, SE = 1.57 for the control schools), $F\ (1, 281) = 7.17, p = .008. \eta_p^2 = .03$, and for the ACT Science (adjusted M = 40.23, SE = 1.83 for the NTN schools; adjusted M = 33.28, SE = 1.18 for the control schools), $F\ (1, 280) = 10.13, p = .002, \eta_p^2 = .04$.

On the Workkeys Math exam, students in the NTN schools (adjusted M = 77.49, SE = .35) did not differ from students in the control schools (adjusted M = 76.88, SE = .21), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 309) = 2.27, p = .13, \eta_p^2 = .007$. On the Workkeys Reading exam, students in the NTN schools had higher scores (adjusted M = 79.94, SE = .23) than students in the control schools (adjusted M = 78.87, SE = .14), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 310) = 15.61, p < .001, \eta_p^2 = .05$. On the Workkeys Information exam, students in the NTN schools also scored higher (adjusted M = 76.78, SE = .25) than students in the control schools (adjusted M = 76.05, SE = .14), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 309) = 6.64, p = .01, \eta_p^2 = .02$.

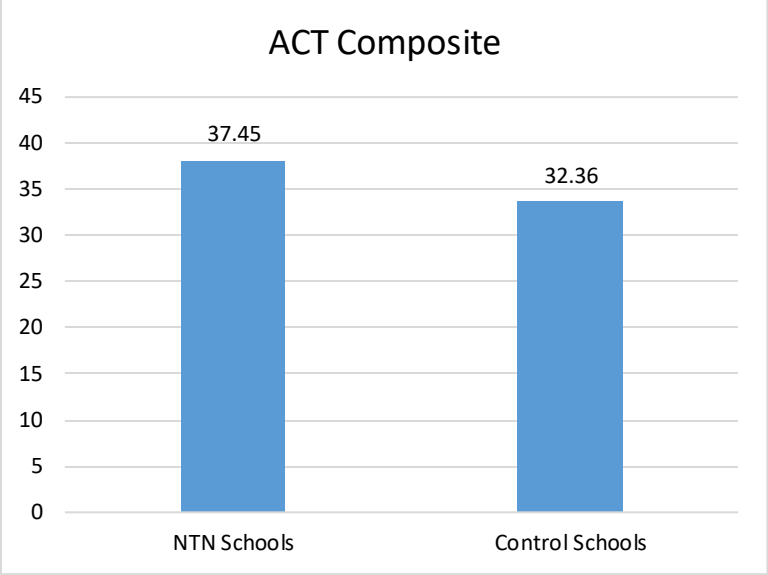

Figure 5. ANCOVA results on ACT Composite controlling for race, poverty, and prior achievement

Project Year 2015-16: Expanded Evaluation Sample

Sample. The effect of the NTN design on student achievement was also explored using the Expanded Evaluation sample of 9th, 10th, and 11th grade students in the third year of data collection for the project (2015-2016). For the 9th grade, the sample included students in the four NTN schools and students in the four control schools.

9th Grade Results. Student achievement in the 9th grade was measured by EOC Math and EOC ELA scores and analyzed through a series of ANCOVA tests. The results showed that students in the NTN schools had higher EOC Math scores (adjusted M = 79.05, SE = .68) than students in the control schools (adjusted M = 74.46, SE = .44), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 553) = 31.97, p < .001, \eta_p^2 = .055$ (see Figure 6). On the EOC ELA, students in the NTN schools also had higher scores (adjusted M = 78.56, SE = .76) than students in the control schools (adjusted M = 74.08, SE = .43), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 798) = 25.88, p < .001, \eta_p^2 = .03$ (see Figure 7).

