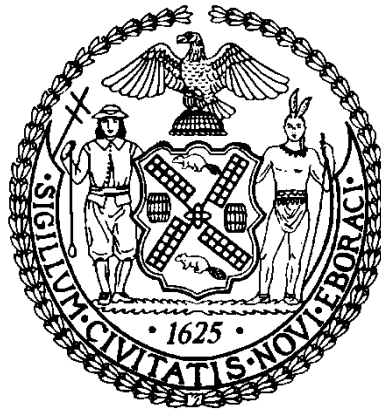


**CITY OF NEW YORK
OFFICE OF THE COMPTROLLER**

**John C. Liu
COMPTROLLER**

IT Audit and Research

**Tina Kim
Deputy Comptroller for Audit**



**Audit Report on the
Department of Education's
NYC21C Project**

7A11-116

August 1, 2012

<http://comptroller.nyc.gov>



THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
1 CENTRE STREET
NEW YORK, N.Y. 10007-2341

John C. Liu
COMPTROLLER

August 1, 2012

To the Residents of the City of New York:

My office has audited the Department of Education (DOE) to determine whether the agency's NYC21C initiative is meeting the overall goals, milestones, and budgetary allocations as set forth in the Five-Year Strategic Plan, dated May 2009. We audit entities such as DOE as a means of ensuring that systems and technological resources of City agencies are cost-effective, efficient and secure, and operate in the best interest of the public.

DOE provided the 10 NYC21C schools with technology, human resources, curriculum, and instruction as indicated in its original Plan, dated May 2009. DOE did not, however, develop measurable outcome criteria to assess the success of the project. Furthermore, the project was not in existence long enough for DOE to determine whether the goals of the plan were successful for the 10 NYC21C schools. DOE changed its approach to the NYC21C project and the program has evolved; therefore, the original purpose of this program can no longer be evaluated using the 2009 plan. The 10 schools that were included in the NYC21C initiative have been transferred into different initiatives with no clear specific measurable criteria to use in assessing the effectiveness of the NYC21C initiative.

DOE did not communicate with the NYC21C schools on a regular basis. DOE also did not have all the required documentation for the NYC21C initiative. In addition, DOE provided us with a list of inventory and expenditures for technology that was obtained by City schools, but did not keep track of the inventory each school received from DOE nor the amount associated with it. Consequently, we were unable to determine whether the NYC21C schools met their budgetary allocations.

The results of the audit have been discussed with DOE officials, and their comments have been considered in preparing this report. Their complete written response is attached to this report.

If you have any questions concerning this report, please e-mail my audit bureau at audit@comptroller.nyc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "JCL", written over a light blue rectangular background.

John C. Liu

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*The City of New York
Office of the Comptroller
IT Audit and Research*

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AUDIT REPORT IN BRIEF

The Department of Education (DOE) provides primary and secondary education to over one million pre-kindergarten to grade 12 students in 32 school districts in over 1,500 schools, and employs approximately 75,000 teachers. DOE prepares students to meet grade-level standards in reading, writing, and math, and prepares high school students to meet graduation requirements. The School Construction Authority coordinates the development of DOE's Five-Year Capital Plan, selects and acquires sites for new schools, leases buildings for schools, and supervises conversion of administrative space for classroom use.

DOE launched the NYC21C initiative in May 2009. The initiative was created as a research and development project aimed at innovating school practices to better prepare students for college and careers in the 21st century. On an individual basis, it was intended to "leverage state of the art technology to personalize instruction in core academic skills." School model development was intended to "invent, codify, and replicate the most effective school wide practices that prepare students for the 21st century." There were 10 NYC21C schools enrolled in the project, including six high schools, one transfer high school¹, and three middle schools. Eight of these 10 schools were first started in School Year (SY) 2009-2010.

In May 2009, DOE created a Five-Year Information Technology Strategic Plan (the Plan) that contains its plans for incorporating technology in all schools, including the 10 NYC21C schools. The Plan includes the IT Strategic Planning Process and the NYC21C initiative. In June 2010, DOE updated the Plan. The Plan indicates that over the course of its five-year horizon, new technologies will emerge that will be incorporated into the Division of Instructional and Information Technology's (DIIT) plans. The NYC21C initiative has evolved into various other pilot programs.

¹ Transfer Schools are small, academically rigorous, full-time high schools designed to re-engage students who are behind in high school or have dropped out. Students are required to have completed at least one year of high school.

Audit Findings and Conclusions

DOE provided the 10 NYC21C schools with technology, human resources, curriculum, and instruction as indicated in its original Plan, dated May 2009. We found that the schools have wireless upgrade, Smartboards, laptops, access to online classes, and college credit courses. In addition, the schools have educational software, which includes Rosetta Stone, Revit Architecture, Powerspeak, and Brain Pop. The schools also have their own technician to handle technical issues.

DOE did not, however, develop measurable outcome criteria to assess the success of the project (e.g., whether students were better prepared for college in the 21st century). Furthermore, the project was not in existence long enough for DOE to determine whether the goals of the Plan were successful for the 10 NYC21C schools. DOE changed its approach to the NYC21C project and the program has evolved; therefore, the original purpose of this program can no longer be evaluated using the 2009 plan. The 10 schools that were included in the NYC21C initiative have been transferred into different initiatives with no clear specific measurable criteria to use in assessing the effectiveness of the NYC21C initiative.

DOE did not communicate with the NYC21C schools on a regular basis. DOE also did not have all the required documentation for the NYC21C initiative. In addition, DOE provided us with a list of inventory and expenditures for technology that was obtained by City schools, but did not keep track of the inventory each school received from DOE nor the amount associated with it. Consequently, we were unable to determine whether the NYC21C schools met their budgetary allocations.

Audit Recommendations

DOE should:

- Establish and specify firm measurable goals, objectives, and guidelines for all future DOE projects;
- Monitor and communicate with schools to ensure New York City schools continue to provide students with innovations for the purpose of 21st century learning;
- Keep track of all New York City schools' technology inventory and expenditures for each school year for program cost effectiveness purposes;
- Ensure required documentation related to the NYC21C initiative and future pilot programs are submitted and maintained; and
- Ensure that schools in the Career and Technical Education (CTE) program submit all documentation needed for approval into the program.

Agency Response

In their response, DOE officials generally agreed with all the recommendations, but disagreed with the report, stating: “As discussed with the audit team throughout the audit and at the exit conference, the NYC21C Project that is the subject of this audit was a small educational initiative that began in the Department’s Office of New Schools within the Division of Portfolio Planning in Spring 2009, and that received support and assistance from the Department’s Office of Career and Technical Education (“CTE”) and Division of Instructional and Information Technology (“DIIT”). . . . While the Comptroller, of course, is free to opine that this small educational initiative to bring together school leaders with similar goals around the use of new technologies in the classroom should have been designed, executed and controlled by the district, with each of the ten participating schools actively monitored and measured against specific NYC21C benchmarks, that simply is not what the NYC21C Project was. The project emphasized developing principal leadership to manage and integrate new technologies for learning, and teacher training around the use of new technologies in instruction, with an additional goal of fostering collaboration among principals and teachers across schools on those topics.”

Auditor Comment: DOE’s current statements and comments that NYC21C was a “small educational initiative” which, by implication, need not “have been designed, executed and controlled by the district, with each of the ten participating schools actively monitored and measured against specific NYC21C benchmarks,” are at odds with how DOE described the NYC21C when it launched the initiative in 2009.

