ARIS on the Side of Caution
A Survey of New York City Principals on the City's Accountability Computer System

A REPORT BY PUBLIC ADVOCATE BETSY GOTBAUM
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Office of the New York City Public Advocate

Betsy Gotbaum
Public Advocate for the City of New York

PREPARED BY:

Daniel Browne
Director of Policy and Research

Mark Woltman
Deputy Director of Policy and Research

Tomas Hunt
Senior Policy Analyst

SPECIAL THANKS TO:

Council of School Supervisors and Administrators

EXECUTIVE SUMMARY

In the spring of 2008, the Department of Education (DOE) booted up a brand new accountability computer system. A web-based platform built by IBM, the Achievement Reporting and Innovation System, or ARIS, is a key component of the DOE's Accountability Initiative, which holds schools accountable for student achievement through a system of penalties and rewards.

ARIS was billed by the DOE as a computer system that would revolutionize the way the New York Public School System collects, analyzes and utilizes student achievement data.[1] The information from ARIS would help determine which schools, principals, and teachers are performing up to expectations and which are falling short. It was also supposed to provide frontline educators with near real-time information on student performance and tips on best practices tailored to their individual needs in order to boost achievement in their classrooms.

At the time ARIS was announced, the DOE faced concerns about the project's sticker price—$81 million.[2] Since then, ARIS has been under scrutiny from teachers, principals and elected officials alike for a series of delays and glitches.[3]

In the fall of 2008, at a time of cuts to the city's education budget, the Office of the Public Advocate (OPA) set out to determine if ARIS was worth the cost. The OPA surveyed school principals—the primary users of ARIS—to measure their experiences and opinions of the system. This report is based on that survey.

The majority of principals who responded to the Office of the Public Advocate's survey support ARIS and believe in its ability to enhance teaching and learning in their school. They also believe that ARIS is a good use of their time and does not interfere with their day-to-day management functions.

A significant minority of principals, however, indicate otherwise. Many principals believe ARIS interferes with their jobs, is not a good use of their time or their staff's time, and will not improve teaching and learning in their school. Many indicate that they or their staff do not or will not use the networking components of ARIS, and nearly half of all principals believe that the information the system provides them was already available in other forms. Furthermore, a number of principals state in the open-ended section of the survey that they and their staff lack the time necessary to effectively use the system. The DOE itself asserts that "broad acceptance" of ARIS "is essential to support the sweeping change that it envisions."[4] To win over skeptics, the DOE should solicit

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[1] Klein, J., *Schools Chancellor Joel I. Klein Announces Selection of IBM to Develop Achievement Reporting System for Educators and Parents*, New York City Department of Education, Press Release, March 3, 2007; Hernandez, J., *Website Lets Parents Track Data on Students*, The New York Times, May 29, 2009.

[2] Melago, C., *$80M Still Not Enough Student-Tracking System Costs Climb—Along with Parents' Ire*, New York Daily News, July 6, 2007.

[3] Gootman, E., *As Schools Face Cuts, Delays on Data System Bring More Frustration*, The New York Times, October 23, 2008.

[4] ARIS contract provided by the Office of the New York City Comptroller.

feedback from principals on their experiences with ARIS and work with them to ensure that the system is adaptable to their needs.

Perhaps the single most significant obstacle to full acceptance of ARIS by principals and the public is the cost of the system. Irrespective of their opinions about the usefulness of ARIS, nearly all principals surveyed believe that the Department of Education overpaid for it. In light of the current downturn in the economy and consequent cuts to school budgets, the DOE should find ways to cut all unnecessary expenditures related to ARIS and redirect the savings to the classroom.

Findings:

- The majority of principals believe that the DOE overpaid for the ARIS System.
- While the majority of principals do not believe that ARIS interferes with their ability to be instructional leaders at their schools, a significant number believe it does.
- While the majority of principals surveyed believe that ARIS will improve teaching and learning at their schools, more than a third do not.
- While the majority of principals believe that ARIS is a good use of their time, more than a quarter do not.
- While the majority of principals believe that ARIS is a good use of their staff's time, nearly a quarter do not.
- While the majority of principals use/will use ARIS's networking components, more than a third do not/will not use networking.
- While the majority of principals believe their staff uses/will use ARIS's networking components, nearly a third believe they do not/will not use networking.
- While the majority of principals believe that ARIS provides them with information they were unable to get in the past, nearly half believe it provides information that was already available before the implementation of ARIS.

The Office of the Public Advocate makes the following recommendations to ensure broader acceptance of major initiatives like ARIS in the future, improve the implementation of ARIS, and cuts costs:

- The PEP should review and approve all significant new costs associated with ARIS.
- The DOE should provide a Mission Statement and Statement of Goals for all major contracts prior to PEP approval and an Annual Performance Review for each year of the contract.
- The DOE should ensure that all schools receive ARIS training paid for by the DOE and that school staff has the time necessary to effectively use the system.
- The DOE should review all accountability systems used in New York City public schools, so it can incorporate successful elements of alternative systems into ARIS and evaluate the cost effectiveness of ARIS.

INTRODUCTION

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BACKGROUND

The Accountability Initiative

Since gaining control of the New York City public school system in 2002, the Bloomberg administration has introduced several major initiatives. In April 2006, the Department of Education (DOE) launched the Accountability Initiative as part of its Children First reform program. Under the initiative, principals are held accountable for meeting academic performance goals and are required to work with the central Office of Accountability to monitor and record school progress.

In practice, a number of different tools are used to monitor school performance.[8] During the 2007-2008 school year, the DOE began to issue "progress reports" that assign each school a letter grade (A-F) based on factors including student attendance and survey

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[5] Klein, J., *Schools Chancellor Joel I. Klein Announces Selection of IBM to Develop Achievement Reporting System for Educators and Parents*, New York City Department of Education, Press Release, March 3, 2007; Hernandez, J., *Website Lets Parents Track Data on Students*, The New York Times, May 29, 2009.

[6] Melago, C., *$80M Still Not Enough Student-Tracking System Costs Climb—Along with Parents' Ire*, New York Daily News, July 6, 2007.

[7] Gootman, E., *As Schools Face Cuts, Delays on Data System Bring More Frustration*, The New York Times, October 23, 2008.

[8] Smith, Y., *The School Accountability Initiative: Totaling the Costs*, Independent Budget Office, November 13, 2008.

responses but primarily gains in standardized test scores.[9] Also during the 2007–2008 school year, the DOE encouraged teachers, parents, and 6th-to-12th graders to complete its "Learning Environment Survey," which covers a range of issues including school safety and community engagement. Ten percent of each school's progress report grade is based on survey results. In 2006, the DOE contracted with outside consultants to conduct "quality reviews" of all city schools to assess schools' ability to use data to improve instruction. The resulting quality review scores are reported in school progress reports but are not factored into the school's final grade.[10] Under the Accountability Initiative, principals of schools with progress report grades of A or B and quality review scores of "Well Developed" are eligible for performance bonuses. On the other hand, principals of schools with progress report grades of D or F (or, in some cases, even C) are subject to sanctions that may include termination or the closing of their school.

ARIS

At the heart of the Accountability Initiative is ARIS, a web-based platform by which schools collect and use data to drive instructional planning. First announced in March, 2007, ARIS is intended to give principals and teachers access to student data, analytic tools, and knowledge management capabilities to help them meet their performance goals.