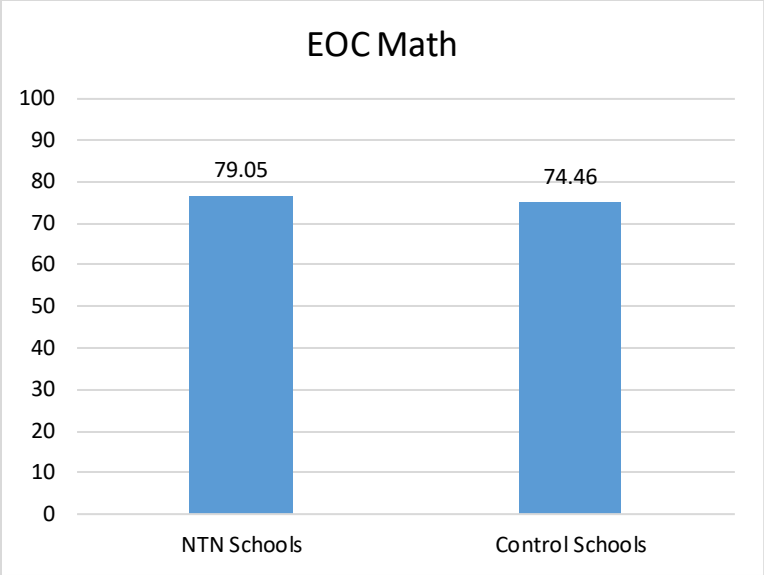

Figure 6. ANCOVA results on EOC Math controlling for race, poverty, and prior achievement

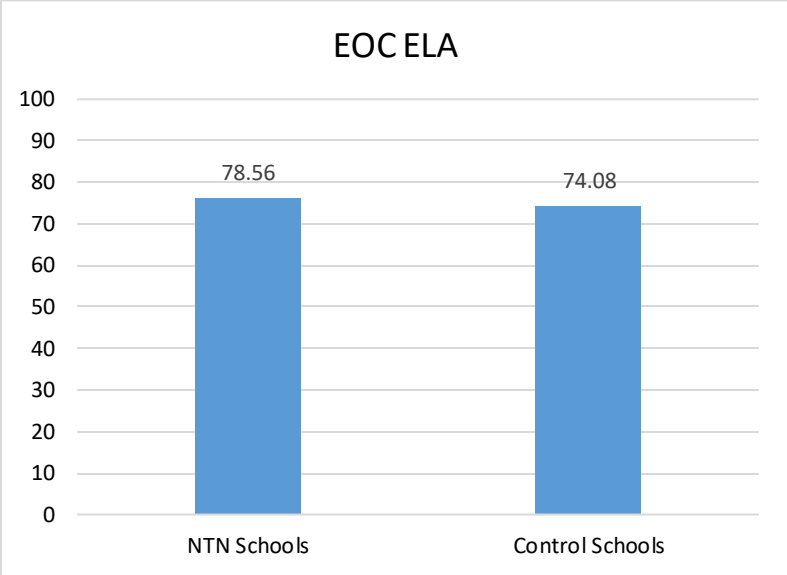

Figure 7. ANCOVA results on EOC ELA controlling for race, poverty, and prior achievement

11th Grade Results. Student achievement in the 11th grade was measured by the ACT and Workkeys and analyzed through a series of ANCOVA tests. The results showed that students in the NTN schools had higher ACT Composite scores (adjusted M = 37.95, SE = 1.55) than students in the control schools (adjusted M = 31.77, SE = .60), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 661) = 13.61, p < .001, \eta_p^2 = .02$ (see Figure 8). On the ACT Math, students in the NTN schools (adjusted M = 36.08, SE = 1.76) did not differ from students in the control schools (adjusted M = 34.88, SE = .67), controlling for baseline achievement scores, race, and poverty levels, $F\ (1, 662) = .39, p = .58, \eta_p^2 = .001$. On the ACT English, students in the NTN schools (adjusted M = 40.71, SE = 1.78) scored higher than students in the control schools (adjusted