- In May 2009, DOE released version 1.0 of its 5-Year Information Technology Strategic Plan (the Plan), which describes NYC21C as a “**3 year R&D effort** to roll out new and existing schools that will **scale system wide by 2013**” as reflected in the following diagram from the Plan (emphasis added). (See Chart I)
- On May 12, 2009, DOE issued a press release announcing the NYC21C program as a “**research and development project**” and stating that the initiative would “develop new schools and introduce innovations that leverage technology to provide for more personalized instruction and better prepare students for college and careers” (emphasis added). The announcement of the NYC21C initiative was made at the NYC iSchool, which the press release described as “a new small selective high school in SoHo whose success at incorporating technology into everyday learning will serve as a model for the development of other schools in the NYC21C initiative.” (See Appendix I)
- Emphasizing the importance of the initiative, in June 2009, the then Chancellor authored a column that called the NYC21C program “an initiative I think is the **most exciting work** we are now embarking on here in New York City's public schools” (emphasis added). (See Appendix II)

NYC21C 5 Year

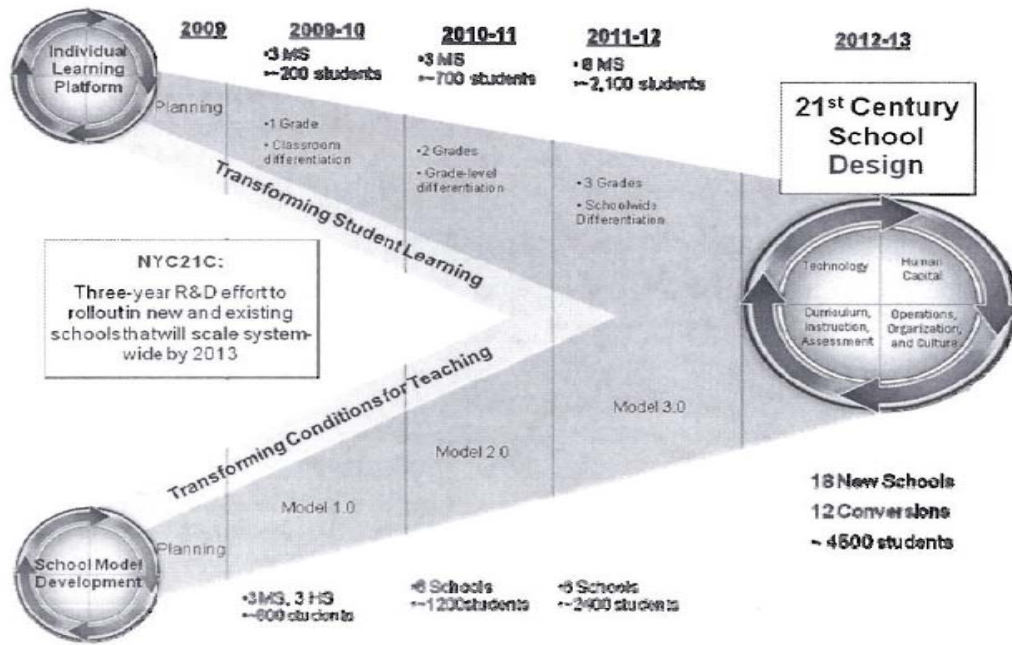


Chart I

DOE Chart from page 23 of the 2009 Plan

Now in 2012, in its response, DOE indicates that NYC21C was a “**small educational initiative**” and an “**educational plan**” whose goal was to develop principal leadership and teacher training around leveraging technology. These statements are inconsistent with the publicly released written Plan and published statements made by DOE when it launched this initiative in 2009 (See Chart I, Appendix I, and Appendix II). As DOE has provided no support for its current explanation and written evidence is at variance with it, we reject DOE’s explanation.

DOE also disputes that there was a need for close and specific NYC21C monitoring or evaluation of its effectiveness against established benchmarks. We respectfully disagree and note that NYC21C was described by the then Chancellor as “the **most exciting work** we are now embarking on here in New York City’s public schools” and DOE’s 2009 Plan called for a system wide roll-out by 2013. We would opine that a pilot of such importance that it was to be the basis of a system wide roll-out should have been closely monitored and evaluated by DOE centrally. Creating new initiatives, plans, or programs without also establishing specific criteria to measure their success does not do justice to those programs or help DOE to determine which actually work.

INTRODUCTION

Background

The Department of Education (DOE) provides primary and secondary education to over one million pre-kindergarten to grade 12 students in 32 school districts in over 1,500 schools, and employs approximately 75,000 teachers. DOE prepares students to meet grade-level standards in reading, writing, and math, and prepares high school students to meet graduation requirements. The School Construction Authority coordinates the development of DOE's Five-Year Capital Plan, selects and acquires sites for new schools, leases buildings for schools, and supervises conversion of administrative space for classroom use.

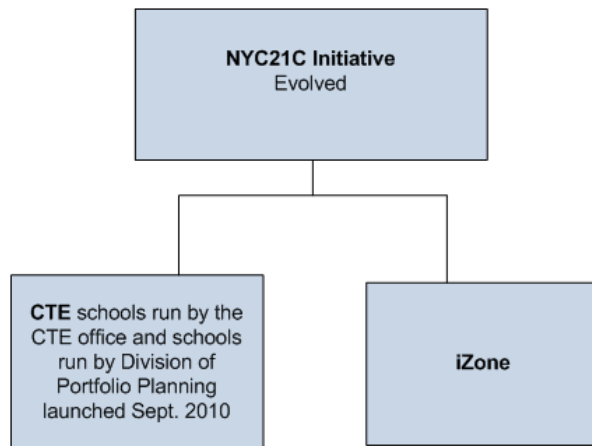
In 2009, the DOE launched the NYC21C initiative. The initiative was created as a project aimed at innovating school practices to better prepare students for college and careers in the 21st century. DOE released a Plan, dated May 2009, which described the NYC21C project and other programs developed to prepare students for 21st century learning. At the time, that included the following program areas: 1) New school models coming out of the Division of Portfolio Planning and 2) CTE schools coming out of the CTE office. Additionally, the Plan stated that NYC21C schools should be provided with innovative technology, human resources, curriculum, instruction, assessment, and operations. In June 2010, DOE updated its Plan to include changes to the NYC21C initiative. Moreover, the Plan indicates that over the course of its five-year horizon, new technologies will emerge that will be incorporated into the DIIT's plans.

The NYC21C initiative included 10 schools loosely affiliated as next generation school models during SY 2009-2010. The 10 schools include six high schools, one transfer high school, and three middle schools. Eight of these 10 schools were first started in SY 2009-2010. The NYC21C schools are monitored by the Division of Portfolio Planning and the CTE office. These schools include four CTE demonstration sites (which emerged from the Mayor's 2008 taskforce for next generation CTE models) and new schools that had been part of Division of Portfolio Planning's new school planning process. DOE informed us that 100 to 150 applications were submitted to start new schools. DOE officials indicated that it may take up to a year for a school to be approved into the program. The review process is based on a rubric in which schools must meet certain criteria to be considered. The Division of Portfolio Planning sends out an announcement and conducts Open Houses for the schools informing them of the program. Also, weekly workshops are provided to the schools for assistance in completing the applications. Schools enrolled into the NYC21C project were provided with assistance in enrolling students, hiring teachers, selecting curriculum, and planning the school's budget.

DOE's 2010 Plan, dated June 2010, indicated that the NYC21C initiative has evolved into various other pilot programs after SY 2009-2010. The pilot programs include New York City schools that are part of the Innovation Zone (iZone).

DOE revised the Plan again in DOE's 2011 Plan, dated April 2011, after the programs identified under the NYC21C initiative evolved (see Figure 1). Later, in October 2011, DOE made further revisions to the Plan.

Figure 1



Objective

To determine whether DOE's NYC21C initiative is meeting the overall goals, milestones, and budgetary allocations as set forth in the Five-Year Strategic Plan, dated May 2009.

Scope and Methodology Statement

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. This audit was conducted in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter.

The scope of this audit was from the inception of the NYC21C initiative in May 2009 to the present. Please refer to the Detailed Scope and Methodology at the end of this report for the specific procedures and tests that were conducted.

Discussion of Audit Results

The matters covered in this report were discussed with DOE officials during and at the conclusion of this audit. This preliminary draft report was sent to DOE officials and was discussed at an exit conference held on May 14, 2012. On May 22, 2012, we submitted a draft report to DOE officials with a request for comments. We received a written response from DOE

on June 11, 2012, and accordingly made a few changes to our report where appropriate.

In their response, DOE officials generally agreed with all the recommendations, but disagreed with several of our audit findings, stating, “As discussed with the audit team throughout the audit and at the exit conference, the NYC21C Project that is the subject of this audit was a small educational initiative that began in the Department’s Office of New Schools within the Division of Portfolio Planning in Spring 2009, and that received support and assistance from the Department’s Office of Career and Technical Education (“CTE”) and Division of Instructional and Information Technology (“DIIT”). . . While the Comptroller, of course, is free to opine that this small educational initiative to bring together school leaders with similar goals around the use of new technologies in the classroom should have been designed, executed and controlled by the district, with each of the ten participating schools actively monitored and measured against specific NYC21C benchmarks, that simply is not what the NYC21C Project was. The project emphasized developing principal leadership to manage and integrate new technologies for learning, and teacher training around the use of new technologies in instruction, with an additional goal of fostering collaboration among principals and teachers across schools on those topics.”

