



Controlling Access to Student Grading Systems in School Districts

2015-MS-3



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State of New York Office of the State Comptroller

Division of Local Government and School Accountability

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Dear School District Officials:

A top priority of the Office of the State Comptroller is to help school district officials manage district 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 school 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 operations and school district governance. Audits also can identify strategies to reduce costs and to strengthen controls intended to safeguard district assets.

Following is a report of our audit titled Controlling Access to Student Grading Systems in School Districts. 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 audit's results and recommendations are resources for school district officials to use in effectively managing operations and in meeting the expectations of their constituents. If you have questions about this report, please feel free to contact the local regional office for your county, as listed at the end of this report.

Respectfully submitted,

*Office of the State Comptroller
Division of Local Government
and School Accountability*



State of New York Office of the State Comptroller

EXECUTIVE SUMMARY

School districts maintain and use students' grades for a variety of educational purposes. School districts use Student Grading Systems (Systems) to record information about students' grades, and provide System access to teachers, administrators, various staff members and external information technology (IT) support staff. Access to Systems should be limited to only those school district officials with a business need (i.e., operations, instruction, management and evaluation) and users should have the least amount of access necessary to perform their job duties or responsibilities. In addition, many school districts provide parents with limited access to their children's information and also provide students with limited access to their own information.

We audited six school districts across New York State: Arlington, Fairport, and Williamsville Central School Districts, Elmira and Saratoga Springs City School Districts and Freeport Union Free School District. Each district had a System that tracked, recorded and maintained student grades. These Systems are the official record of student performance. Each district had IT staff that managed the System and assigned users permissions for the System.

Scope and Objective

The objective of our audit was to determine whether school districts are adequately controlling access to their Systems for the period July 1, 2013 through May 1, 2015. Our audit addressed the following related questions:

- Are school districts appropriately approving and documenting student grade modifications?
- Are access controls to the Systems adequately designed and operating efficiently?

Audit Results

We found the districts do not adequately control access to their Systems. None of the districts audited have policy guidance that details the process or written documentation requirements for grade changes. Grade changes tested that were made by non-teachers, after the marking periods closed, lacked supporting documentation 44 percent of the time. These modifications generally included changing grades from failing to passing and increasing grades (e.g., original grade was changed from a 70 to an 85). Further, grade changes were being made to prior school years as far back as the 2007-08 school year. We found that 80 percent of the changes we tested could not be supported with written authorization. Further, the lock out function (i.e., an internal control that helps prevent grade

modifications without authorization after the close of a marking period) was not consistently being utilized across the districts.

We found none of the districts have adopted written policies and procedures for their Systems for adding users, establishing users' access rights, deactivating or modifying user accounts, granting user permissions and monitoring user access. 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. We found that five of the six districts had active user accounts for employees that were no longer employed by the districts. We also found that all districts had weaknesses in accessing, monitoring and reviewing audit logs.

These weaknesses put student grades at high risk of manipulation by internal or external users.

Comments of District Officials

The results of our audit and recommendations have been discussed with school district officials and their comments, which appear in Appendix A, have been considered in preparing this report.

Introduction

Background

School districts maintain and use students' grades for a variety of educational purposes. Student Grading Systems (Systems) contain information about students' grades for their tenure in the district. School districts provide System access to teachers, administrators, various staff members and external information technology (IT) support staff. Access to Systems should be limited to only those school district officials with a business need (i.e., operations, instruction, management and evaluation) and users should have the least amount of access necessary to perform their job duties or responsibilities. In addition, many school districts provide parents with limited access to their children's information and also provide students with limited access to their own information.

We audited six school districts across New York State. Each district had a System that tracked, recorded and maintained student grades. These Systems are the official record of student performance. Each district had IT staff that managed the System and assigned users permissions for the System. Figure 1 details the districts audited.

Figure 1: School District Background Information

School District	2014-15 Enrollment	Employees	2013-14 Budget (in Millions)
Arlington Central School District	9,000	1,500	\$191.1
Elmira City School District	6,900	1,100	\$114.0
Fairport Central School District	6,300	2,000	\$110.6
Freeport Union Free School District	6,700	2,000	\$156.4
Saratoga Springs City School District	6,400	1,000	\$112.6
Williamsville Central School District	10,200	2,800	\$170.0

Objective

The objective of our audit was to determine whether school districts are adequately controlling access to their Systems. Our audit addressed the following related questions:

- Are school districts appropriately approving and documenting student grade modifications?
- Are access controls to Systems adequately designed and operating efficiently?

Scope and Methodology

For the period July 1, 2013 through May 1, 2015, 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. In districts where audit logs were available, we tested the logs and reviewed user activity to determine if student grade modifications adhered to district policies and procedures and whether changes were compatible with users' roles and job duties. We also determined whether staff user accounts were assigned to active district employees.

We conducted our audit in accordance with generally accepted government auditing standards (GAGAS). More information on such standards and the methodology used in performing this audit is included in Appendix B of this report.