M = 32.20, SE = .69), controlling for baseline achievement scores, race, and poverty levels, *F (1, 662) = 19.38, p < .001,* η_p^2 *= .03* (see Figure 9). On the ACT Writing, students in the NTN schools (adjusted M = 44.07, SE = 2.46) scored higher than students in the control schools (adjusted M = 36.47, SE = .94), controlling for baseline achievement scores, race, and poverty levels, *F (1, 655) = 3.48.225, p = .004,* η_p^2 *= .012*. On the ACT Science, students in the NTN schools (adjusted M = 40.71, SE = 1.79) scored higher than students in the control schools (adjusted M = 32.23, SE = .69), controlling for baseline achievement scores, race, and poverty levels, *F (1, 661) = 19.17, p < .001,* η_p^2 *= .03* (see Figure 10). On the Workkeys Math, students in the NTN schools (adjusted M = 77.71, SE = .37) scored higher than students in the control schools (adjusted M = 76.77, SE = .14), controlling for baseline achievement scores, race, and poverty levels, *F (1, 698) = 5.65, p = .02,* η_p^2 *= .008*. On the Workkeys Reading, students in the NTN schools had higher scores (adjusted M = 79.74, SE = .25) than students in the control schools (adjusted M = 78.71, SE = .09), controlling for baseline achievement scores, race, and poverty levels, *F (1, 700) = 16.69, p < .001,* η_p^2 *= .02*. On the Workkeys Information, students in the NTN schools (adjusted M = 76.97, SE = .24) scored higher than students in the control schools (adjusted M = 76.37, SE = .09), controlling for baseline achievement scores, race, and poverty levels, *F (1, 701) = 5.74, p = .02,* η_p^2 *= .008.*

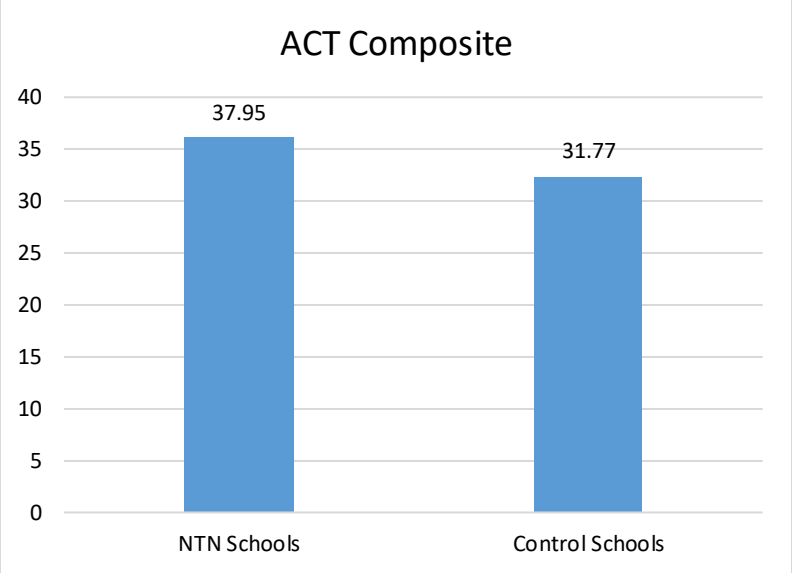

Figure 8. ANCOVA results on ACT Composite controlling for race, poverty, and prior achievement