Auditor Comment: DOE’s current statements and comments that NYC21C was a “small educational initiative” which, by implication, need not “have been designed, executed and controlled by the district, with each of the ten participating schools actively monitored and measured against specific NYC21C benchmarks,” are at odds with how DOE described the NYC21C when it launched the initiative in 2009.

- In May 2009, DOE released version 1.0 of its 5-Year Information Technology Strategic Plan (the Plan), which describes NYC21C as a “**3 year R&D effort** to roll out new and existing schools that will **scale system wide by 2013**” as reflected in the following diagram from the Plan (emphasis added). (See Chart I)
- On May 12, 2009, DOE issued a press release announcing the NYC21C program as a “**research and development project**” and stating that the initiative would “develop new schools and introduce innovations that leverage technology to provide for more personalized instruction and better prepare students for college and careers” (emphasis added). The announcement of the NYC21C initiative was made at the NYC iSchool, which the press release described as “a new small selective high school in SoHo whose success at incorporating technology into everyday learning will serve as a model for the development of other schools in the NYC21C initiative.” (See Appendix I)
- Emphasizing the importance of the initiative, in June 2009, the then Chancellor authored a column that called the NYC21C program “an initiative I think is the **most exciting work** we are now embarking on here in New York City's public schools” (emphasis added). (See Appendix II)

NYC21C 5 Year

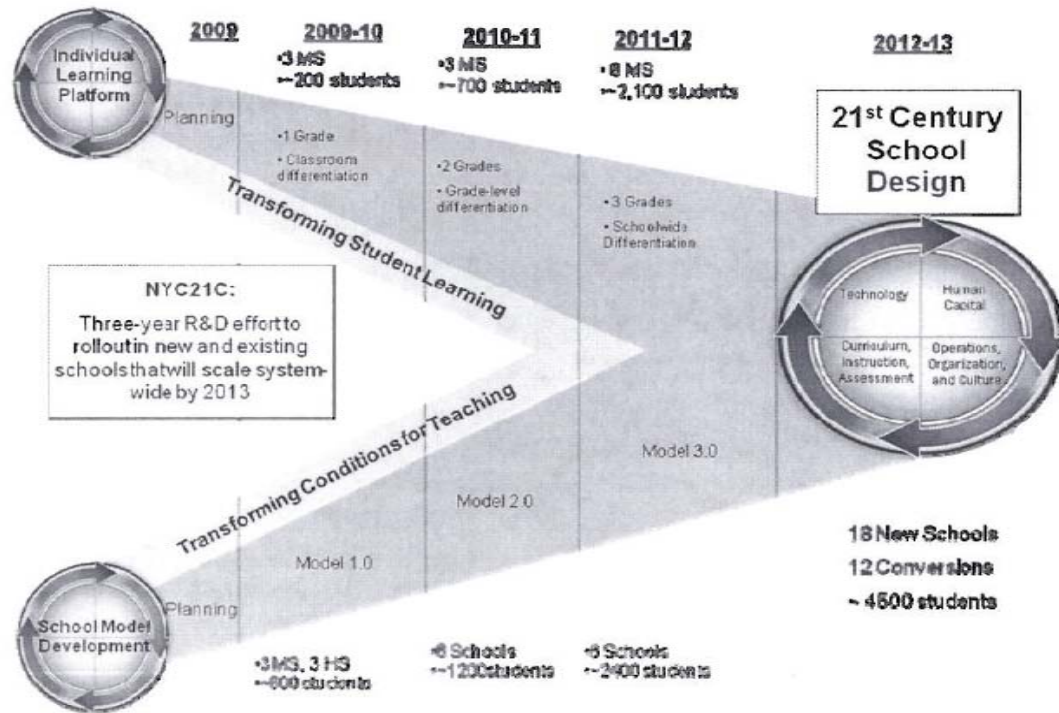


Chart I

DOE Chart from page 23 of the 2009 Plan

Now in 2012, in its response, DOE indicates that NYC21C was a “**small educational initiative**” and an “**educational plan**” whose goal was to develop principal leadership and teacher training around leveraging technology. These statements are inconsistent with the publicly released written Plan and published statements made by DOE when it launched this initiative in 2009 (See Chart I, Appendix I, and Appendix II). As DOE has provided no support for its current explanation and written evidence is at variance with it, we reject DOE’s explanation.

DOE also disputes that there was a need for close and specific NYC21C monitoring or evaluation of its effectiveness against established benchmarks. We respectfully disagree and note that NYC21C was described by the then Chancellor as “the **most exciting work** we are now embarking on here in New York City’s public schools” and DOE’s 2009 Plan called for a system wide roll-out by 2013. We would opine that a pilot of such importance that it was to be the basis of a system wide roll-out should have been closely monitored and evaluated by DOE centrally. Creating new initiatives, plans, or programs without also establishing specific criteria to measure their success does not do justice to those programs or help DOE to determine which actually work.

The full text of the DOE response is included as an addendum to this final report.

FINDINGS AND RECOMMENDATIONS

DOE provided the 10 NYC21C schools with technology, human resources, curriculum, and instruction as indicated in its original Plan, dated May 2009. We found that the schools have wireless upgrade, Smartboards, laptops, access to online classes, and college credit courses. In addition, the schools have educational software, which includes Rosetta Stone, Revit Architecture, Powerspeak, and Brain Pop. The schools also have their own technician to handle technical issues.

DOE did not, however, develop measurable outcome criteria to assess the success of the project (e.g., whether students were better prepared for college in the 21st century). Furthermore, the project was not in existence long enough for DOE to determine whether the goals of the Plan were successful for the 10 NYC21C schools. DOE changed its approach to the NYC21C project and the program has evolved; therefore, the original purpose of this program can no longer be evaluated using the 2009 plan. The 10 schools that were included in the NYC21C initiative have been transferred into different initiatives with no clear specific measurable criteria to use in assessing the effectiveness of the NYC21C initiative.

DOE did not communicate with the NYC21C schools on a regular basis. DOE also did not have all the required documentation for the NYC21C initiative. In addition, DOE provided us with a list of inventory and expenditures for technology that was obtained by City schools, but did not keep track of the inventory each school received from DOE nor the amount associated with it. Consequently, we were unable to determine whether the NYC21C schools met their budgetary allocations.

DOE Changed Its Approach to the NYC21C Initiative

In 2010, DOE changed its approach to the NYC21C initiative and the program has evolved; therefore, the original purpose of this project can no longer be evaluated using the 2009 plan. The project was not in existence long enough for DOE to determine whether the above goals of the plan were successful for the NYC21C schools. DOE did not have predetermined measurements of success (e.g., outcome criteria) that would allow it to track the progress of the NYC21C schools. In addition, as the project evolved, changes were made without incorporating appropriate measurements of success. The DIIT's Plan does not provide any detailed guidelines to ensure the success of the NYC21C initiative. Schools have the concept that if the initiatives in the program are ineffective, then they can take a different approach. This attitude does not ensure the success of a program. DOE should have definitive goals in order to measure school performance and to ensure standards are being upheld by schools.

It is common to deviate from a plan because the organization, in this instance DOE, ends up changing its direction somewhat as original conceptions evolve. Some mechanism must be created to ensure that those changes are reasonable and will promote accomplishing the plan's objectives. For example, regarding changes, schools should document: 1) what caused the changes to be made; 2) why the changes should be made (including any data supporting the need

for the changes); and 3) the goals, objectives, responsibilities, and timelines for the changes. The revisions of DOE's first plan did not address these items.

We found that the schools have wireless upgrade, Smartboards, laptops, online classes, and college credit courses. We also had walk-throughs at all schools to determine what technology and software is used in computer labs and various classrooms. In addition, schools have educational software, which includes Rosetta Stone, Revit Architecture, Powerspeak, and Brain Pop. Distance learning where students are taught various subjects by teachers at a different location is also available. Moreover, schools have their own technician at the school handling technical issues.

Progress Reports provide the schools with a letter grade based on their overall performance. However, the NYC21C initiative was not in existence long enough for DOE to determine whether the schools made adequate progress while in the program. Nine of the 10 NYC21C schools did not receive Progress Report scores for SY 2009-2010. In addition, only four of the schools received Progress Report scores for SY 2010-2011. DOE cannot make performance comparisons for nine of the 10 schools until the schools receive Progress Reports for two consecutive school years. In addition, Quality Reviews to schools indicate what improvements are necessary. DOE's website provided the Quality Review for each NYC21C school for SY 2009-2010. However, as of April 18, 2012, nine of the 10 schools' Quality Reviews were not posted on the DOE's website for SY 2010-2011.

