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Dr. Scott G. Martzloff
Superintendent of Schools
Williamsville Central School District
105 Casey Road
East Amherst, New York 14051

Report Number: S9-15-49

Dear Dr. Martzloff and Members of the Board of Education:

A top priority of the Office of the State Comptroller is to help school district officials manage their resources efficiently and effectively and, by so doing, provide accountability for tax dollars spent to support district operations. The Comptroller oversees the fiscal affairs of districts statewide, as well as compliance with relevant statutes and observance of good business practices. This fiscal oversight is accomplished, in part, through our audits, which identify opportunities for improving district operations and Board of Education governance. Audits also can identify strategies to reduce district costs and to strengthen controls intended to safeguard district assets.

We conducted an audit of six school districts across New York State. The objective of our audit was to determine whether the districts adequately control access to student grading information systems. We included the Williamsville Central School District (District) in this audit. Within the scope of this audit, we examined the District's policies and procedures and reviewed access to the grade book systems for the period July 1, 2013 through May 1, 2015. This audit was conducted pursuant to Article V, Section 1 of the State Constitution and the State Comptroller's authority as set forth in Article 3 of the New York State General Municipal Law.

This draft report of examination letter contains our findings and recommendations specific to the District. We discussed the findings and recommendations with District officials and considered their comments, which appear in Appendix A, in preparing this report. District officials generally agreed with our findings and recommendations and plan to initiate corrective action. At the completion of our audit of the six districts, we prepared a global report summarizing the significant issues we identified at all the districts audited.

Summary of Findings

We found the District's Student Grading System (System) lacks the capacity to track and monitor user activity. The System does not have an audit log function, which limits the ability to review and monitor grade changes. Further, the District does not have policy guidance that details the process or written documentation requirements for when a grade change must take place. Positively, with respect to grade change transactions we were able to identify and test, we found the District has controlled access to the System, resulting in grade changes with appropriate supporting documentation.

The absence of an audit log function is a significant weakness that puts District grades at risk. When audit logs or change reports are not generated and reviewed, officials cannot be assured that unauthorized activities, such as improper grade changes, are detected and adequately addressed. Further, Board- and management-established policies and procedures, with appropriate compliance monitoring, will strengthen the District's controls over grade modifications.

Background and Methodology

The District is located in the Towns of Amherst, Cheektowaga and Clarence in Erie County. The District operates 13 schools (six elementary, four middle and three high schools) with approximately 10,200 students and 2,800 employees. The District's budgeted appropriations totaled \$170 million for the 2013-14 fiscal year. These costs are funded primarily through State aid and real property taxes.

The District is governed by a nine-member Board of Education (Board). The Board's primary function is to provide general management and control of the District's financial and educational affairs. The District has a centralized technology department (Department) headed by the Manager of Educational Technology Services and Operations, who is responsible for directing the day-to-day operations and staff. These responsibilities include overseeing computer hardware and software applications, including the District's Student Grading System (System). The System was created by, and is housed at, the District.

The System¹ is an electronic grade book system that maintains student class rosters in which teachers input student grades and track academic progress. This System is a database that tracks students' grades (input by District staff) and is used to monitor student performance, generate student report cards and maintain student permanent records (i.e., transcripts). Teachers enter all grades into the System, which serves as the official District record. Generally, teachers enter/edit grades throughout the marking period and submit final grades by an established date every marking period. Grade changes that occur after the submission of final grades trigger the System to flag the grade change, and a System user that has extended permissions must change the legacy grade after the close of the marking period.

Students and their parents entrust the District to preserve the confidentiality and integrity of this information. Authorized users of the District's System include students, parents, teachers,

¹ The System includes several other functions; we are only focusing on the Grading System for this audit.

administrators and various other District staff. The District assigns access permissions for the 1,500 users² in its System through 51 different user groups.³

To accomplish our audit objective, we interviewed District officials and employees. We also examined District policies and procedures to control and monitor access to the System. We performed tests to determine if student grade modifications were appropriately authorized and supported by documentation. We also determined whether changes were compatible with users' roles and job duties and whether staff user accounts were assigned to active District employees. Due to the System's inability to report historical records relating to grade change transactions during our audit period, we were unable to define and test the entire population of such transactions. Accordingly, our audit tests of grade change transactions and associated user access were necessarily limited to transactions we could identify and test.