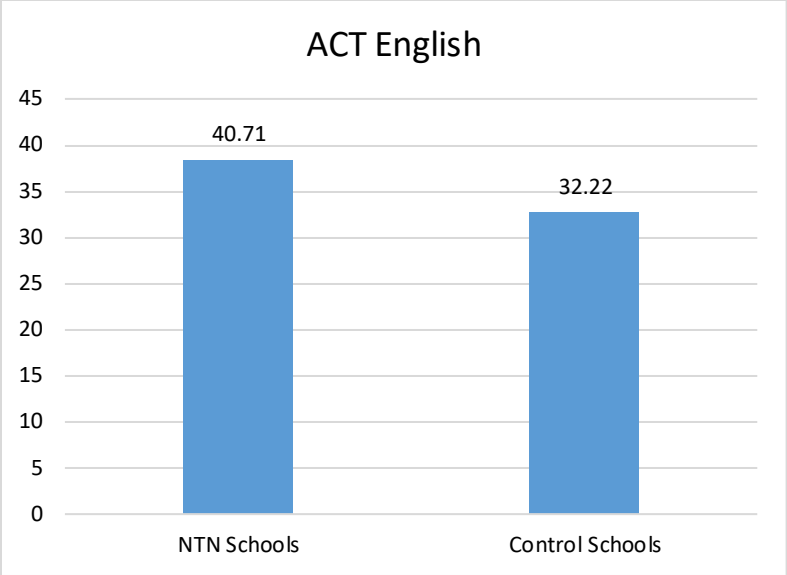

Figure 9. ANCOVA results on ACT English controlling for race, poverty, and prior achievement

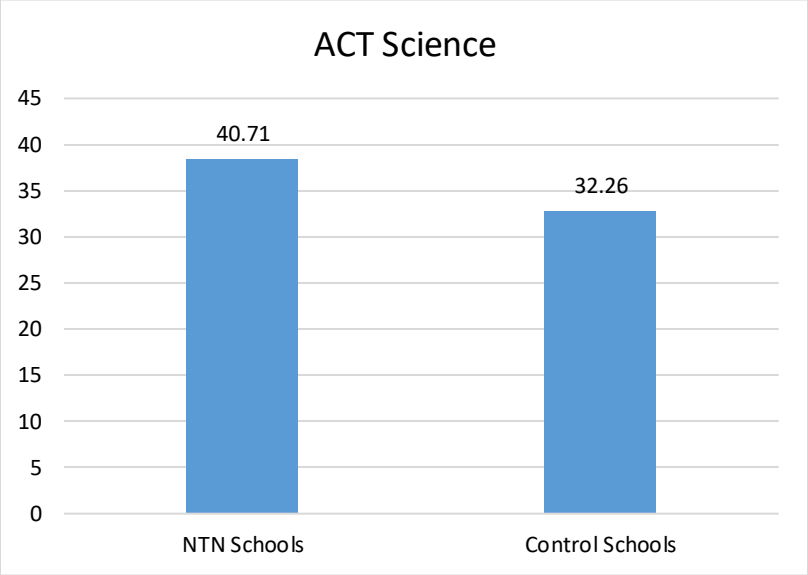

Figure 10. ANCOVA results on ACT Science controlling for race, poverty, and prior achievement

CWRA Analysis Overview

Introduction. The College and Work Readiness Assessment (CWRA+) is an assessment that measures of students' attainment of higher-order thinking skills. The assessment requires students to synthesize, analyze, and evaluate information as they demonstrate their ability to think critically and solve problems. It is designed to specifically measure critical thinking and written communication—

key higher-order skills that are valued by both secondary and higher educational institutions, as well as by employers. CWRA+ provides evidence of whether and to what degree of proficiency students have developed these skills.

The Study. This study compared the performances of New Tech and non-New Tech students at one of the i3 schools across the 2013-2014 and the 2015-2016 administrations. The cross-sectional study compared New Tech and non- New Tech students in the 2015-2016 administration, while the longitudinal study compares performance among a subset of New Tech students across three consecutive administrations beginning in 2013-2014 and ending in 2015-2016. Data for the 2016-2017 academic year will be added once those data are available in August of 2017.

The Cross-Sectional Sample. A sample of New Tech students was taken from the 2015-2016 administration of CWRA+ at one of the i3 high schools. Participants with missing scores were not included in the report. Additionally, since there was only one senior in this test administration and meaningful conclusions cannot be drawn based on only one student, this student was excluded from the analyses. Thus, there were 58 juniors, 72 sophomores, and 90 freshmen in the New Tech group of the cross-sectional sample (Table 1).