DOE Response to the Finding: DOE stated, "NYC21C began as a small pilot. The schools that piloted these initiatives in the name of 'NYC21C' were principals who willingly participated in professional learning that would promote new thinking around instruction. Much of the learning that occurred through NYC21C was incorporated into the design of the NYCDOE's iZone, a larger-scale effort to create 21st century learning environments. Seven of the original 'NYC21C' pilot schools joined the iZone. The iZone been awarded two federal Investment in Innovation (i3) grants by the USDOE to continue to move this work forward."

Auditor Comment: In now minimizing the role of NYC21C, DOE officials appear to be dismissive of our concerns regarding the lack of measurable outcome criteria. According to the then Chancellor, the NYC21C initiative was created in 2009 as a research and development project aimed at innovating secondary school practices to better prepare students for college and careers in the 21st century global economy. In addition, DOE states that it launched Innovation Zone and other initiatives from NYC21C, which suggests that it was conceived as more than a 'small' pilot.

Finally, while DOE states that "the Department has developed detailed and extensive evaluation tools to hold schools accountable for student achievement..." it further states that "not every small initiative...warrants a distinct standalone set of measurable benchmarks...." We disagree with DOE's somewhat contradictory position.

Recommendation

DOE should:

1. Establish and specify firm measurable goals, objectives, and guidelines for all future DOE projects.

DOE Response: DOE stated, “We find it difficult to respond to a recommendation stated so universally. As shared with the auditors, the Department has developed detailed and extensive evaluation tools to hold schools accountable for student achievement, including but not limited to local progress reports, quality reviews, and surveys of parents, teachers and students. Our schools are also subject to state and federal accountability measures. We certainly agree with the Comptroller to the extent this recommendation generally promotes performance assessment and accountability. That stated, not every small initiative to bring together school leaders to discuss ideas and challenges or to receive professional development around pedagogical strategies necessarily warrants a distinct standalone set of measurable benchmarks or a checklist of new mandates. To the extent that the recommendation is intended to suggest otherwise, we disagree.”

Auditor Comment: DOE officials appear to be dismissive of the seriousness of the recommendation. To now state that DOE determined that specific firm measurable goals, objectives, and guidelines to measure the readiness of its students did not ‘warrant a distinct standalone set of measurable benchmarks’ because DOE now has defined the project as a small project is contradictory when considering the then Chancellor’s previously quoted comments. DOE states that it launched Innovation Zone and other initiatives from NYC21C. This statement is perplexing as, by DOE’s own admission, no specific data was available to evaluate the success of those schools involved in NYC21C; therefore, one must question how DOE could launch several new initiatives without first evaluating the success of this endeavor.

DOE Lacks Necessary Monitoring of Schools

The NYC21C schools are monitored by the Division of Portfolio Planning and the CTE offices. Based on our interviews with NYC21C school personnel, we found that DOE did not adequately monitor schools during and after the NYC21C initiative. Without adequate monitoring of the NYC21C schools, DOE could not determine whether the schools met the goals stated in the Plan. DOE did not communicate with the NYC21C schools on a regular basis. The NYC21C was created to bring innovation into schools for the 21st century. DOE should monitor and ensure schools are providing students with innovations for the purpose of 21st century learning. Eight out of 10 schools were new schools, and those schools needed to be monitored to ensure that they were fulfilling the educational needs of the students.

During our interviews with school officials, we found three schools that did not feel that they had adequate meetings with DOE officials to help determine and meet the needs of the school. A school official informed us that DOE would meet weekly with the school, but further

into the program, DOE did not provide the school with further assistance. Another school official informed us that when the NYC21C initiative began, DOE officials communicated through email or phone only once or twice a month. Moreover, a third school official informed us that the school was only in contact with the DOE when technical assistance was needed.

DOE Response to the Finding: DOE stated, “The Department communicates with all schools on a regular basis, both centrally through a weekly update to principals, as well as in direct communications between schools and their CFNs [Children First Network]. All new schools during their start up phase also received a weekly bulletin, and all principals had weekly meetings through the ‘New School Intensive.’ The ‘NYC21C’ plan never anticipated ongoing oversight from Central, nor did it anticipate ongoing supplemental funding or supports from Central beyond that afforded to all schools. As with all schools, each of the ‘NYC21C’ pilot schools belongs to a CFN for support around operations and instruction.

All schools are monitored by a CFN and a community superintendent. The responsibility of the Division of Portfolio Planning was to provide start-up support for the new schools during their planning year.”

Auditor Comment: DOE stated: “The ‘NYC21C’ plan never anticipated ongoing oversight from Central, nor did it anticipate ongoing supplemental funding or supports from Central beyond that afforded to all schools.” To now state that it communicates with all schools through CFNs [Children First Network] and imply that this is sufficient for NYC21C is disingenuous.

We spoke to principals and DOE officials during this audit, and neither mentioned CFN nor the community superintendent as a network for monitoring its NYC21C schools. Further, DOE agrees it did not communicate with the NYC21C schools, stating “iZone . . . *unlike NYC21C* . . . does provide dedicated and sustained supports to work with schools in leveraging technology and other strategies to prepare students for success in the 21st century.”

Although DOE provided weekly bulletin and updates to principals during NYC21C’s initial phase, DOE should have continued to monitor all schools to ensure that they were meeting the goals of the project, evaluate any issues that arose, and make the necessary improvements to the NYC21C schools. As noted below, DOE agrees with our recommendation.

Recommendation

DOE should:

2. Monitor and communicate with schools to ensure New York City schools continue to provide students with innovations for the purpose of 21st century learning.

DOE Response: DOE stated, “Again, we find it difficult to respond to the recommendation in that it is somewhat broad and vague, but we believe we generally agree and already do what is recommended here....”

Inadequate Recordkeeping of DIIT’s Plan Technology Expenditures

As stated previously, the Plan evolved and the initial amount of \$490.62 million over a three-year period was later revised to \$525.32 million. DIIT department officials are responsible for all upgrades to the wireless connectivity and other technology at the schools. DIIT informed us that it maintains the inventory of computers, works with vendors, and is involved in the helpdesk for technology support of New York City schools. However, DOE did not provide us with any documentation regarding the expenditures of the original 10 NYC21C schools. Further, DOE officials informed us that the Plan shows an estimate of the amount spent for incorporating technology into all citywide schools. However, we found that DOE does not keep track of which schools specifically receive the funding noted in the Plan.

DOE Response to the Finding: DOE stated, “The ten schools that participated in the ‘NYC21C’ pilot did not receive additional budget allocations from Central or DIIT . . . The budget estimates that the report took from that plan refer to the total estimated expenditures for DIIT covering technology implementation throughout the Department and impacting all of its approximately 1,700 schools over three years, and should not be represented in this audit report since they do not pertain to ‘NYC21C’. Not one cent of the dollar figures taken from the DIIT Technology Plans and included in the report can be or should be attributed to the ‘NYC21C’ project.”

Auditor Comment: DOE insists that the NYC21C schools did not receive any funding from DIIT to cover technology such as wireless upgrade and computer equipment from Central DOE. However, these schools would have been included in the overall plans for upgrades and computers. Specifically, DOE provided spreadsheets indicating that these schools received approximately 470 pieces of equipment from Central DOE and grants from 2009 through 2011. We requested documentation specifically for those items associated with the NYC21C project from 2010 through 2011 funded by Central DOE, school-based funds, and grants. DOE could only provide expenditure documentation for school-based purchases. We received only inventory documentation for items that may have been funded by Central DOE or grants. Therefore, we continue to conclude that DOE should keep track of individual school technology expenditures by funding source (e.g., Central DOE, school allocation, and private grants).

Inadequate Recordkeeping of DOE Technology Expenditures Provided to NYC21C Schools

We reviewed the technology purchases for the period of Fiscal Year 2009 through Fiscal Year 2011. Initially, DOE provided us with an inventory of the technology in all 10 schools for Fiscal Years 2009 through 2011. The inventory list indicated whether the technology was provided separately into three categories: 1) centrally by DOE, 2) school budget, or 3) other

funding. After being provided the inventory list of technology, DOE informed us it was incorrect. DOE later provided us with the inventory and expenditures of technology by the school budget only. However, we still did not receive documentation regarding the inventory and expenditures of technology that the schools were centrally provided by DOE.