Audit Results

District officials are responsible for developing and monitoring System controls to preserve data and prevent unauthorized access or modification to the System. The Board and management should establish policies and procedures to ensure access is limited to authorized System users and that users' permissions are compatible with their roles or job duties. District officials should periodically review user accounts and permissions to ensure the permissions agree with formal authorizations and are current and updated as necessary. Only authorized District staff should enter or modify student grades, and all grades should be supported by adequate documentation. In addition, District officials should periodically monitor change reports or audit logs from the System for any unusual activity to help ensure that only authorized System users are making appropriate changes. Effective physical and IT controls help preserve the System's confidentiality and integrity.

We found the District's System lacks the capacity to track and monitor user activity. The System does not have an audit log function, which limits the ability to review and monitor grade changes. Positively, we found the District has controlled access to the System, resulting in known grade changes with appropriate supporting documentation.⁴ Specifically, we found that grade changes made by non-teachers after the marking periods had closed were supported by appropriate documentation 96 percent of the time. The District, however, does not have policy guidance that details the process or written documentation requirements for when a grade change must take place. Further, the District's System does not report historical records of grade change transactions, which could be used to monitor user access and compliance with policy. These monitoring limitations put the System at risk of inappropriate use or manipulation, and ultimately place the District at risk of unauthorized grade changes.

² The District has 51 different active user groups, some of which include administrators, census, counseling, faculty, parents, teachers, students and super-users. A super-user is essentially a system administrator and has unlimited access permissions.

³ User groups are established in the System and permissions are assigned by group. Therefore, all individuals in a group have the same user permissions.

⁴ This conclusion is based on testing from the first and second marking periods in 2014-15 and all marking period grade changes for 2013-14 that were made between June 2014 and April 2015.

Audit Log

Audit logs maintain a record of activity or show changes or deletions made in a computer application. This function provides a mechanism for individual accountability and for management to reconstruct events. Additionally, audit logs allow the District to monitor user access and compliance with grade modification policy. Management should periodically monitor change reports or audit logs for any unusual activity to help ensure that only authorized users are making appropriate changes.

The System does not have an audit log function that identifies System users and transactions they record on the System. The System does not have the ability to track historical records of grade changes. The lack of an audit log limits the District's ability to review System activity in the current and prior years. District officials attribute this lack of audit log to the perception that it was not needed when the System was created. Positively, District officials stated that they intend to modify the System to address this weakness.

This significant weakness puts District grades at risk. When audit logs or change reports are not generated and reviewed, officials cannot be assured that unauthorized activities, such as improper grade changes, are detected and adequately addressed.

Grade Modifications

The official record of student grades should be accurate and preserved to ensure its integrity. The System serves as the historical record of student performance, credit accumulation, report cards and student transcripts that students and parents rely on to assess student standing. In addition, educators and the public evaluate school districts locally, regionally and nationally based on common student performance measures. Other schools, colleges and potential employers use student grades and transcripts to determine student aptitude. District policies should include documentation requirements to support changes to students' grades, especially when done by someone other than the students' teacher (generally after the close of the marking period).

The System allows teachers to enter and modify their own students' grades during each marking period until a pre-determined date. Prior to that date, a teacher may submit their students' marking period grades as an indication that they anticipate making no further changes. The five District Report Card Managers review the submitted grades for completeness and reasonableness and communicate with teachers to resolve any apparent issues with submitted grades. When the Report Card Managers have completed this process, they transfer the grades from the teacher's electronic grade book into a legacy grade file from which report cards are prepared.

Subsequent changes to either the teacher's grade book or the student's legacy grade after grades have been transferred to the legacy file will create a "mismatch." Mismatches are a System function that identifies when the teacher's grade book differs from the student report card for a marking period during the current school year. Generally, a Report Card Manager must clear these mismatches before the close of the next marking period or the school year. The District has the ability to review these mismatches through a System grade integrity report that identifies all

mismatches. District protocol requires the teacher to change their grade book to reflect the legacy grade or prepare a form authorizing a Report Card Manager to change the legacy grade. The grade integrity report identifies grade changes real time and does not provide a historical record of grade changes.