A sample of non-New Tech students was taken from the 2015-2016 administration of CWRA+. The same missing data rule was applied to this sample. There were two seniors who tested in 2015-2016, but as was the case with the one senior in the New Tech group, meaningful conclusions cannot be made based on such a small sample, and these students were therefore excluded from the analyses. The non-New Tech group of the cross-sectional sample thus comprised 21 juniors, 36 sophomores, and 6 freshmen (Table 1).

Table 1: Cross-Sectional 2015-2016 Sample, by Class & New Tech Status (n = 283)

	Freshmen	Sophomores	Juniors	Total
Non-New Tech	6	36	21	63
New Tech	90	72	58	220
Total	96	108	79	283

The Longitudinal Sample. Once the cross-sectional sample was identified, a longitudinal sample was put together by matching the Candidate IDs of the cross-sectional sample to each of the prior two testing administrations (2013-2014 and 2014-2015). Of the 58 juniors in 2015-2016, 56 tested in 2014-2015 and 50 tested in 2013-2014 (Table 2). Of the 72 sophomores in 2015-2016, only one tested in 2014-2015. Once again, meaningful change over time cannot be determined based on a sample of one individual at a given time point; thus, all longitudinal

analyses of New Tech students are based on the cohort of juniors testing in 2015-2016.

Table 2: Longitudinal Sample of New Tech Scores (n=58)

	Test Scores
2013-2014	50
2014-2015	56
2015-2016	58

Statistical Methodology. To perform the cross-sectional analyses, independent-samples t-tests were used to compare New Tech and non-New Tech students on all scores and subscores. For the longitudinal analyses, a one- way repeated-measures analysis of variance (ANOVA) was used to determine whether there was significant change over time and, if such significant change was found, a series of follow-up paired- samples t-tests were used to help determine where the change occurred over the course of the three- administration time period. Throughout this report, tables and graphs are used to aid in examining group differences and trends over time.

In addition to comparing mean scores and subscores between groups (cross-sectional study) and over time (longitudinal study), growth estimates are also provided. Growth estimates, which are estimated as effect sizes, compare the performance of each non- freshman class to the freshman class, and standardize the difference according to the standard deviation of the freshman class. The resulting growth estimate can be interpreted as the number of standard deviations by which the older class outperformed the freshman class. The growth estimates are effect sizes, and thus are descriptive rather than inferential—meaning no statement about statistical significance is provided with them. They should instead be used along with the graphs to further understand the amount and nature of the growth over time or between cohorts.

Results Summary. Two samples were considered in this report—a cross-sectional sample comprising 220 New Tech students and 63 non-New Tech students, and a longitudinal sample comprising up to three observations on 58 New Tech students who were juniors in the 2015-2016 administration window. All students attended the same high school and tested in the 2015-2016 administration window.

The most notable results from the cross-sectional study were the better performance on most sections of CWRA+ by the New Tech students relative to the non-New Tech students, and the fact that the differences between these two groups tended to be largest for the younger students (i.e., the freshmen) relative to their older counterparts. The most notable result from the longitudinal study was that, while significant change was usually seen over time on most aspects of CWRA+, the

observed change was greatest earlier in the students' high school years (i.e., between the 2013-2014 administration and either of the other two administrations). Taken together, these results strongly suggest a larger effect of the New Tech program at an earlier point in the students' time in high school relative to at later points. It does not suggest an absence of an effect in later years since significant advantages for New Tech students relative to non-New Tech students were still found in the cross-sectional study, and since significant growth was still found in the longitudinal study of New Tech students. However, one possible interpretation of these findings is that the New Tech program gives the greatest benefit to students earlier in the curriculum. Of course, it is entirely possible that the fewer number of significant differences between New Tech juniors and non-New Tech juniors in the cross-sectional study is an artifact of that particular class, and were this study to be repeated in future years, larger effects of the New Tech program among older students would be observed. It is also possible that the slight dip in scores observed for the juniors in the longitudinal is due to the same particularities of that sample, and that future cohorts would continue to show statistically significant growth throughout the New Tech curriculum.