Additionally, we reviewed the software used by each school. The schools indicated if the software was provided by DOE, from the school budget, or through other funding. The respective schools only provided expenditures for software provided in their school budgets. DOE officials indicated that no software was provided centrally by DOE; however, principals provided us with documentation indicating that DOE provided software to the school. The discrepancy indicates that DOE does not keep track in total of the software being provided to the schools and the expenditures associated with the software. Consequently, we could not determine whether the NYC21C schools were meeting their budgetary allocations.

DOE Response to the Finding: DOE stated, “. . . we would like to correct the misstatement in the report about the technology inventory and expenditures at the ‘NYC21C’ schools. The Department does maintain records of all technology expenditures, which include purchases made for and by the ‘NYC21C’ schools. The Department provided three spreadsheets on the information requested: Grants or Other Funding FY09-FY11, Centrally Funded Technology Assets FY09-FY11, All Technology Assets FY09-FY11. The final of the three spreadsheets was replaced when we realized that it included technology purchases prior to FY09. The other spreadsheets did not need to be replaced as they already represented the correct date-restricted period requested by the auditors. The auditors received accurate inventory listings for all of the technology purchases at the ten schools from FY09-FY11, as requested.”

Auditor Comment: DOE’s response is misleading. The original spreadsheets that were provided by DOE only showed an inventory of the technology that was provided to the 10 NYC21C schools and were separated into three categories: 1) centrally by DOE, 2) school budget, or 3) other funding. The last spreadsheet that DOE provided indicated the inventory and total monetary amount associated with the technology that was provided to the schools through their school budget only. However, DOE still has not provided us with any documentation that indicates the computer technology ‘expenditures’ that were provided by Central DOE or by grants and other funding.

DOE Response to the Finding: DOE also stated, “We further take issue with the statement in this section of the report that the auditors ‘could not determine whether the NYC21C schools were meeting their budgetary allocations.’ As was explained to the auditors, none of the ‘NYC21C’ schools received an ‘NYC21C’ budgetary allocation. Any purchases by any of the ‘NYC21C’ schools of hardware or software were at the discretion of the principal using either the new school start-up funding provided to all new schools or the school’s basic operating budget.”

Auditor Comment: DOE provided the schools with laptops, desktops, and printers while the schools were part of the NYC21C project. DOE claimed that none of the ‘NYC21C’ schools received an ‘NYC21C’ budgetary allocation; however, principals provided us

with documentation indicating that Central DOE provided computer technology to the schools. DOE does not keep track of the computer technology expenditures that were supplied to NYC21C schools. Therefore, we still could not determine the expenditures provided to the schools for the NYC21C project.

Recommendation

DOE should:

3. Keep track of all New York City schools' technology inventory and expenditures for each school year for program cost effectiveness purposes.

DOE Response: DOE stated, "We agree with the recommendation, although as discussed above, we take exception to the finding that triggered the recommendation."

Missing School Documentation by DOE

Four out of 10 schools did not provide a brief description of courses. DOE provided a list of the school curriculum for each school, but without a description, we could not further review how technology is being incorporated into the courses.

DOE Response to the Finding: DOE stated, "The audit request for brief written descriptions of *all* courses offered by these schools was unduly burdensome. Overburdened school staff should not be compelled to create written course descriptions for audit where written course descriptions are not a requirement, particularly given that many courses offered at these ten schools were not relevant with respect to an audit of 'NYC21C'. The Department provided a sample of how technology is integrated into lesson plans and a sample of relevant course descriptions from each of the ten schools, and provided complete site visit and interview access to each of the schools and their principals. That sample provided the auditors enough information to get a sense of the pedagogical approach of each school."

Auditor Comment: DOE provided a sample of school schedules for specific days in time, i.e., one day summer schedule, which did not present to this office how technology was integrated into the lesson plan in conjunction with a specific plan devised by the school and approved by DOE. Further, in our site visits, we noted labs, equipment, and software and witnessed students using these items. However, the specificity of how these classes met the overall curriculum could not be ascertained from site visits without the benefit of an overall plan. In response to DOE's statement that course descriptions are not required, it fails to mention that the New York State Learning Standards and core curriculum guidance documents are the foundation upon which State assessments are developed and aligned. It is the responsibility of each local school district to develop curricula based on the NYS Learning Standards, select textbooks and instructional materials, develop pacing charts for learning (scope and sequence), and provide professional development to ensure

that all students have access to instruction leading to attainment of these learning standards.

Recommendation

DOE should:

4. Ensure required documentation related to the NYC21C initiative and future pilot programs are submitted and maintained.

DOE Response: DOE stated, “We agree, of course, that *required* documentation must be submitted and/or maintained in accordance with all applicable rules, regulations and guidelines. As discussed above, however, the audit report findings attached to this recommendation cite the Department for “missing” documentation (*i.e.*, applications/proposals to participate in NYC21C, and brief descriptions of all courses) that, in fact, was never required, either generally or as part of the NYC21C initiative.”

Other Issue

DOE Does Not Follow Policy and Procedures for CTE Program

The CTE program requires that schools go through the approval process and submit a letter of intent and an evaluation form. We found that four schools that were part of the NYC21C initiative are currently in the CTE program. DOE did not provide the letter of intent and evaluation form for the schools enrolled in the CTE program. The documentation from the schools is needed for the approval of the schools into the program before receiving supplemental CTE funding. In addition, CTE schools must have an evaluation to keep their accreditation. The DOE website states, “Successful program approval, through this online tool, will have direct impact on funding and will enable the central NYCDOE CTE team to advocate for City- and State-approved programs.” Without the documentation, we could not determine whether DOE has followed its policy and procedures for the CTE approval process.

Recommendation

DOE should:

5. Ensure that schools in the CTE program submit all documentation needed for approval into the program.

DOE Response: DOE agreed with this recommendation.

DETAILED SCOPE AND METHODOLOGY

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. This audit was conducted in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter.

The scope of this audit was from inception of the NYC21C initiative to the present. Our fieldwork was performed from May 2011 to December 2011. To achieve our audit objectives, we conducted interviews with principals and staff at all 10 schools that were initially part of the NYC21C initiative to determine whether the schools meet the criteria as 21st century schools. These schools include three middle schools, six high schools, and one transfer school. We also had walk-throughs at all schools to determine what technology and software is used in computer labs and various classrooms.

To determine the goals and criteria of the NYC21C initiative and how the initiative has expanded, we interviewed DOE officials from the Division of Portfolio Planning, Office of Innovations, and the CTE office. In addition, we met with DOE officials to gain an understanding of the selection process and goals of the pilot programs, which include the I-learnNYC, School of One, Personalized Learning Systems, and the Time and Staffing programs.

We reviewed and analyzed the Plan dated May 2009 and the revised versions of the Plan, dated June 2010 and October 2011, to determine technology plans for the 21st century schools. In addition, we reviewed the Master Schedule Summary that lists the school curriculum for SY 2010-2011 for all 10 schools. Further, we reviewed the selection process and rubric for the NYC21C initiative. To determine the criteria and goals for the CTE schools, we reviewed the *Next-Generation Career and Technical Education in New York City* on the DOE website. This report provided recommendations by the Mayoral Task Force on CTE's proposed innovations for CTE schools.

To determine whether the NYC21C schools incorporated technology and innovations within the schools, we reviewed a description of the classes offered for the current school year (SY 2011-2012). Additionally, we examined the software used in each school and reviewed expenditures for the software. The 10 schools indicated whether the software was provided by DOE, from the school budget, or by other funding. Further, we reviewed the technology inventory and purchases of all 10 schools for SYs 2009 to 2011 to determine the technology expenditures made by these schools.

We reviewed and analyzed all 10 schools' Progress Reports for SY 2009-2010 and Quality Review reports for SY 2009-2010; however, we were unable to review all documents for SY 2010-2011 because DOE has not yet completed the reports for all schools. To determine how principals planned to incorporate technology and innovations into their schools, we reviewed the proposals for the NYC21C schools.

To gain an understanding of the programs provided to students at the NYC21C schools and for an overview of the schools, we reviewed the DOE *2010-2011 High School Directory*. Additionally, we reviewed the CTE approval process policy, letter of intent, and evaluation forms for the CTE program on the DOE website.