Due to the lack of an audit log, we could not identify all grade changes for the audit period. However, we identified 234 instances where a student's electronic grade book grade did not match the student's legacy grade as of April 2, 2015. We tested 120 of these grade modifications for the first and second marking periods of the 2014-15 school year and nine additional grade changes from all marking periods for the 2013-14 school year⁵ that had been made between June 2014 and April 2015 to determine whether District procedures were followed. We found the District generally controls grade changes. Specifically, we found 124 grade changes (96 percent) made by non-teachers after the marking periods had closed were supported by appropriate documentation.

The District does not have policy guidance that details the process or written documentation requirements for when a grade change must take place. Board- and management-established policies and procedures, with appropriate compliance monitoring, will strengthen the District's controls over grade modifications. Further, the District's mismatch process is a strong control that reduces the risk of unauthorized grade changes; however, our testing was limited to only a portion of the 2014-15 school year. Additionally, we reviewed the 2013-14 final grade report sent to SED, which contained 26,513 grades. We found 168 instances where the grades submitted to SED did not match the permanent grade record maintained by the District. We were unable to determine whether these grade differences had been updated with SED. In 158 cases, the differences were attributable to situations where the student had retaken a Regents examination to account for the grade disparity and District grades had been appropriately updated. In another instance, the course and grade for a student were appropriately moved into another school year. In the remaining eight instances, the June 2014 grade was lower than the permanent grade record maintained by the District. Grades on the SED report ranged between one and 16 points lower than those maintained by the District.

Information Technology

District officials are responsible for developing IT controls to protect and prevent improper access to student grade changes. Policies and procedures should be established to ensure access is limited to only authorized users and that rights assigned to authorized users are compatible with their roles or job duties. Management should periodically monitor user accounts and rights to ensure the rights agree with formal authorizations and are current and updated as necessary.

Policies and Procedures – The District has not adopted written policies and procedures for adding users, establishing users' access rights, deactivating or modifying user accounts, granting user permissions and monitoring user access. The District has a process in place for adding new users, which includes the personnel department requesting access rights be assigned to new employees based on the job for which the employees have been hired. The IT Department will assign the employee to a user group in the System and grant the employee the System permissions associated

⁵ We were not able to identify the population of grade changes for the 2013-14 year. We identified the nine grade changes tested by comparing the New York State Education Department report to the legacy grades.

with that group. If the permissions granted prove to be inadequate for the employee to perform all the duties of a particular job, or if IT personnel are unfamiliar with the duties associated with a particular job, they will confer with the head of the department in which the employee works and adjust permissions granted accordingly. However, the System does not allow District officials to periodically review users' access rights for appropriateness or the opportunity to review audit logs (System-generated trails of user activity) for potentially unauthorized activity.

Without written procedures over the maintenance of user accounts, staff responsible for these functions may not understand their role, and there is an increased risk that access to the System will not be properly restricted.

User Access – The Manager of Educational Technology Services and Operations is responsible for adding staff user accounts in the System; however, anyone with the super-user permissions (two users) can add staff user accounts.⁶ The Human Resources Department is responsible for deactivating staff user accounts upon termination of employment. Further, we found five users with the ability to modify student grades at any point during the school year. Specifically, relative to the grade change transactions we were able to identify and test, we found the District restricted the ability to modify student legacy grades to authorized users whose roles or job duties were compatible with the permissions granted. Further, we found that the System did not contain active accounts for any former employees.

By properly restricting user privileges and accounts, the District reduces the risk of putting its System's integrity at risk and decreases the risk that sensitive or confidential data will be exposed to unauthorized use or modification.

Recommendations

District officials should:

1. Modify the System to report historical grade change transactions.
2. Periodically review the grade changes made by the heightened permission users and determine the appropriateness of user access and grade changes.
3. Adopt policy guidance relating to the procedures and requirements for making grade changes in the current and prior years.