APPENDIX A
Description of CWRA+ Instrument

CWRA+ includes two major components: the Performance Task (PT) and the Selected-Response Question (SRQ) section. The PT presents students with a real-world scenario that requires a purposeful written response. Students are asked to address an issue, propose a solution to a problem, or recommend a course of action to resolve a conflict. Students are instructed to support their responses by using information provided in the CWRA+ Document Library. This repository contains a variety of reference materials, such as technical reports, data tables, newspaper articles, office memoranda, and emails. A full PT includes four to nine documents in its Document Library. Students have 60 minutes to complete this constructed-response task. Student responses to the PT are scored in three skill areas: Analysis and Problem Solving (APS), Writing Effectiveness (WE), and Writing Mechanics (WM). Students receive subscores that range from 1 to 6 for each skill category, based on key characteristics of their written responses as measured using the CWRA+ PT rubric. These characteristics are described in detail within the PT rubric, which is available on CAE's website at www.cae.org/cwraptrubric.

In the second section of the examination, students are asked to answer 25 Selected-Response Questions. Like the PT, the 25 SRQs require students to draw information from provided materials. Students have 30 minutes to complete this section of the assessment. The SRQ section is scored based on the number of correct responses a student provides. Each of three question sets represents a skill area: Scientific and Quantitative Reasoning (SQR; 10 questions), Critical Reading and Evaluation (CRE; 10 questions), and Critique-an-Argument (CA; 5 questions). Because some question sets may be more difficult than others, the subscores for each category are weighted to account for these differences and are reported on a common scale. Score values range from approximately 200 to 800 for each SRQ section.

To convert raw PT and SRQ scores to scale scores, CAE uses a linear transformation. This process is used to create a scaled-distribution of CWRA+ scores with the same mean and standard deviation as the combined SAT Math and Critical Reading scores (or converted ACT scores) of CWRA+ freshmen. The result is a scale that ranges from approximately 400 to 1600. This allows for clearer comparisons between test results as well as more efficient CWRA+ score

interpretation. In addition to receiving scores for each of the two sections of the assessment, students receive a total score, which is simply the average of the scaled section scores.

APPENDIX B

CWRA+ Mastery Levels

CAE uses outcomes from the 2013 standard-setting study to distinguish among CWRA+ students with varying knowledge, skills, and abilities as measured by the assessment. On individual reports, Mastery Levels are determined by students' Total CWRA+ scores. On institutional reports, they are determined by each class level's mean Total CWRA+ score. Institutions should not use Mastery Levels for purposes other than the interpretation of test results. If an institution wishes to use the attainment of CWRA+ Mastery Levels as part of a graduation requirement or the basis for college entrance decisions, the institution should conduct a separate standard-setting study with this specific purpose in mind. The following table summarizes each level of mastery and provides a description of students below the Basic level of mastery.

LEVEL OF MASTERY	PROFILE
BELOW BASIC	Students who score Below Basic make severe errors that are frequent and often interfere with meaning. Students write simple sentences and some non-sentences.
BASIC	Students at the Basic level of mastery create responses that state or imply a decision, conclusion, or position and provide some analysis that may be minimal, inaccurate, or irrelevant. A Basic-level student would provide an argument with some supporting information from sources and an attempt to cohesively organize that argument. Yet, the elaboration is limited, and the organization lacks sufficient cohesion and clarity. For the Basic student, severe errors are infrequent, but there are minor errors that sometimes interfere with meaning. The Basic student also writes sentences that are similar in structure in length with an overreliance on sentences with simple structure. The Basic student draws obvious inferences from sources, rarely recognizes relevant information, and takes all information at face value. Analysis and Problem Solving and Writing Effectiveness are more important than Writing Mechanics in making the cut score decision.
PROFICIENT	Students at the Proficient level have the ability to make inferences from the document and provide some support for a position but may omit some evidence. They address most elements of the task, although sometimes tangentially. Students make a few accurate claims about the quality of evidence while citing the evidence provided in the documents. However, their responses may have a few misinterpretations of the information and evidence provided in the documents. The students at this level are writing generally understandable sentences with minor errors and use the conventions of standard written English. The student responses are communicated in a way that is readily comprehensible.