Chancellor Launches NYC21C Initiative at NYC iSchool - 2008-2009 - New York City Department of Education

Children First. Always.

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News and Speeches

Chancellor Launches NYC21C Initiative at NYC iSchool

05/12/2009

Schools Chancellor Joel I. Klein today launched the NYC21C initiative, a research and development project aimed at innovating secondary school practices to better prepare students for college and careers in the 21st century global economy. The announcement was made at the NYC iSchool, a new small selective high school in SoHo whose success at incorporating technology into everyday learning will serve as a model for the development of other schools in the NYC21C initiative. The NYC iSchool is equipped with video conferencing so that students can learn from college professors, authors, top scientists, and business leaders around the globe. A virtual desktop program designed for the school enables students to access their work on any computer, and online coursework complements classroom learning. Students at the NYC iSchool have already used the technology to learn about neuroscience from Nobel Laureates at the Howard Hughes Medical Institute, about the earth's atmosphere and global climate change from a NASA scientist, to connect with peers in the Gulf Coast and share perspectives about 9/11 and Hurricane Katrina, and to access online Advanced Placement and college-preparatory courses that might not otherwise be available to them. The NYC iSchool is supported by a \$1 million founding gift from Mortimer B. Zuckerman. Cisco, the world's leading networking company, is collaborating with the NYC iSchool to provide hands-on expertise and to advise educators as they develop technology-based teaching methods that can be replicated in classrooms everywhere.

Early results from the NYC iSchool indicate success. Last January, a quarter of the NYC iSchool's ninth grade students passed the New York State Regents exam in global studies or living environment—months earlier than most high school students even complete the course. Demand to attend the school has dramatically increased from its first year, when nearly 300 students applied for 90 seats; this year, more than 1,500 students applied for 108 seats available in the fall.

"The NYC iSchool's use of technology to expand learning opportunities for students is incredibly exciting," Chancellor Klein said. "I want to thank Mort Zuckerman and Cisco for their support, and congratulate NYC iSchool educators and students, who are leading the way for the next generation of schools across the City and country."

"Improving New York City's public schools is critical to the future of our City," Mortimer B. Zuckerman said. "I am proud to be a part of another innovation to improve the quality of teaching and learning."

"Cisco is honored to be a strategic partner to the NYC iSchool and part of the Chancellor's initiative to transform New York City schools for the 21st Century," said Michael Stevenson, Vice President of Global Education at Cisco. "Drawing on our experience elsewhere in the world, we are assisting the New York City Department of Education through the provision of roadmaps, models, and tools which school leaders can incorporate into their strategies for school improvement, driven by technology. Cisco believes passionately in transforming education to create stronger societies and economies. We hope our work with the New York City schools will both have impact in the city and offer a template for use elsewhere in the US and around the world."

"A commitment to focusing on 21st century skills and the opportunity to offer a technology-rich environment allows us to transform the classroom experience," said iSchool Co-Principal Alisa Berger. Co-Principal Mary Moss added: "The iSchool represents a re-conceptualization of high school. We need to be willing to look at the skills our students need for college and beyond, and use all available tools to offer students a high school experience that meets their needs and ensures their success in today's world."

Building upon the successes of the NYC iSchool, the NYC21C initiative will develop new schools and introduce innovations that leverage technology to provide for more personalized instruction and better prepare students for college and careers.

June 14, 2012

Edition: **U.S.**

Joel Klein

Chancellor of the New
York City

Department of Education

Posted: June 22, 2009 12:00 AM

[This is the print preview: Back to normal view »](#)

In Defense of iSchools

On a recent visit to the NYCiSchool, one group of students gathered around a computer to edit a video for a humanitarian campaign and another created a "Call to Action" website for Zimbabwean refugees. Down the hall, one teacher drilled a student on amino acids for the upcoming Regents exam and another stood before a classroom of students, delivering a trigonometry lesson.

The iSchool, a new high school in SoHo that incorporates technology into everyday learning, encourages students to take an active role in their own education and go beyond what they find in a textbook. For example, students take a self-paced online course to prepare for the Global History Regents Exam and also study the subject in depth with their peers and teachers. Often, students connect digitally with students, authors, or newsmakers in other parts of the world to add context to what they are studying.

Some people think of technology as a way of turning teaching and learning into a mechanical process. But the team at the iSchool and others who are using technology in innovative ways show us that technology isn't about turning schooling into widget making. In fact, it's exactly the opposite. It's about rethinking the way teachers teach and children learn. Schools like the iSchool are creating a new model that allows students to pace and challenge themselves and allows teachers to spend more time focused on providing individual students with what they need to succeed.

Clayton Christensen, a leader in thinking around how technology can change American schools, explains that investing in computer equipment and other technology isn't going to change outcomes for students. He writes: "The United States has spent more than \$60 billion equipping schools with computers during the last two decades, but as countless studies and any routine observation reveal, the computers have not transformed the classroom, nor has their use boosted learning as measured by test scores. Instead, technology and computers have tended merely to sustain and add cost to the existing system."

He says the solution is to "introduce the innovation disruptively." In other words, he thinks we need to use technology to create solutions for the people who currently aren't being well served by our schools.

That means giving students tools they need to learn more effectively, and it also means giving educators and parents the tools they need to improve learning.

That idea--completely reimagining schools in order to better serve our highest need students--is what has been behind many of our biggest innovations in recent years and what is driving NYC21C, an initiative I think is the most exciting work we are now embarking on here in New York City's public schools.

In the past three years, the New York City Department of Education has created a number of technologies that allow teachers, principals, and parents to better understand students' strengths and weaknesses and create academic programs that are tailored to the students' needs.

Our Achievement Reporting and Innovation System helps parents and teachers gauge whether students are on track to meet New York State requirements and learning standards. It then allows teachers to reach out to colleagues across the City to find people facing the same challenges and share strategies. Within schools, teachers, principals, and coaches are using this information to spot trends and tailor instructional strategies for individual students and groups of students. On a smaller scale, new technology-based ideas are popping up at schools across the City.

For New York City, the next big change is to change our technology "culture," so we begin using modern tools to rethink the way our schools and classrooms are organized to most effectively engage students and bolster their achievement. I think this transformation will help us to create schools that will truly prepare our students to succeed in our high-tech, global economy.

http://www.huffingtonpost.com/joel-klein/in-defense-of-ischools_b_215680.html?view=print[6/14/2012 2:32:39 PM]



Marc S. Sternberg
Deputy Chancellor for
Portfolio Planning

52 Chambers Street
New York, NY 10007

+1 212 374 0225 tel
+1 212 374 5588 fax

June 11, 2012

Ms. Tina Kim
Deputy Comptroller for Audits
City of New York
Office of the Comptroller
1 Center Street
New York, NY 10007-2341

Re: Audit Report on the
Department of Education's
NYC21C Project
ME11-064A

Dear Ms. Kim:

Please accept this letter, along with the enclosed Response to Findings and Recommendations, as the official response from the New York City Department of Education ("Department") to the Draft Audit Report ("Report") received from The Office of The New York City Comptroller ("Comptroller's Office" or "Comptroller"), regarding the Department of Education's NYC21C Project, dated August 19, 2011.

As discussed with the audit team throughout the audit and at the exit conference, the NYC21C Project that is the subject of this audit was a small educational initiative that began in the Department's Office of New Schools within the Division of Portfolio Planning in Spring 2009, and that received support and assistance from the Department's Office of Career and Technical Education ("CTE") and Division of Instructional and Information Technology ("DIIT"). Ten schools, eight of which were new schools that opened in the 2009-2010 school year, were brought together under the NYC21C Project because those schools' leaders had each expressed interest in the challenge of bringing state-of-the-art technology into learning in creative and innovative ways. The nation is actively seeking innovative ways to ensure our students are prepared for success in the 21st century, and the federal government has made it clear that technology can play a critical role in increasing student achievement.¹ NYC21C was the Department's first effort to support schools in creating innovative school models that leverage these tools, and in doing so, the Department established itself as a

¹ <http://www.ed.gov/technology/netp-2010/executive-summary>



national leader in 21st century learning. The experience of NYC21C has greatly informed the Department in its efforts to scale 21st century learning models throughout NYC.