ARIS has two key functions: data warehousing and networking/knowledge management.[11] Each has different features. The data warehouse folds legacy computer systems— primarily Automate the Schools (ATS)[12] and High School Scheduling and Transcripts (HSST)[13]—into one system. These systems integrate with other systems that maintain state and city test scores (e.g. NYSTART, Grow Network, Acuity, etc.). The data warehouse function also contains a series of analytic tools to evaluate these data.

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[9]***School Environment*** constitutes 15 percent of a school's overall score. This category consists of attendance and the results of parent, student, and teacher surveys. ***Student Performance*** constitutes 25 percent of a school's overall score. For elementary and middle schools, student performance is measured by students' scores each year on the New York State tests in English Language Arts and Mathematics. For high schools, student performance is measured by diplomas and graduation rates. ***Student Progress*** constitutes 60 percent of a school's overall score. For elementary and middle schools, student progress measures average student improvement from year to year on the New York State tests in English Language Arts and Mathematics. For high schools, student progress is measured by credit accumulation and Regents completion and pass rates. New York City Department of Education, available online at http://schools.nyc.gov/Accountability/SchoolReports/ProgressReports/default.htm.

[10] The quality review scores are "Well Developed," "Proficient," "Under Developed with Proficient Features," and "Under Developed."

[11] Knowledge Management is an emerging web-based process whereby information, ideas, and best practices in a particular field are documented, shared, and archived.

[12] Automate the Schools (ATS) is a school-based administrative system that standardizes and automates the collection and reporting of data for all students in the New York City Public Schools. It provides for automated entry and reporting of citywide student biographical data; on-line admissions, discharges, and transfers; attendance; grade promotion; pupil transportation and exam processing; and many other functions. In addition, it has a school-based management component that supplies aggregate student data, human resources data, and purchasing information for use by school administrators and school-based management committees.

[13] HSST provides for data entry and processing of student scheduling, grade reporting, and transcripts.

In a recent interview, the DOE's then chief accountability officer, James Liebman,[14] describes the second function of ARIS, networking/knowledge management, as similar to the Google search engine.[15] Liebman gives an example of a teacher who wants to know how to teach multiplication of fractions to English Language Learners. Teachers can simply type into the search feature keywords like "multiplying fractions and English Language Learners," and they will receive links to teacher blogs and ARIS communities that share best practices. Teachers, if they wish, can create their own ARIS community and write their own blog about what works or doesn't work and what their experiences have been. These interactive components of the system are similar to social networking sites like Facebook and MySpace.

IBM and six sub-contractors (Teahcer's Workplace, TetraData, Wireless Generation, ETS IDMS, WebTrends, and Berbee)[16] are responsible for developing the ARIS system. IBM was the winner of a competitive Request for Proposals (RFP) process. IBM's proposal was one of nineteen. The decision to award the ARIS contract to IBM was made by the DOE without review by the Panel for Education Policy (PEP), the 13-member oversight entity that replaced the Board of Education under the school governance law enacted by the State Legislature in 2002.[17] A review of the PEP's Minutes of Action by the Office of the Public Advocate indicates that the PEP has taken no action – such as a vote or public discussion- related to ARIS either before or since the contract was signed.

IBM's proposal included many custom design features, such as a platform to store and analyze the test scores of students in kindergarten through second grade. On January 2, 2007, IBM and the DOE issued a joint statement of work, indicating that ARIS "lies at the center" of the DOE's strategy of data-driven instructional planning and noting that, "[i]ts broad acceptance is essential to support the sweeping change that the DOE envisions."[18]

ARIS Implementation

The ARIS contract lays out a tight timeline for implementation (see Chart I). The contract was signed in February 2007, and the pilot phase was to begin in May 2007, to be followed by Release 1, for which all 90,000 principals and teachers were to have limited access[19] to the data warehouse function by September 2007. Media reports are

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[14] Chancellor Joel Klein announced James Leibman's resignation on July 8, 2009, Available online at http://schools.nyc.gov/Offices/mediarelations/NewsandSpeeches/2009-2010/20090708_liebman_resignation.htm.

[15] Fertig, B., *New Computer System Changes NYC Schools*, WNYC, March 2, 2009.

[16] ARIS contract provided by the Office of the New York City Comptroller.

[17] Five members of the PEP are chosen by the borough presidents, seven by the mayor. The Schools Chancellor serves as the 13th member and chair. All members serve at the pleasure of their respective appointing authorities. The arrangement and makeup of the PEP may change once new school governance legislation is signed into law in Albany.

[18] ARIS contract provided by the Office of the New York City Comptroller.

[19] "Limited access" in the ARIS contract and in the chart included in the report is referred to as "specific requirements." The "specific requirements" include many technical components that help to build the ARIS platform, but would go undetected by the user. The Release 1 components from the user's experience are limited to the data warehouse function and did not include all of the networking and knowledge management functions. Those functions were part of ARIS 2.0.

the only publicly available record of the actual rollout of the two releases. According to those reports, Release 1 did not occur until February 2008 and was not accessible to all principals and teachers. Despite the delay of the Release 1 rollout, there were numerous reports of glitches, particularly system slowness, and data errors.[20] The timing of the rollout was also problematic, coinciding as it did with the announcement at the end of January 2008 of a second round of mid-year school budget cuts. According to published reports, many principals criticized the DOE for spending money on ARIS and other projects that could have been used to prevent cuts on the school level. The New York Times quoted Ernest Logan, the president of principals' union the Council on Supervisors and Administrators as saying, "For something that would supposedly be a resource for schools and school leaders, [ARIS] really has not come through as it should have. I can understand the desire to have something that is supposedly helping, but I'm now looking at the amount of money that we put into this thing, especially when we're thinking about cutting back."[21]

Chart I

	ARIS Rollout Schedule		
Phase	Description	Target Date	Actual Date
Release 0 - Pilot	Certain components of the system (not specified) were to be released to 20 schools and approximately 100 users. The Pilot was to last approximately 8 to 10 weeks	May 2007	Unknown, as there have been no published reports on the pilot program.
Release 1 – ARIS 1.0	"The first true production release of ARIS, tied to specific requirements," primarily the data warehouse function and analytic tools.[22] Release 1 was to be made available to all teachers and administrators (approx. 90,000).	September 2007	February 2008; re-released in October 2008
Release 2 – ARIS 2.0	"Additional functionality resulting from extended requirements and enhancements or technical innovations," such as the wiki, networking, and knowledge management functions. Release 2 was to be made available to all teachers and administrators (approx. 90,000). Parent Link was also to be included.	September 2008	November 2008 (Parent Link not available until June 2009)
Post Production Support	IBM, while still under contract, will help the DOE develop capacity to provide application support and site hosting and operate a help desk.[23]	2009-2011	N/A

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[20] Gonen, Y., *Schools Computer and $80 Million 'Disaster*, New York Post, February 27, 2008; Hernandez, J., *Website Lets Parents Track Data on Students*, The New York Times, May 29, 2009; Melago, C., *Computer Snafu Causes Confusion at City Schools*, New York Daily News, September 7, 2008.

[21] Gootman, E., and Medina J., *As Schools Face Cuts, Delays on Data System Bring More Frustration*, The New York Times, October 24, 2008.

The DOE and IBM spent the summer of 2008 retooling ARIS and rolled it out to all principals in late October 2008. It was made available to teachers shortly thereafter.