	There is an evaluation of the relative value of common logical strategies (e.g., bad cause and effect). They extract meaningful information, recognize utility from basic graphs, and are able to draw conclusions from them. There is an understanding of correlation versus causality as well as a basic understanding of the design of the experiment. Proficient students will know what makes a credible scientific claim and can provide an appropriate critical evaluation of sources.
ACCOMPLISHED	Students at the Accomplished level of mastery have the ability to make inferences from the document and provide sufficient evidence (based on multiple sources) to support their claim. This would include generating accurate interpretations of the CWRA+ Document Library, developing coherent arguments using much of the information provided in the documents, and potentially identifying, but not fully developing, potential future steps and the need for additional research. They are also able to identify and address bias when making inferences or drawing conclusions, assess the relevancy of the qualitative and quantitative data (e.g., read and understand a graph and identify limitations and shortcomings; demonstrate an understanding that correlation does not necessarily imply causality), distinguish credible versus non-credible sources of information, and generate counter-claims. Accomplished students state a decision/recommendation/position and develop their argument based upon the identified information; however, they fall short of using evidence to fully support and leverage their argument. They have the ability to identify and extend the impact of the supporting versus counter-evidence and their broader implications. Accomplished students write responses that are cohesive, organized, and elaborated effectively. The student recognizes the correct audience and writes in a way that demonstrates understanding of the intended audience. The sources (documents) of evidence in support of the student's claims can be identified. The student's intent is clear, and the organization, or the argument and understanding it represents, is accurate and logical. There may be some minor spelling and syntax errors, but the sentences are generally well constructed, with varying and sometimes advanced vocabulary and structure, communicating a level of sophistication in the response.

ADVANCED	Students at the Advanced level discern the merit of information and evaluate the strength of arguments, including identifying bias. They demonstrate a thorough evaluation of the evidence by making connections among the information found in the documents, identifying potential patterns, and if applicable, refuting false or weak claims, which ultimately informs their response. They clarify potential further steps, either a next step moving forward or additional research that is needed or that would be helpful. In order to strengthen their own arguments, students at the Advanced level also address counter-arguments and demonstrate the weaknesses of the counter-arguments and/or the ways in which they are less compelling. Advanced students provide a decision/recommendation with thorough support of the argument articulated in an effective way. The evidence is thoroughly examined, including addressing and navigating contradictory responses, and the interpretation of the documents is comprehensive. They fully respond to the prompt. Student writing is precise, purposeful, uses a varied vocabulary, sentence structure, and length, and is free—or almost entirely free—from mechanical error. Their responses are organized in a fluid, coherent, and engaging way. It is easy to follow the student's argument, which also has the correct audience in mind and appropriately addresses them. They use the correct genre to deliver the response, whether it is a blog response, report, memo, speech, etc. Students should be able to consistently reason analytically and solve problems and be able to understand the nuances when integrating information across multiple sources.