While the Comptroller, of course, is free to opine that this small educational initiative to bring together school leaders with similar goals around the use of new technologies in the classroom should have been designed, executed and controlled by the district, with each of the ten participating schools actively monitored and measured against specific NYC21C benchmarks, that simply is not what the NYC21C Project was. The project emphasized developing principal leadership to manage and integrate new technologies for learning, and teacher training around the use of new technologies in instruction, with an additional goal of fostering collaboration among principals and teachers across schools on those topics. It appears from the Report that there is still some confusion about the following facts: no schools applied to participate in the NYC21C Project; no schools “enrolled” in the NYC21C Project; none of the participating schools received an NYC21C budget allocation; none of the participating schools received “extras” from DIIT; and none of the participating schools received a list of NYC21C mandates or benchmarks from the Department’s Central leadership.

The Department accepts responsibility for some of that initial confusion. Firstly, although the NYC21C Project was, from its inception, an *educational* plan initiating from the Office of New Schools, we understand that the inclusion of an “NYC21C Initiative” section within DIIT’s *5-Year Information Technology Strategic Plan* (“DIIT Tech Plan”) in Spring 2009 can be interpreted as an indication that NYC21C was itself a *technology* plan initiating from DIIT. However, NYC21C was completely independent from the Department’s ongoing school technology infrastructure projects, which are designed to upgrade the school network infrastructure, school infrastructure facility, and wireless coverage for *all* of the Department’s school buildings, including but not limited to those schools participating in the NYC21C Project. Secondly, in the 2010-2011 school year, the Department launched the Innovation Zone (“iZone”), overseen by the Office of Innovation within the Division of Talent, Labor and Innovation. The iZone built off of the ideas explored in the NYC21C Project, as well as other educational initiatives such as the “School of One,” and brought them under a more structured and permanent umbrella of central support and oversight. Much of what is discussed in the DIIT Tech Plan under the “NYC21C Initiative,” including supporting the development of 21st century school models, began in school year 2010-2011, and has moved forward under the iZone. The iZone, which included 81 schools in school year 2010-2011 and expanded to 158 schools in school year 2011-2012, *unlike NYC21C*, does have a formal



application and approval process for schools that wish to participate, and does provide dedicated and sustained supports to work with schools in leveraging technology and other strategies to prepare students for success in the 21st century. Seven of the original 10 “NYC21C schools” applied and were approved to participate in the iZone.

When the Comptroller’s Office first announced its intention to audit the Department’s NYC21C Project and met with Department officials back in Spring 2011, it was clear that the audit team had an initial conception about NYC21C driven primarily by the DIIT Tech Plan that did not reflect the actual scope of the project. The Comptroller’s Office believed NYC21C was a large office with a dedicated budget, responsible for multiple projects. In reality, NYC21C was a small pilot that was primarily a professional learning community for schools, with no associated funding allocated to the schools’ budgets, but rather with some centrally-funded professional development for principals and teachers at the participating schools.

Those explanations having been provided, however, the extent to which the Report still reflects fundamental misunderstandings about the nature of the NYC21C Program is perplexing. For example, the Report states in two places that the Comptroller was unable to determine whether the NYC21C schools met their budgetary allocations. As was explained to the Comptroller, the NYC21C schools did not receive any budgetary allocations relating to the NYC21C Project. The Report also states that the Department did not keep track of which schools received the funding noted in the DIIT Tech Plan, when (i) no schools received funding from DIIT, and (ii) there is no NYC21C-related funding noted in the DIIT Tech Plan.

As another example, the Report states that the Department did not provide proposals for two out of 10 schools that were part of NYC21C, and that the auditors therefore could not determine whether the schools met the criteria to become part of the NYC21C initiative. As explained to the auditors on multiple occasions, there was no application or proposal process for participation in the NYC21C Project. The eight proposals we shared with the Comptroller were not NYC21C proposals, but rather were proposals for new schools submitted as part of the Department’s broader new schools evaluation process. We explained at the time that the two previously-existing schools that participated in the NYC21C Project did not have new school proposals because they were not new schools.

NYC21C began as a very small pilot project at 10 schools, with minimal affiliated expenses for teacher training and other professional development. It



was about bringing together some like-minded school leaders to brainstorm and develop ideas around the integration of new technologies into student instruction, to permit the group to identify and troubleshoot some of the challenges around such integration, and to learn how their efforts could best be scaled throughout the district. This small group of pilot schools grappled with integration of new technologies and became a test bed for issues subsequently tackled by DIIT that ultimately benefitted the iZone. For example, through helping these schools solve problems around access and security in their use of an online Learning Management System, DIIT was able to minimize such problems at scale. At the end of the 2009-2010 school year, the Department obtained a consultant's report profiling the innovative practices implemented by the 10 schools and some of their associated challenges, which provided the Department with valuable information in the planning around the iZone going into the 2010-2011 school year. We believe that these strategies piloted in NYC21C schools, such as offering online foreign language and college-level courses, learning anywhere and anytime facilitated by technology, and learning through the use of educational video games, hold great promise for NYC students.

Sincerely,

A handwritten signature in black ink, appearing to read "Marc S. Sternberg".

Marc S. Sternberg
Deputy Chancellor
Division of Portfolio Planning

Response to Findings and Recommendations
Draft Audit Report on the Department of Education's NYC21C Project

Please accept this Response to Findings and Recommendations, along with the cover letter of Deputy Chancellor Marc Sternberg dated June 11, 2012, as the official response from the New York City Department of Education ("Department") to the Draft Audit Report ("Report") received from The Office of The New York City Comptroller ("Comptroller's Office" or "Comptroller"), regarding the Department of Education's NYC21C Project, dated August 19, 2011.

Background

In 2010 the US Department of Education published a national education technology plan, Transforming American Education: Learning Powered by Technology, calling for "the application of advanced technologies to our entire education system to improve student learning, accelerate and scale up the adoption of effective practices, and use data and information for continuous improvement."¹ The plan recognized that technology is at the core of virtually every aspect of our daily lives and work, and that we need to leverage it to provide engaging and powerful learning experiences for students, as well as resources and assessments that measure student achievement in more complete, authentic, and meaningful ways. The plan stressed that technology can execute collaborative teaching strategies combined with professional learning that enhance educators' competencies and expertise over the course of their careers. As part of the US DOE strategy, the report calls on local districts to "implement ... new approaches to research and development ["R&D"] in education that focuses on scaling innovative best practices in the use of technology in teaching and learning, transferring existing and emerging technology innovations into education ... and creating a new organization to address major R&D challenges at the intersection of learning sciences, technology, and education."² Prior to the publication of this national report, the New York City Department of Education had begun to seed R&D strategies as part of its new school development work in the form of a project known as 'NYC21C'.

The 'NYC21C' project was an *educational* plan that began in the Office of New Schools; it was not a *technology* plan initiated by the Division of Instructional and Information Technology ("DIIT"). The new schools that participated in the 'NYC21C' project took on the challenge of bringing state of the art technology into learning in order to "enable, motivate, and inspire all students, regardless of background, languages, or disabilities, to achieve....[and] leverage the power of technology to provide personalized learning and to enable continuous and lifelong learning."³ These new schools collectively served the broadest range of students in the district, looking for solutions that improve educational outcomes for students regardless of English Language Learner or special education status, and serving students entering middle and high school below performance standards. Many of the schools that were part of this initiative have gone on to receive national accolades for their work. Quest to Learn has received national attention from the MacArthur Foundation for its work on digital learning, the NYCiSchool is promoted as a model for the shifts in student learning being promoted by the Common Core Learning Standards, City Poly serves as a national 9-14 demonstration model for early colleges and Career and Technical Education ("CTE") reform, and Global Tech Prep was featured by Secretary of Education Arne Duncan at a national conference in Washington, DC. The sample curriculum from these schools provided to the auditors present powerful indicators for creative and innovative use of technology to engage students. These curriculum samples provide a model for other schools.

¹ <http://www.ed.gov/technology/netp-2010/executive-summary>

² *ibid*

³ <http://www.ed.gov/technology/netp-2010/learning-engage-and-empower>

These curriculum and learning targets could not have been developed without attention to the craft of teaching, which is also part of the shift emphasized by the national technology report. ‘NYC21C’ was at its heart a ‘connected teaching’ initiative, developing a process to connect teachers to resources and expertise to improve their instructional practice. The project emphasized teacher training around the use of new technologies and fostered collaboration among teachers across schools. Professional learning also included developing principal leadership to manage and integrate new technologies for learning.