The rollout of Release 2, originally scheduled for September 2008, was to include all of the networking and knowledge management components of ARIS. Published reports suggest, however, that that these components did not actually become available until November 2008.[24] In addition, there were some indications that teachers were reluctant to use them. In March, 2009, WNYC reported that many teachers who use ARIS as a data tool find that contacting colleagues by phone or email is more effective than using the interactive networking features.[25]

Both Release 1 and Release 2 were also supposed to include a "Parent Link" so that parents could access available data concerning their children to support the parent-teacher partnership and student learning,[26] but the link was not actually made available until June, 2009. The release of the Parent Link apparently completes the rollout of ARIS, though it is possible that some components are still unavailable in some schools.

ARIS Support Network

The DOE has built a significant infrastructure to support ARIS and to establish the platform as "the system of record for analytic and reporting data."[27] This infrastructure was announced and developed in January 2007[28] at the same time the ARIS contract was announced by the DOE. Many of these positions are dedicated to ARIS on a full-time basis. Some of the positions have additional responsibilities not directly related to ARIS but related to the larger Accountability Initiative.

At the central level are the Data and Knowledge Management teams in the Office of Accountability, which oversee the content of ARIS and its distribution to schools. All offices and departments at the central level have an ARIS Liaison, who facilitates cooperation with the Office of Accountability.

The five Integrated Service Centers (ISCs)—entities that provides professional services such as payroll, human resources, and food services to city schools in each borough— employ Data Support Teams, (DSTs) consisting of Application Data Managers (ADMs) and Application Support Liaisons (ASLs) who are primarily responsible for training and providing support[29] to Data Specialists from each school. The Data Specialist position was specifically created to be a school-level data manager "with respect to ARIS."[30]

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[22] ARIS contract provided by the Office of the New York City Comptroller.

[23] While IBM has provided technical support during the rollout of ARIS, the actual help desk described in the ARIS contract will not be completed until 2011 and will be operated by the DOE.

[24] ARIS contract provided by the Office of the New York City Comptroller.

[25] Fertig, B., *New Computer System Changes NYC Schools*, WNYC, March 2, 2009.

[26] Division of Accountability and Achievement Resources, *What's New with ARIS*, New York City Department of Education, May 2009.

[27] ARIS contract provided by the Office of the New York City Comptroller. Questions and Answers document for RFP 1C585-ARIS
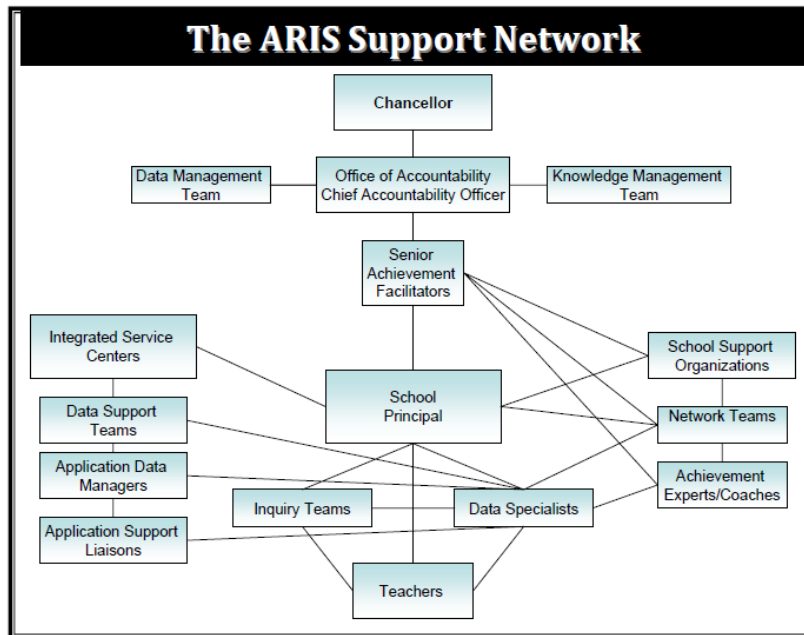
[28] Bloomberg, M., Mayor's State of the City Address, New York City, January 2007.

[29] School Allocation Memorandum No. 58, New York City Department of Education, FY2009.

[30] *Ibid*

The Data Specialists are also members of School-Based Inquiry Teams consisting of teachers and administrators. According to the DOE, Inquiry Teams "assist schools in data-driven decision making by integrating the components of the Accountability Initiative into the life of the school."[31] The Data Specialist's responsibility on the Inquiry Team is to "take the lead as a champion of ARIS at the school."[32] Like all Inquiry Team members, Data Specialists are school staff who receive supplemental income for taking on additional duties. Inquiry Teams are supported by Senior Achievement Facilitators (SAFs) employed by the Office of Accountability[33] and by Network Teams and Achievement Experts or Coaches employed by School Support Organizations, outside entities that provide support services to city public schools, such as "helping schools to identify the best ways to help students achieve academically; identifying actions and practices that the schools can/should pursue in reaction to accountability and performance information about students; supporting schools as they implement those strategies; coaching principals on how to improve their schools' performance…"[34]

Chart II

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[31] ARIS contract provided by the Office of the New York City Comptroller.

[32] Office of Accountability, Inquiry Team Brochure, New York City Department of Education, available online at http://schools.nyc.gov/NR/rdonlyres/B2CCD617-B161-4154-97D7-E1D7BC32E2C6/32653/ITbrochure.pdf .

[33] Office of Accountability and Achievement Resources, "SAFs identify, disseminate, and facilitate effective practices that use the accountability tools and other tools to improve instruction and outcomes for all children. SAFs act as a feedback loop between schools and the Office of Accountability", New York City Department of Education, available online at http://schools.nyc.gov/Accountability/CFI/default.htm.

[34] Frequently Asked Questions about School Support Organizations, New York City Department of Education, available online at http://schools.nyc.gov/AboutUs/schools/support/SSOfaq.htm.

ARIS Costs

In November 2008, the IBO released a review, conducted at the request of Public Advocate Gotbaum, of the spending associated with the Department of Education's (DOE) Accountability Initiative, including the costs of school evaluations, information technology, contracts with vendors, and personnel. According to the IBO review, the DOE has spent or will spend $352.2 million from Fiscal Year 2007 through Fiscal Year 2009 on the Accountability Initiative.[35]

The DOE's contract with IBM for the development and maintenance of ARIS is for $81 million—$22 million in operating expenses and $59 million in capital expenses—over a five-year period. The DOE has spent an additional $4.7 million to provide School-Based Inquiry Team members with laptop computers to support their work on ARIS. Though the contract does not end until December 31, 2011, the IBO estimates that the DOE has already spent the total budgeted amount for capital expenses, $59 million. Approximately $39 million of the capital expenses were incurred in Fiscal Year (FY) 2007, the rest in FY 2008. In addition, the DOE spent $600,000 on operating expenses in FY 2007, an estimated $9.3 million on operating expenses in FY 2008, and a projected $5 million in operating expenses in FY 2009.[36] By the end of FY 2009, the DOE had spent an estimated total of approximately $74 million of the $81 million budgeted for ARIS in its five-year contract with IBM, in addition to nearly $5 million for laptop computers.