APPENDIX C

CWRA+ Performance Task Rubric

SCALE	DESCRIPTION	1	2	3	4	5	6
ANALYSIS AND PROBLEM SOLVING	Making a logical decision or conclusion (or taking a position) and supporting it by utilizing appropriate information (facts, ideas, computed values, or salient features) from the CWRA+ Document Library	• May state or imply a decision/conclusion/position • Provides minimal analysis as support (e.g., briefly addresses only one idea from one document) or analysis is entirely inaccurate, illogical, unreliable, or unconnected to the decision/conclusion/position	• States or implies a decision/conclusion/position • Provides analysis that addresses a few ideas as support, some of which are inaccurate, illogical, unreliable, or unconnected to the decision/conclusion/position	• States or implies a decision/conclusion/position • Provides some valid support, but omits or misrepresents critical information, suggesting only superficial analysis and partial comprehension of the documents • May not account for contradictory information (if applicable)	• States an explicit decision/conclusion/position • Provides valid support that addresses multiple pieces of relevant and credible information in a manner that demonstrates adequate analysis and comprehension of the documents; some information is omitted • May attempt to address contradictory information or alternative decisions/conclusions/positions (if applicable)	• States an explicit decision/conclusion/position • Provides strong support that addresses much of the relevant and credible information, in a manner that demonstrates very good analysis and comprehension of the documents • Refutes contradictory information or alternative decisions/conclusions/positions (if applicable)	• States an explicit decision/conclusion/position • Provides comprehensive support, including nearly all the relevant and credible information, in a manner that demonstrates outstanding analysis and comprehension of the documents • Thoroughly refutes contradictory evidence or alternative decisions/conclusions/positions (if applicable)

WRITING EFFECTIVENESS	Constructing organized and logically cohesive arguments. Strengthening the writer's position by providing elaboration on facts or ideas (e.g., explaining how evidence bears on the problem, providing examples, and emphasizing especially convincing evidence)	• Does not develop convincing arguments; writing may be disorganized and confusing • Does not provide elaboration on facts or ideas	• Provides limited, invalid, over-stated, or very unclear arguments; may present information in a disorganized fashion or undermine own points • Any elaboration on facts or ideas tends to be vague, irrelevant, inaccurate, or unreliable (e.g., based entirely on writer's opinion); sources of information are often unclear	• Provides limited or somewhat unclear arguments. Presents relevant information in each response, but that information is not woven into arguments • Provides elaboration on facts or ideas a few times, some of which is valid; sources of information are sometimes unclear	• Organizes response in a way that makes the writer's arguments and logic of those arguments apparent but not obvious • Provides valid elaboration on facts or ideas several times and cites sources of information	• Organizes response in a logically cohesive way that makes it fairly easy to follow the writer's arguments • Provides valid elaboration on facts or ideas related to each argument and cites sources of information	• Organizes response in a logically cohesive way that makes it very easy to follow the writer's arguments • Provides valid and comprehensive elaboration on facts or ideas related to each argument and clearly cites sources of information
WRITING MECHANICS	Demonstrating facility with the conventions of standard written English (agreement, tense, capitalization, punctuation, and spelling) and control of the English language, including syntax (sentence structure) and diction (word choice and usage)	• Demonstrates minimal control of grammatical conventions with many errors that make the response difficult to read or provides insufficient evidence to judge • Writes sentences that are repetitive or incomplete, and some are difficult to understand • Uses simple vocabulary, and some vocabulary is used inaccurately or in a way that makes meaning unclear	• Demonstrates poor control of grammatical conventions with frequent minor errors and some severe errors • Consistently writes sentences with similar structure and length, and some may be difficult to understand • Uses simple vocabulary, and some vocabulary may be used inaccurately or in a way that makes meaning unclear	• Demonstrates fair control of grammatical conventions with frequent minor errors • Writes sentences that read naturally but tend to have similar structure and length • Uses vocabulary that communicates ideas adequately but lacks variety	• Demonstrates good control of grammatical conventions with few errors • Writes well-constructed sentences with some varied structure and length • Uses vocabulary that clearly communicates ideas but lacks variety	• Demonstrates very good control of grammatical conventions • Consistently writes well-constructed sentences with varied structure and length • Uses varied and sometimes advanced vocabulary that effectively communicates ideas	• Demonstrates outstanding control of grammatical conventions • Consistently writes well-constructed complex sentences with varied structure and length • Displays adept use of vocabulary that is precise, advanced, and varied