This small group of pilot schools grappled with integration of new technologies, and became a test bed for issues that DIIT has subsequently tackled. For example, in helping these ten schools solve problems associated with the use of a Learning Management System (*e.g.*, access, sign-on), DIIT learned to minimize such problems at scale. These schools were at the forefront of tackling large issues - such as teaching training in an online environment – as well as mundane problems like developing systems for storage and distribution of hardware. The ‘NYC21C’ project was never a technology initiative per se – it was instead a set of pedagogical strategies that used technology – but it became a useful testing ground for issues of technology policy. DIIT was helpful in supporting the Office of New Schools with these ten schools, which accounts for the listing of the project in DIIT’s Technology Plan.

‘NYC21C’ was a small pilot that marked one of the Department’s first efforts to strategically consider how technology can be integrated into instruction in order to increase student achievement. The Department has gone on to support new projects that similarly consider how technology can enhance learning, each of which has a targeted focus. These projects include the Innovation Zone (“iZone”), Connected Foundations and Connected Learning. The schools that participated in ‘NYC21C’ each had new school leaders who willingly participated in professional learning that promoted new thinking around instruction. The ‘NYC21C’ plan never anticipated ongoing oversight from the Department’s central administration (“Central”), nor did it anticipate ongoing supplemental funding or supports from Central beyond that afforded to all schools. As with all schools, each of the ‘NYC21C’ pilot schools belongs to a Children First Network (“CFN”) for support around operations and instruction.

Responses to Findings in the Report

- To the finding that the DOE changed its approach to the ‘NYC21C’ initiative:
 - ‘NYC21C’ began as a small pilot. The schools that piloted these initiatives in the name of ‘NYC21C’ were principals who willingly participated in professional learning that would promote new thinking around instruction. Much of the learning that occurred through NYC21C was incorporated into the design of the NYCDOE’s iZone, a larger-scale effort to create 21st century learning environments. Seven of the original ‘NYC21C’ pilot schools joined the iZone. The iZone been awarded two federal Investment in Innovation (i3) grants by the USDOE to continue to move this work forward.
- To the finding that the Department lacks necessary monitoring of schools:
 - The Department communicates with all schools on a regular basis, both centrally through a weekly update to principals, as well as in direct communications between schools and their CFNs. All new schools during their start up phase also received a weekly bulletin, and all principals had weekly meetings through the “New School Intensive.” The ‘NYC21C’ plan never anticipated ongoing oversight from Central, nor did it anticipate ongoing supplemental funding or supports from Central beyond that afforded to all schools. As with all schools, each of the ‘NYC21C’ pilot schools belongs to a CFN for support around operations and instruction.
 - All schools are monitored by a CFN and a community superintendent. The responsibility of the Office of Portfolio Planning was to provide start-up support for the new schools during their planning year.

- To the findings of inadequate record keeping of technology expenditures:
 - The ten schools that participated in the ‘NYC21C’ pilot did not receive additional budget allocations from Central or DIIT. The “Plan” referred to in the report is DIIT’s Technology Plan, not a ‘NYC21C’ plan. The budget estimates that the report took from that plan refer to the total estimated expenditures for DIIT covering technology implementation throughout the Department and impacting all of its approximately 1,700 schools over three years, and should not be represented in this audit report since they do not pertain to ‘NYC21C’. Not one cent of the dollar figures taken from the DIIT Technology Plans and included in the report can be or should be attributed to the ‘NYC21C’ project.
 - Furthermore, we would like to correct the misstatement in the report about the technology inventory and expenditures at the ‘NYC21C’ schools. The Department does maintain records of all technology expenditures, which include purchases made for and by the ‘NYC21C’ schools. The Department provided three spreadsheets on the information requested: Grants or Other Funding FY09-FY11, Centrally Funded Technology Assets FY09-FY11, All Technology Assets FY09-FY11. The final of the three spreadsheets was replaced when we realized that it included technology purchases prior to FY09. The other spreadsheets did not need to be replaced as they already represented the correct date-restricted period requested by the auditors. The auditors received accurate inventory listings for all of the technology purchases at the ten schools from FY09-FY11, as requested.
 - We further take issue with the statement in this section of the report that that the auditors “could not determine whether the NYC21C schools were meeting their budgetary allocations.” As was explained to the auditors, none of the ‘NYC21C’ schools received an ‘NYC21C’ budgetary allocation. Any purchases by any of the ‘NYC21C’ schools of hardware or software were at the discretion of the principal using either the new school start-up funding provided to all new schools or the school’s basic operating budget.
- To the finding of missing school documentation:
 - As explained to the auditors, no schools submitted applications or proposals to participate in the ‘NYC21C’ pilot. The Office of New Schools, in consultation with the Office of Career and Technical Education, identified eight leaders of proposed new schools and two leaders of existing schools who had each expressed interest in the challenge of bringing state-of-the-art technology into learning in creative and innovative ways. We provided the Comptroller’s Office with the new school proposals for the eight new schools that participated in the pilot. Obviously, there were no new school proposals for the existing schools. In other words, nothing was missing.
 - The audit request for brief written descriptions of *all* courses offered by these schools was unduly burdensome. Overburdened school staff should not be compelled to create written course descriptions for audit where written course descriptions are not a requirement, particularly given that many courses offered at these ten schools were not relevant with respect to an audit of ‘NYC21C’. The Department provided a sample of how technology is integrated into lesson plans and a sample of relevant course descriptions from each of the ten schools, and provided complete site visit and interview access to each of the schools and their principals. That sample provided the auditors enough information to get a sense of the pedagogical approach of each school.
- To the finding that the DOE does not follow policy and procedures for CTE program:
 - While the CTE program approval policy and procedures are outside the scope of the audit and have no bearing on the ‘NYC21C’ project, based on recommendations of the 2008 Mayor’s Task Force on CTE Innovation, the Department has developed and implemented new protocols for CTE Program Approval.

Responses to Recommendations

1. *DOE should establish and specify firm measurable goals, objectives and guidelines for all future DOE projects.*

We find it difficult to respond to a recommendation stated so universally. As shared with the auditors, the Department has developed detailed and extensive evaluation tools to hold schools accountable for student achievement, including but not limited to local progress reports, quality reviews, and surveys of parents, teachers and students. Our schools are also subject to state and federal accountability measures. We certainly agree with the Comptroller to the extent this recommendation generally promotes performance assessment and accountability. That stated, not every small initiative to bring together school leaders to discuss ideas and challenges or to receive professional development around pedagogical strategies necessarily warrants a distinct standalone set of measurable benchmarks or a checklist of new mandates. To the extent that the recommendation is intended to suggest otherwise, we disagree.

2. *DOE should monitor and communicate with schools to ensure New York City schools continue to provide students with innovations for the purpose of 21st century learning.*

Again, we find it difficult to respond to the recommendation in that it is somewhat broad and vague, but we believe we generally agree and already do what is recommended here. Most relevantly to what we believe the Comptroller intends by the recommendation, the Department has established the iZone, a community of schools committed to implementing 21st century innovations that result in better personalized learning for each and every student. These schools receive a variety of supports including guidance and coaching from international experts in 21st century learning models, professional development for teachers, and technology and the infrastructure to use it efficiently. The iZone is committed to capturing and sharing what it learns in order to scale the innovations that increase student achievement. There is an internal research team plus a number of external researchers who are charged with capturing the impacts of the iZone innovations. On the expenditure side, the Department is monitoring relevant budget expenditures to ensure compliance with Race to the Top regulations and guidelines, as well as restrictions attached to any funding by private donors.

3. *DOE should keep track of all New York City schools' technology inventory and expenditures for each school year for program cost effectiveness purposes.*

We agree with the recommendation, although as discussed above, we take exception to the finding that triggered the recommendation.

4. *DOE should ensure required documentation related to the NYC21C initiative and future pilot programs are submitted and maintained.*

We agree, of course, that *required* documentation must be submitted and/or maintained in accordance with all applicable rules, regulations and guidelines. As discussed above, however, the audit report findings attached to this recommendation cite the Department for “missing” documentation (*i.e.*, applications/proposals to participate in NYC21C, and brief descriptions of all courses) that, in fact, was never required, either generally or as part of the NYC21C initiative.

5. *DOE should ensure that schools in the CTE program submit all documentation needed for approval into the program.*

We agree with the recommendation, but note that the Department has developed new protocols for CTE Program Approval.