The IBO's estimate is based almost entirely on information provided by the DOE. The report, however, notes the following: "Accountability requires the use of internal staff, external vendors, software and other assessment projects, not to mention the use of pilot programs to test the utility of a product or service. This makes it difficult to pin down the overall single cost of the accountability mission." The IBO also notes that it "has not estimated the long term maintenance and upgrading costs for either ARIS or the laptops but these costs will be recurring for as long as ARIS is used."[37]

Ensuring that the DOE has sufficient bandwidth to accommodate a project on the scale of ARIS may create another potentially significant long-term cost. According to an internal DOE report from June 2007, "additional bandwidth and capacity [is] becoming a critical factor for the future, especially considering the requirements of the ARIS project." The report predicts that "[t]he deployment of ARIS will further contribute to the over-utilization of Internet circuits… failure to provide high speed connectivity…will severely limit the performance and availability of ARIS and future bandwidth-intensive applications. This will lead to a loss of productivity by limiting the number of users to

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[35]This estimate includes the cost of periodic assessments, which the IBO separates from the overall cost of the Accountability Initiative in its report. The IBO notes that "the periodic assessments are carried out by the Office of Accountability, they are widely perceived as being connected with the accountability mission, and they are sometimes included in the [DOE]'s public discussions of the accountability initiative.

[36] Capital and operating expenses for FY 2008 are IBO estimates. Operating expenses for FY 2009 are an IBO projection based on information provided by the DOE. Actual expenses for FY 2008 and FY 2009 may vary.

[37] Lowenstein, R., *The School Accountability Initiative: Totaling the Costs*, New York City Independent Budget Office, November 13, 2008.

access these applications and ultimately the failure of realizing the business and instructional benefits projected, most immediately, from ARIS."[38]

Philosophy Behind ARIS

The emergence of accountability systems and software like ARIS across the country is the result of an increased focus on data-driven instruction and corporate management practices in the school system.[39] Data-driven instruction, in theory, allows greater opportunity to observe the effectiveness of instructional strategies and in turn provide a means of assessing and assigning accountability.

James Liebman, the architect of the Accountability Initiative, is the Simon H. Rifkin Professor of Law at Columbia University Law School and has a distinguished background as a civil rights and death penalty defense attorney but no previous professional background in public school education. In 2003, Liebman and a colleague at Columbia Law School, Professor Charles F. Sabel, submitted an article for a symposium hosted by the *New York University Review of Law and Social Change* on "Changing Schools." The article endorses "standards-based reform" and argues that the collection and use of data is critical to the success of the accountability movement:

> …continuous, diagnostic monitoring of performance can provide a kind of accountability that not only identifies bad actors… but also gives scope to experimentation and helps diffuse the better practices it reveals.[40]

Richard Elmore, professor at Harvard Graduate School of Education and the author of numerous books and articles on accountability systems, finds Liebman and Sabel's argument on the virtues of accountability systems "somewhat deceiving." Elmore writes, "[a]n important feature of the politics of accountability that Liebman and Sabel do not stress is the tendency of accountability policies, when left to their own devices, to drift toward emphasis on testing as the primary instrument…"[41]

In fact, the DOE's Accountability Initiative has been widely criticized for focusing too much on testing by parents, elected officials, and advocacy organizations such as Time Out from Testing and the New York Performance Standards Consortium.[42] In December, 2007, Public Advocate Betsy Gotbaum released an analysis of the Department of Education's testing schedule that showed a typical New York City third grader will take at least twelve standardized tests a year, an average of one test every thirteen days of

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[38] Division of Instructional Technology, *Strategic Technology Plan*, New York City Department of Education, 2007.

[39] Carnoy, M. et al., *The New Accountability: High Schools and High Stakes Testing*, Routledge, 2003.

[40] Liebman, J., Sabel, C., *A Public Laboratory Dewey Barley Imagined: The Emerging Model of School Governance and Legal Reform*, Review of Law and Social Change, Volume 28, New York University, 2003.

[41] Elmore, R. F., "Response: Details, Details, Details," Review of Law and Social Change, Volume 28, New York University, 2003.

[42] Bosman, J., *City Plans to Expand Test Program in Schools*, The New York Times, May 31, 2007; Gootman, E., *A Plan to Test the City's Youngest Pupils*, The New York Times, August 28, 2008.

school.[43] ARIS, in theory, will be updated constantly with this new testing data. Its functionality is organized around updated test score information.

Precedents for ARIS

ARIS is not the first large-scale computer system to be introduced into a public school system. The examples below suggest that government-contracted computer data systems have a history of significant delays, cost overruns, and the termination of contracts.

<u>NCWISE, North Carolina</u>

The accountability system for schools in North Carolina, the North Carolina Window of Information on Student Education (NCWISE) has many similarities to ARIS.[44] Like ARIS, NCWISE is an IBM designed and produced computer system intended to improve upon and streamline legacy systems and provide easy access to reports on individual student test scores, grades, and attendance. The North Carolina school system is similar in size to the New York City school system: North Carolina has approximately 1.4 million students in more than 1400 schools throughout the state; New York City has 1.1 million students and nearly 1500 schools.[45]

According to the North Carolina Department of Public Instruction (DPI), the "year 1 rollout" of NCWISE, which included the pilot phase and "wave 1" and "wave 2," lasted more than ten years—from January 1998 to June 2008. The "final" rollout—wave 3— was underway during the 2008-09 school year and, according to DPI, has now been completed statewide.[46] The original overall proposed cost to North Carolina Public Schools for NCWISE was $172.5 million. The actual expense, to date, has been $247.7 million.[47] The protracted rollout and cost overruns forced the North Carolina State Board of Education (NCSBE) to terminate its contract with IBM in February 2006. At the time, the NCSBE stated that the company's failure to deliver a fully operational computer system had a "negative impact on the normal school business process."[48] Following IBM's termination, NCSBE hired a "contract chief" who was put in charge of contracting out the various components of NCWISE to different vendors, including Oracle, Administrative Assistants Limited (AAL), and EMC Corporation.[49] North Carolina associate superintendent described the lesson learned as "don't bite off more than you can chew."[50]

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[43] Gotbaum, B., *PA Gotbaum, Assemblyman Weprin: Well-Rounded Education Compromised by Excessive Education – DOE Must Scale Back Non-Essential "Assessments",* Press Release, Public Advocate for the City of New York, September 22, 2008.

[44] Question and Answer document from the ARIS Request for Proposal process provided by the Office of the New York City Comptroller.

[45] North Carolina Department of Public Instruction, http://www.dpi.state.nc.us/fbs/resources/data/

[46] North Carolina Department of Public Instruction, http://www.ncwise.org/default.htm

[47] North Carolina Department of Public Instruction, NCWISE Deployment History

[48] , *IBM Contract for Centralized N.C. Education System Terminated*, WRAL – TV, Raleigh, NC, Aired February 9, 2006, available online at http://www.wral.com/news/local/story/149172.

[49] Rogers, J., *IT Project Reports on Life After IBM*, Byte and Switch, October 3, 2006.

[50] Dillon, S., *States Struggle in Efforts to Computerize School Records*, The New York Times, May 15, 2006.