The Board has the responsibility to initiate corrective action. Pursuant to Section 35 of the New York State General Municipal Law, Section 2116-a (3)(c) of the New York State Education Law, and Section 170.12 of the Regulations of the Commissioner of Education, a written corrective action plan (CAP) that addresses the findings and recommendations in this report must be prepared and forwarded to our office within 90 days. To the extent practicable, implementation of the CAP must begin by the end of the next fiscal year. For more information on preparing and filing your CAP, please refer to our brochure, *Responding to an OSC Audit Report*, which you received with

⁶ Due to a lack of an audit log, we could not identify super-users prior to April 2015.

the draft audit report. The Board should make the CAP available for public review in the District Clerk's office.

We thank the officials and staff of the Williamsville Central School District for the courtesies and cooperation extended to our auditors during this audit.

Sincerely,

Gabriel F. Deyo
Deputy Comptroller

APPENDIX A

RESPONSE FROM DISTRICT OFFICIALS

The District officials' response to this audit can be found on the following page.



July 10, 2015

Office of the New York State Comptroller
Ms. Ann C. Singer, Chief Examiner
State Office Building, Suite 1702
44 Hawley Street
Albany, New York 13901-4417

Dear Chief Examiner,

The Williamsville Central School District was selected to be audited by the Office of the New York State Comptroller as part of a state-wide six school review on the usage and control of student grading systems.

The audit's results have listed a number of issues that school districts should address in order to improve upon the usage and control of their grading systems. The main issues stated in this audit include having appropriate controls in place that regulate access to their student grading system, documented written procedures/policies for grade changes, usage of a grading system lock-out function when grading periods have been closed, and the use of an audit log to monitor system usage and grade changes.

The Williamsville Central School District believes that the audit showed that our district did reasonably well in several of the critically important audited areas. The audit results noted that our grading system may not have had a true lock-out function, but it does require heightened permissions before any grade changes can occur. Although our system lacked the audit log it was shown that appropriate documentation was in place for the sample of grade changes selected by the auditors in the audit. Our internal informal procedures appropriately controlled user access as it was found that our district did not allow former employees to have access to the student grading program.

As a district we understand the importance on controlling student grading, grade changes, and the need to have written procedures in place for changing grades after grading periods have been closed. Our District has already acted on the Comptroller's recommendation to create an audit log to monitor changes made in our grading system. We will be reviewing the other audit recommendations that pertain to our district and it is our intent to implement appropriate controls to address these items in the 2015-16 school year.

Sincerely,

Scott G. Martzloff, Ed. D
Superintendent of Schools

APPENDIX B

AUDIT METHODOLOGY AND STANDARDS

We reviewed access to the District's Student Grading System for the period July 1, 2013 through May 1, 2015. Due to the System's inability to produce historical records relating to grade change transactions, relating to our audit scope period, we were unable to define and test the entire population of such transactions. Accordingly, our audit tests of grade change transactions and associated user access were necessarily limited to transactions we could identify and test.

To achieve our audit objective and obtain valid audit evidence, we performed the following audit procedures:

- We interviewed District officials and staff to gain an understanding of the District's student grading application and authorized users; assignment and monitoring of user access rights; and IT policies and procedures.
- We compared a list of current active employees to a list of current System staff users to determine if any System users are not District employees or if any former employees remain on the current user list. We obtained the most recent employee user list from the System and obtained an employee master list from the payroll department.
- We obtained a listing of user groups and reviewed permissions granted to each user group to identify permissions considered incompatible with assigned job duties.
- We identified 234 instances where a student's electronic grade book grade did not match the student's legacy grade as of April 2, 2015. We selected a judgmental sample of 120, approximately 50 percent of the total population, of these mismatches to determine whether the subsequent grade changes made to eliminate the disparity were in accordance with District policy.
- We compared final 2013-14 school year grades submitted to SED, in June 2014, with the appropriate legacy grades currently (April 2015) reported by the System. We tested all grade changes that resulted from a change in a marking period grade and determined whether the change had been made in accordance with District policy.
- We judgmentally selected five parent and five student users to verify the individual user (and the parent/student group) had just view-only rights.

We conducted this performance audit in accordance with GAGAS. 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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.