IMPACT, Chicago, Illinois

In its answers to vendor questions as part of the RFP process for ARIS, the DOE indicated that it considers ARIS to be similar in design and scope to the Chicago Public School (CPS) system's accountability system.[51] Like the DOE, CPS picked IBM to develop its system, Instructional Management Program and Academic Communication Tool (IMPACT), with the goal of providing access to student data pertaining to registration and enrollment, attendance, grade reporting and standardized testing, transportation, scheduling, discipline and student behavior, student health, lesson planning, and specialized services for students with disabilities and English Language Learners.[52] The system was supposed to be fully implemented in 2005, but the timeline was extended, and to date, the system is still not fully functioning.[53] In 2007, CPS terminated its contract with IBM after what the New York City DOE describes as a "debilitating false start."[54]

Chicago has since contracted with Pearson for its Chancery accountability system. Chancery, a $60 million system, was unveiled on the first day of the 2008-09 school year but had to be shut down and retooled because of many data errors, most having to do with student schedules; thousands of student schedules were lost, and the problem was not resolved for two months.[55] To avoid the same outcome it experienced with IMPACT, CPS has slowed the implementation of Chancery to minimize disruption. In explaining its rollout strategy, a CPS spokesperson said, "Our main priority is making sure that each of the schools is stable before moving on to the next. We just declared 10 elementary schools stable, and we really think the slow, steady approach has worked to our benefit because of our large size."[56]

Chancery, Houston, Pasadena County, and Klein County, Texas

Like Chicago, the Houston Independent School District (HISD), Klein Independent School District (KISD), and the Pasadena Independent School District (PISD) use the Chancery accountability system. HISD rolled out Chancery in the fall of 2006. Just three months into the school year, it had accumulated $600,000 in overtime expenses related to Chancery. The system was so severely bogged down by the volume of people logged on at the same time that thousands of teachers showed up before dawn and stayed after hours to input data and run data reports. Many resorted to using different sources for the information they need to complete their reports. One school board member described the systems as, "a failure of monumental proportions."[57]

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[51] ARIS contract provided by the Office of the New York City Comptroller.

[52] *Establish a Single Comprehensive Student Information Management System,* Board Report 04-1117-P01, Section 706.4, Chicago Public Schools, November 17, 2004, available online at: http://policy.cps.k12.il.us/documents/706.4.pdf

[53] Field, J., *Technology Problems Impact Chicago Public Schools*, Chicago Public Radio, February 1, 2007.

[54] ARIS contract provided by the Office of the New York City Comptroller.

[55] Schmidt, G. N., *CPS IMPACT Goes from 'Paperless' to Paper to Clean Up IMPACT Mess*, Substance News, October 2007.

[56] Field, J., *Technology Problems Impact Chicago Public Schools*, Chicago Public Radio, February 1, 2007.

[57] Radcliffe, J., *HISD's Software System Gets an `F' for Frustration: Glitches Lead to Productivity Drop and $600,000 in Overtime Expenses*, Houston Chronicle, October 20, 2006.

Klein and Pasadena schools have been using Chancery for longer (since 2003 and 2005 respectively) than the Houston schools, and the glitches in each district have not gone away. In both KISD and PISD, officials threatened to terminate their contracts on the grounds that Chancery had not providing a functioning system. In 2005, PISD superintendant, Kirk Lewis, described the implementation of the accountability system as "one of the worst experiences we've ever gone through."[58]

Gradebook, Orange County, Florida

School officials in Orange County, Florida claim the $3.8 million accountability system introduced there caused a "meltdown." [59] The Orange County school system, which includes the city of Orlando, had attempted to develop a student data warehouse system called *GradeBook*, a Pearson product purchased in 2005 that would track class assignments, attendance, health issues, and testing information and make the information available to parents. The program was implemented despite poor reviews of the pilot program. The system immediately began to lose important student grade information and other student data. Guidance counselors had to write schedules by hand and students were assigned to the wrong classes for weeks. *Gradebook* quickly lost teacher and administrator confidence.[60] In March 2006, Orange County Schools suspended mandatory teacher use of *Gradebook.*[61] A year later, Orange County Schools terminated its contract with Pearson due to poor performance and cost overruns of $2.1 million.[62] The Orange County School Board chairman, Karen Ardaman, said, "[o]ur district made an investment in technology to help our teachers deal with the ever-increasing demands of paperwork, and instead it's just made teachers' lives worse."[63]

ISIMS, Idaho

In January, 2004, Idaho's state education department entered into an agreement with the Boise-based J.A. and Kathryn Albertson Foundation, a major donor to education initiatives throughout the state, to implement a statewide accountability system. Governor Dirk Kempthorne said that the Idaho Student Information Management System (ISIMS) would "help parents and teachers track student achievement and attendance through a secure Internet access. Think of it, parents will now have a tool to check their student's test scores, attendance and progress—24/7."[64]

A consortium of contractors (Pearson, Plato Learning, CRI Advantage, Administrative Assistants, Ltd.) were hired and assured the Albertson foundation and the state that the

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[58] Mellon, E., *HISD's New Software Irked Other Districts: Nearby Klein Considered Getting Rid of Product if it Didn't Improve*, Houston Chronicle, November 13, 2006.

[59] Shanklin, M., *Software Doesn't Make Grade: Orange Schools Suspend Part of a Controversial Computer System*, Orlando Sentinel, March 28, 2006.

[60] *Ibid*.

[61] Editorial, *What (K12) Planet Are You On? Our Position: It Should Not Take Orange County Schools a Year to Replace a Flawed Computer System*, Orlando Sentinel, March 29, 2006.

[62] Stutzman, R., et al., *School District to Ditch Computer System*, Orlando Sentinel, March 22, 2007.

[63] Shanklin, M., *Software Doesn't Make Grade: Orange Schools Suspend Part of a Controversial Computer System*, Orlando Sentinel, March 28, 2006.

[64] Roberts, B., *Student Tracking System Unlikely; Albertson Foundation Says Computer Project More Costly Than Expected*, Idaho Statesman, December 16, 2004.

$35 million the foundation had pledged would be adequate to implement the system in all of the state's 114 school districts. However, after rolling out the system in 29 districts, the foundation had already spent $21 million. An auditor warned the state and the foundation that completing rollout for all districts would cost at least $180 million. The cost estimate for the maintenance of the system, which the state had agreed to pay for, increased from $7 million a year to $11 million.[65] The CEO of the foundation, Tom Wilford, said, "we underestimated the challenges and overpromised the results."[66]

Ultimately, the project was abandoned, and the Idaho State Education Department is developing a cheaper, pared-down accountability system. In an audit of the project, the state Office of Performance Evaluations concluded, "[Idaho State Education Department] should clearly define roles and responsibilities of all stakeholders and consider end users' views, needs, and resources at each stage. In addition, technology projects should maintain a realistic scope, supported by realistic expectations of technology and an updated project plan."[67]

Connections, New York State

ARIS is not the first data warehouse system developed by IBM for government use in New York State. In 1996, the state entered into a contract with IBM to develop a computerized data warehouse system called Connections to record child abuse reports and foster-care placements. The entire system was to be built in five short design phases and finished by 1997. However, in 2007, the system was undergoing its nineteenth build. Over the years, the contract has ballooned from $113.6 million to $389.3 million, more than tripling in cost.[68] In fiscal year 2009, an additional $17 million bond was financed by the state to "modernize" Connections. According to the state's FY09 Executive Budget, "[t]he current outdated CONNECTIONS infrastructure is fragile, inflexible, and difficult to use for both case workers and local governments. Modernization will make the system more agile and user friendly, thereby easing administrative burdens and permitting case workers to spend more time with clients."[69]

The state was aware of cost overruns and technical problems related to Connections long before fiscal year 2009. A 2001 investigation by the New York State Assembly found that Connections actually had a negative impact on child welfare in New York State:

> Because of the cumbersome nature of CONNECTIONS, and the increased administrative burden and duplicate data entry it has caused, caseworkers have less time to spend directly helping children and families.[70]

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[65] *Ibid*.

[66] *Ibid*.

[67] Office of Performance Evaluations, *Idaho Student Information Management System—Lessons for Future Technology Project*, Idaho State Legislature, August 2006.

[68] Mckenna, C., *NY Social Services' Computer System Still Full of Glitches*, Times Herald Record, June 18, 2007.

[69] *Office of Children and Families Budget Appropriations FY09*, New York State Division of the Budget.

[70] Committee on Children and Families and Committee on Oversight, Analysis, and Investigation, *Too Much, Too Little, Too Late: An Assembly Investigation of Connections, New York's Statewide Child Welfare Computer System*, New York State Assembly, March 2001.

The investigation also found problems that change orders to the original contract often resulted in cost increases and the system had imposed an additional financial burden on users of the system:

> The contract and change orders negotiated with ISSC (a subsidiary of IBM) may not have provided the best value to the State. From the beginning to the most recent change orders, IBM prices for CONNECTIONS equipment have exceeded market prices.[71]

> Local districts and contract providers are also experiencing added costs due to CONNECTIONS, including developing alternate computer and manual systems, additional time spent on recordkeeping in CONNECTIONS and other systems, overtime needed to complete fieldwork, and training workers on the system.[72]

Alternatives to ARIS

As the DOE encountered delays and errors in its implementation of ARIS, many city schools turned to alternative systems to track student data. The Office of the Public Advocate is aware of three such systems, all developed by school staff themselves.

The first, an unnamed system,[73] organizes raw student data (test scores, grades, absences, etc.) in Microsoft Access, a database management program, and exports reports from Access to another program that analyzes the data and groups students by achievement in a manner similar to ARIS. This program was created by two high school principals and is free to any school upon request. The creators claim that more than 200 schools use their program.

The second, DataCation, developed by staff at the High School of Telecommunication Arts and Technology in Brooklyn, enables users to track student progress toward graduation, as well as schedules and grades.[74] Telecommunication sells the technology to other schools, charging $5,000 to track compliance with the federal No Child Left Behind law, $10,000 to track graduation requirements, or $13,000 to perform both functions.[75] According to an October 23, 2008, article in *The New York Times*, twenty-one principals had purchased DataCation at that time. In the article, then chief accountability officer James Liebman said that he was unfamiliar with the system.

The third system, Daedalus, developed by an assistant principal at Stuyvesant High School, is in use in more than 30 middle and high schools, including some of the city's highest performing and most selective high schools.[76] In its 2007-2008 quality review of

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[71] *Ibid*.

[72] Committee on Children and Families and Committee on Oversight, Analysis, and Investigation, *Too Much, Too Little, Too Late: An Assembly Investigation of Connections, New York's Statewide Child Welfare Computer System*, New York State Assembly, March 2001.

[73] The principals responsible for creating the system asked that they and their school remain anonymous.

[74] Gootman, E., *As Schools Face Cuts, Delays on Data System Bring More Frustration*, The New York Times, October 23, 2008.

[75] *Ibid*.

[76] Daedalus Software Systems, http://www.daedalusscisoft.com/

Townsend Harris High School, Cambridge Associates describes Daedalus as "a highly sophisticated database…which provides real time information about each student" and "enables every teacher, counselor and assistant principal to access their students' records very easily and to obtain a complete picture of individual, subgroups and classes."[77] In its 2007-2008 quality review for Stuyvesant High School, Cambridge notes that Daedalus "ensures that very high performances are maintained in most areas, while improvements are sought where outcomes are not as consistently good."[78] Despite the fact that the company had been in business since 1988 and developed a track record of success, the DOE informed Daedalus that, because it did not generate profits of $3 million or more a year, it did not meet the financial viability requirements of the ARIS RFP and therefore was effectively denied the opportunity to participate in the competitive bidding process.[79] Unlike ARIS, Daedalus and the other alternative systems discussed in this section are custom designed to specifically meet the individual needs of the schools that use them.

METHODOLOGY

Between November 30, 2008 and December 31, 2008 the Office of the Public Advocate surveyed New York City Public School principals. The survey[80] was designed, in consultation with the Council of School Supervisors and Administrators (CSA), to determine principals' opinions of the new ARIS computer system and its effect on their schools. The survey was disseminated by the CSA to all 1497 New York City principals via email. Principals were given until December 31, 2008 to respond.

The Office of the Public Advocate received 315 completed surveys[81] – a response rate of 21 percent. The Office of the Public Advocate received an additional 88 (6 percent) incomplete surveys. Incomplete surveys were discarded by the survey software's filter and were not used in the following findings.

In addition to the findings below, representative quotations from responses to the open-ended section of the survey have been included in text boxes accompanying the main text.

FINDINGS

The Office of the Public Advocate received 315 completed surveys from principals throughout the school system.

Respondents by Years of Experience:
- Five respondents (1.6 percent) are in their first year as a principal;

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[77] Office of Accountability, *2007-08 Quality Review Report Townsend Harris High School*, New York City Department of Education, available online at: http://schools.nyc.gov/OA/SchoolReports/2007-08/QR_Q525.pdf

[78] Office of Accountability, *2007-08 Quality Review Report Stuyvesant High School*, New York City Department of Education, available online at: http://schools.nyc.gov/OA/SchoolReports/2007-08/QR_M475.pdf

[79] Conversation between Tomas Hunt, Senior Policy Analyst, Office of the Public Advocate and Daedalus Executive Director, Stephen Kramer.

[80] See Appendix for a copy of the survey.

[81] These respondents began and finished the survey. Some respondents skipped over some of the questions.

- Fifty respondents (15.9 percent) have been principals for 1 to 3 years;
- One hundred forty-four respondents (45.7 percent) have been principals for 4 to 6 years;
- Eighty-three respondents (26.3 percent) have been principals for 7 to 10 years;
- Thirty-four respondents (10.8 percent) have been principals for 11 or more years.

Respondents by School Type:
- One-hundred-fifty-nine respondents (50.5 percent) are elementary school principals;
- Sixty-nine respondents (21.9 percent) are middle school principals;
- Eighty-one respondents (25.7 percent) are high school principals;
- Twenty-nine respondents (9.2 percent) specified "other";[82]
- Three respondents are principals of charter schools.[83]

Respondents by Borough:
- Sixty-three respondents (20.0 percent) are principals in the Bronx;
- Ninety-one respondents (28.9 percent) are principals in Brooklyn;
- Fifty-nine respondents (18.7 percent) are principals in Manhattan;
- Eighty-five respondents (27.0 percent) are principals in Queens;
- Nineteen respondents (6.0 percent) are principals in Staten Island.

The Majority of Principals Believe that the DOE Overpaid for the ARIS System

- Sixty-nine percent of respondents (214 of 311)[84] agree or strongly agree that the DOE has spent too much money on ARIS;
- More than 14 percent of respondents (45 of 311) somewhat agree that the DOE has spent too much money on ARIS;
- Approximately 11 percent of respondents (35 of 311) disagree or strongly disagree that the DOE has spent too much money on ARIS.

> **"ARIS can be useful if everyone is trained properly but this is not the case. I depend on numerous [systems] to track academic data. I am not convinced that I need ARIS. We could probably save a great deal of money if we scale it back."**

While the Majority of Principals Surveyed State that They Have Not Spent Money from Their Budgets on ARIS More Than a Third Have

- Thirty-eight percent of respondents (79 of 215)[85] state that they have not had to spend any money on ARIS.
- Thirty-five percent of respondents (76 of 215) state that they have had to spend money on

> **"It is a work in progress. Because there have been so many false starts it has not been an easy road. There are not enough hours in the day to provide teachers with the time needed to explore the system and figure out ways to put it to practical use in the classroom. Teachers must be provided plenty of time to train and practice and tap into the system over time if you want to see the system used as it was intended."**

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[82] The "other" category includes schools that include kindergarten through eighth grade, fifth through twelfth grade, and kindergarten through twelfth grade.

[83] Please note that the charter school question was a separate question from school type in the survey.

[84] Four principals skipped this questions; 17 of the 311 principals who answered this question marked N/A.

[85] One hundred principals skipped this question. 15 of 215 principals who answered the question wrote N/A and 9 of 215 gave responses, which did not reveal whether or not any money had been spent.

ARIS. Twenty-two of the 76 respondents who said they have had to spend money on ARIS listed "coverage" or "substitute teacher" as the type of cost. The overall costs range from "negligible" at one school to $100,000 at another school.

- Nineteen percent of respondents (36 of 215) state that they did not know how much they have spent.

While the Majority of Principals Surveyed Believe that ARIS Will Improve Teaching and Learning at Their Schools, More Than a Third Do Not.

- Twenty-four percent of respondents (74 of 311)[86] agree or strongly agree that teaching and learning will be improved at their schools by ARIS.
- Thirty-six percent of respondents (112 of 311) somewhat agree that teaching and learning will be improved at their schools by ARIS.
- Thirty-seven percent of respondents (115 of 311) disagree or strongly disagree that teaching and learning will be improved at their schools by ARIS.

While the Majority of Principals Do Not Believe that ARIS Interferes with Their Ability to Be Instructional Leaders at Their Schools, A Significant Number Believe it Does

- Fifty-four percent of respondents (175 of 305)[87] disagree or strongly disagree that ARIS interferes with their ability to be instructional leaders in their schools;
- Twenty-three percent of respondents (71 of 305) somewhat agree that ARIS interferes with their ability to be instructional leaders in their schools;

> **"As instructional leaders of the building, we had disaggregated data on an ongoing basis prior to ARIS. ARIS is more comprehensive; however, it is not a necessary tool. I'd rather see money put in avenues that directly benefit children's education."**

- Fifteen percent of respondents (46 of 305) agree or strongly agree that ARIS interferes with their ability to be instructional leaders.

While the Majority of Principals Believe that ARIS is a Good Use of Their Time, More Than a Quarter Do Not

- Thirty-four percent of respondents (102 of 305)[88] agree or strongly agree that ARIS is a good use of their time as a principal;
- Thirty-nine percent of respondents (120 of 305) somewhat agree that ARIS is a good use of their time as a principal;
- Twenty-six percent of respondents (79 of 305) disagree or strongly disagree that ARIS is a good use of their time as a principal.

> **"ARIS is time consuming. It inhibits my ability to get out of my office and visit classrooms. I think it is an expensive and unnecessary tool. The data it contains can be retrieved from other sources, which we have used in the past."**

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[86] Four principals skipped this questions; 17 of the 311 principals who answered the question marked N/A.
[87] Ten principals skipped this question; 13 of the 305 principals who answered this question marked N/A.
[88] Ten principals skipped this question; 4 of the 305 principals who answered this question marked N/A.

While the Majority of Principals Believe that ARIS is a Good Use of Their Staff's Time, Nearly a Quarter Do Not.

- Thirty-eight percent of respondents (113 of 301)[89] agree or strongly agree that ARIS is a good use of their staff's time;
- Thirty-six percent of respondents (109 of 301) somewhat agree that ARIS is a good use of their staff's time;
- Twenty-three percent of respondents (69 of 301) disagree or strongly disagree that ARIS is a good use of their staff's time.

> **"I have wasted more time trying to access the system and getting the [Inquiry Team] members access than actually being on the system. It is frustrating to spend the amount of money they have on a system that is still not easily accessible nor has reliability of information. We have an upcoming training scheduled - I hope it is more useful than the trainings myself and staff participated in previously."**

The Majority of Principals Have Been Trained to Use ARIS and Believe the Training was Adequate and a Good Use of Time

- Eighty-nine percent of respondents (273 of 307)[90] indicate that they have been trained to use ARIS;
- Nine percent of respondents (29 of 307) indicate that they have not been trained to use ARIS.
- Forty-five percent of respondents (127 of 282)[91] agree or strongly agree that the ARIS training they received was adequate and a good use of time;
- Thirty-five percent of respondents (99 of 282) somewhat agree that the ARIS training they received was adequate and a good use of time;

> **"We tried hard to use it last year and to use the blogging and other features. It was impossible. Although it has gotten better, the DOE must find a way to provide training to teachers and to give them the time they need to actually get trained and use the system. Schools do not have adequate funding to send staff to professional development, because due to budget cuts, there are very limited funds for subs and other necessities."**

- Eighteen percent of respondents (52 of 282) disagree or strongly disagree that the ARIS training they received was adequate and a good use of time.

The Majority of Principals Believe Their Staff Has Not Been Trained to Use ARIS

- Fifty-six percent of respondents (171 of 305)[92] indicate that their staff has not been trained to use ARIS;
- Nearly 43 percent of respondents (130 of 305) indicate that their staff has been trained to use ARIS;
- Forty-five percent of respondents (69 of 154)[93] agree or strongly agree that the training their staff received was adequate and a good use of time;

> **"…Telling us to be creative about how we schedule training is also not good enough. We exhaust every opportunity afforded us to provide our staff with professional development. I believe in the use of data, but to make this systemic means that it must be built into the school day."**

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[89] Fourteen principals skipped this question; 10 of the 301 principals who answered this question marked N/A.

[90] Eight principals skipped this question; 5 of the 307 principals who answered this question marked N/A.

[91] Thirty-three principals skipped this question; 4 of the 282 principals who answered this question marked N/A.

[92] Ten principals skipped this question; 4 of the 305 principals who answered this question marked N/A.

[93] One hundred sixty one principals skipped this question.

- Thirty-seven percent of respondents (57 of 154) somewhat agree that the training their staff received was adequate and a good use of time;
- Eighteen percent of respondents (28 of 154) disagree that the training their staff received was adequate and a good use of time.

The Majority of Principals Have Experienced Technical Problems when Trying to Use ARIS

- Fifty-four percent of respondents (163 of 303)[94] agree or strongly agree that they have experienced technical problems while trying to use ARIS;
- Nineteen percent of respondents (58 of 303) somewhat agree that they have experienced technical problems while trying to use ARIS;
- Twenty-two percent of respondents (66 of 303) disagree or strongly disagree that they have experienced technical problems while trying to use ARIS.

> **"It is disappointing that there are still a number of glitches with the system. Makes me not want to use it until everything is fixed b/c I wonder what is reliable information and what is not."**

While the Majority of Principals Always Have Access to ARIS, Many Only Have Access Sometimes

- Sixty-seven percent of respondents (212 of 315)[95] indicated that they always have access to ARIS;
- Thirty-one percent of respondents (97 of 315) indicated that they only sometimes have access to ARIS;
- Only two respondents indicated that they never have access to ARIS.

While the Majority of Principals Use/Will Use ARIS's Networking Components, More Than a Third Do Not/Will Not Use Networking

- Twenty-six percent of respondents (76 of 295)[96] agree or strongly agree that they use or will use ARIS's networking components;
- Nearly 36 percent of respondents (105 of 295) somewhat agree that they use or will use ARIS's networking components;
- Nearly 35 percent of respondents (102 of 295) disagree or strongly disagree that they use or will use ARIS' networking components.

> **"The only reason I use ARIS is to complete the unnecessary reports that the DOE has initiated in the past few years. I know my students and faculty very well. The kind of information contained in ARIS does not match the nuances that I have. The information in ARIS either supports or contradicts my professional judgment in the eyes of people outside of my school. It tells a person less than what can be found by spending some time in the school."**

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[94] Twelve principals skipped this question; 16 of the 303 principals who answered this question marked N/A.

[95] Four of the 315 respondents indicated that they did not know if they had access to ARIS.

[96] Twenty principals skipped this question; 12 of the 295 principals who answered this question marked N/A.

While the Majority of Principals Believe Their Staff Uses/Will Use ARIS's Networking Components, Nearly a Third Believe They Do Not/Will Not Use Networking
- Twenty-two percent of respondents (67 of 297)[97] agree or strongly agree that their staff uses or will use ARIS's networking components;
- Nearly 36 percent of respondents (106 of 297) somewhat agree that their staff uses or will use ARIS's networking components;
- Twenty-nine percent of respondents (80 of 297) disagree or strongly disagree that their staff uses or will use ARIS's networking components.

While the Majority of Principals Believe that ARIS Provides Them with Information They Were Unable to Get in the Past, Nearly Half Believe It Provides Information that was Already Available Before the Implementation of ARIS
- Twenty-eight percent of respondents (86 of 307)[98] agree or strongly agree that ARIS provides them with information that was previously unavailable;
- Twenty-two percent of respondents (68 of 307) somewhat agree that ARIS provides them with information that was previously unavailable;
- Nearly forty-eight percent of respondents (146 of 307) disagree or strongly disagree that ARIS provides them with information that was previously unavailable.

> **"All this information was available before. There is way too much emphasis on test scores. Money should be spent on teaching teachers how to evaluate learning by working directly with students."**

CONCLUSION

The majority of principals who responded to the Office of the Public Advocate's survey support ARIS and believe in its ability to enhance teaching and learning in their school. They also believe that ARIS is a good use of their time and does not interfere with their day-to-day management functions.

A significant minority of principals, however, indicate otherwise. Many principals believe ARIS interferes with their jobs, is not a good use of their time or their staff's time, and will not improve teaching and learning in their school. Many indicate that they or their staff do not or will not use the networking components of ARIS, and nearly half of all principals believe that the information the system provides them was already available in other forms. Furthermore, a number of principals state in the open-ended section of the survey that they and their staff lack the time necessary to effectively use the system. The DOE itself asserts that "broad acceptance" of ARIS "is essential to support the sweeping change" that it envisions. To win over skeptics, the DOE should solicit feedback from principals on their experiences with ARIS and work with them to ensure that the system is adaptable to their needs.

Perhaps the single most significant obstacle to full acceptance of ARIS by principals and the public is the cost of the system. Irrespective of their opinions about the usefulness of ARIS, nearly all principals surveyed believe that the DOE overpaid for it. In light of the

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[97] Eighteen principals skipped this question; 44 of 297 principals who answered this question marked N/A.
[98] Eight principals skipped this questions; 7 of 307 principals who answered this question marked N/A.

current downturn in the economy and consequent cuts to school budgets, the DOE should find ways to cut all unnecessary expenditures related to ARIS and redirect the savings to the classroom.

On September 4, 2008, the Public Advocate's Commission on School Governance released its final report on school governance in New York City. The findings and recommendations of this report were subsequently incorporated into a bill (A. 8553), which was submitted to the State Assembly. A central provision of the bill is the requirement that the Panel for Education Policy (PEP) review and approve all contracts over $100,000 and ensure sufficient time for public comment prior to a public hearing and a vote on all contracts. A similar bill (A. 8903-A/S. 5887) was subsequently passed by the Assembly and eventually by the State Senate and signed into law by Governor Paterson. The new school governance law sets the threshold for PEP review and approval at $1 million.

Had such a process been in place prior to 2008, the DOE would have been required to make a convincing public case for the necessity and benefits of ARIS. Furthermore, stakeholders, including educators and parents, would have had the opportunity to provide feedback about what they expected from the system. A dialogue of this kind could have helped to ensure the "broad acceptance" of ARIS that the DOE considers essential to the success of its reforms and should help ensure the success of similar major initiatives in the future.

RECOMMENDATIONS

The Office of the Public Advocate makes the following recommendations to ensure broader acceptance of major initiatives like ARIS in the future, improve the implementation of ARIS, and cuts costs.

The Panel for Education Policy should:

Review and Approve All Significant New Costs Related to ARIS

Government-contracted computer data systems have a history of major cost overruns. Given that the DOE has already spent $74 million of the $81 million budgeted for the ARIS contract with two years and half years remaining, the PEP should review and approve all change orders to the ARIS contract or new contracts or sub-contractor expenses related to ARIS, regardless of the dollar amount. At $81 million, the ARIS contract greatly exceeds the $1 million threshold for PEP review and approval that is required under the school governance law passed by the state legislature and signed by the governor. While it is too late to put the original ARIS contract through this process, all additional costs associated with the project should be subject to public comment and PEP oversight in order to prevent unnecessary expenses, ensure efficiency, and promote public acceptance of the project.

The DOE should:

Provide a Mission Statement, Statement of Goals, and Annual Performance Review for Major Contracts

The DOE should develop protocols for complying with the review process described in the above recommendation. Specifically, the DOE should publicly present a Mission Statement and Statement of Goals for all major contracts and initiatives prior to PEP approval. Following approval, the DOE should publicly present an annual performance review for each year of the contract. The performance review should include a survey of stakeholders, including educators and parents, to evaluate the effectiveness of the project, determine the usage rate of any associated product or system, and give stakeholders the opportunity to provide feedback. By adhering to these protocols, the DOE would help ensure "broad acceptance" of its initiatives and avoid the mistakes made by other school systems, such as the Idaho State Education Department, which "underestimated challenges and over-promised on results" regarding its accountability system.[99]

Ensure that All Schools Receive ARIS Training Paid for by the DOE and that School Staff Has the Time Necessary to Effectively Use the System.

The majority of survey respondents indicated that their staff has not been trained to use ARIS. In order for the system to be effective, the DOE must ensure that staff at all schools receive adequate training. Because teachers have a limited amount of time for professional development, ARIS training should be separate from the current professional development schedule and take place during school hours. Similarly, the DOE should provide teachers and principals with the time and access to technology they need to effectively use the system.

Furthermore, the DOE, rather than individual schools, should pay for all ARIS training, as well as the staff time and technology needed to use it. Many respondents indicated in the open-ended section of the survey that they have had to spend money out of their schools' budgets to pay for their staff to be trained to use the system. At a time of difficult school budget cuts, it is unreasonable for the DOE to expect principals to use resources that could be spent in the classroom to pay for ARIS training and use.

Review All Accountability Systems Used in New York City Public Schools

The DOE should conduct a review of all accountability systems used in New York City public schools, including DataCation and Daedalus. This review should evaluate strengths and weaknesses of alternative systems so that the DOE can, where possible, incorporate successful elements into ARIS.

The DOE should also use this review to evaluate the cost effectiveness of ARIS. The majority of principals believe the DOE overpaid for the system, and nearly half believe it provides information that was already available elsewhere. If the review indicates that

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[99] Roberts, B., *Student Tracking System Unlikely; Albertson Foundation Says Computer Project More Costly Than Expected*, Idaho Statesman, December 16, 2004.

schools are able to effectively manage data using less expensive homegrown systems, the DOE should allow them to choose the system that best suits their needs rather than imposing ARIS on all schools. Reducing the overall cost of data management would allow the DOE to redirect funding to offset school budget cuts this year and in years to come.