Comments of District Officials

The results of our audit and recommendations have been discussed with district officials and their comments, which appear in Appendix A, have been considered in preparing this report.

Grade Modifications

School districts have the responsibility to educate the youths within their district boundaries. Student performance is assessed in many ways; the most visible and documented are the grades earned by students and reported in report cards. Because student grades are so significant, their integrity is paramount for any school district. Therefore, schools must control access to and prevent unauthorized manipulation of student grades.

Generally, the individual classroom teacher calculates and enters individual student grades in an electronic software system. These teachers have the ability to update or modify these grades throughout the semester. At the end of each marking period, teachers submit their final grades and report cards are generated identifying the grade earned for the marking period in a particular class. Other individuals in school districts have the ability to view or modify these grades through heightened System permissions that allow individuals this level of access. These individuals include other non-classroom teachers, guidance counselors, IT staff, software vendors, clerical staff and support staff.

We found the districts do not adequately control grade changes. None of the districts audited have policy guidance that details the process or written documentation requirements for grade changes. Grade changes tested that were made by non-teachers, after the marking periods closed, lacked supporting documentation 44 percent of the time. Further, we found grade changes were being made to prior school years as far back as the 2007-08 school year. In addition, 80 percent of the changes we tested could not be supported with written authorization. Further, we found the lock out function (i.e., an internal control that helps prevent grade modifications without authorization after the close of a marking period) was not consistently being utilized across the districts. These weaknesses put student grades at high risk of manipulation by internal or external users.

Grade Modifications

The official record of student grades should be accurate and preserved to ensure its integrity. The grading system serves as the historical record of student performance, credit accumulation, report cards and student transcripts that are relied upon by students and parents 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).

We found the districts do not adequately control grade changes. None of the districts audited have policy guidance that details the process or written documentation requirements for when a grade change must take place. From our testing, we found that grade changes made by non-teachers, after the marking periods closed, lacked supporting documentation 44 percent of the time. These modifications generally included changing grades from failing to passing and increasing grades (e.g., original grade was changed from a 70 to an 85) without any supporting documentation from the teacher.

As noted previously, teachers enter grades throughout the marking period and submit final grades by an established date every marking period. By System design, a user with heightened permissions¹ has the ability to make grade changes after the close of a marking period. During our audit period, high school teachers and heightened permission users made 420,264 grade changes.² The user groups with heightened permissions made 16,274 of these changes. We tested 90 grade changes at each district (450 grade changes in total³) made by heightened user groups (typically guidance counselors) and found that 196 (44 percent) could not be supported with written documentation from the teacher, or other appropriate individual, authorizing the change. Figure 2 illustrates the detailed testing at each district.

¹ For testing purposes, we did not test grade changes made by teachers during the marking period.

² Williamsville's System does not produce audit logs and, accordingly, we could not include statistics relative to the number of grade changes for this district. However, our testing for grade changes in April 2015 were generally supported by written documentation.

³ See Appendix B, Audit Methodology and Standards, for details on our sample selection.

Figure 2: Grade Change Data Relative to Users with Heightened Permissions

School District	Grade Changes by Users With Heightened Permissions	Undocumented Grade Changes Audit Tests					
		Percentage Undocumented	Total	No Grade to Passing	Failing to Passing	Increased Grade	Decreased Grade
Arlington	4,416	13%	12	0	9	3	0
Elmira	4,809	48%	43	38	3	0	2
Fairport	2,933	70%	63	0	39	21	3
Freeport	1,921	26%	23	12	10	1	0
Saratoga Springs	2,195	61%	55	3	36	11	5
Williamsville	Not Available						
TOTALS	16,274	44%	196	53	97	36	10

Of the 196 unsupported grade changes, we found 97 (50 percent) changed a grade from failing to passing, 36 (18 percent) increased a grade, 10 (5 percent) decreased a grade and 53 (27 percent) changed a grade from no grade to 65 or better. These changes were made by individuals other than the classroom teacher.

Some examples of unsupported grade changes that district officials with heightened permissions made included:

- Arlington: In May 2014, a United States History grade was changed from a 48 to 65 for the second marking period of the 2013-14 school year. The registrar could not provide an explanation for the change.
- Elmira: In July 2014, a final exam score was changed from a 52 to 98 for the 2013-14 school year. The registrar stated that she had been instructed to change the grade by the school principal but could not provide any written documentation in support of the change.
- Saratoga Springs: In July 2013, an Earth Science grade was changed from a 54 to 65 for the 2012-13 school year. The counselor indicated a teacher had called and requested the change.

Prior-Year Grade Changes – In addition to grade changes during the current school year, we found grades being changed in prior school years. We reviewed district System logs, where available, of grade changes made by users with heightened permissions. We found 1,482 grade changes, between June 2013 and April 2015, which pertained to previous school years as far back as the 2007-08 school year.

We judgmentally selected and tested 71 prior year grade changes. We found that 80 percent of these grade changes could not be supported with written authorization. Figure 3 details our testing at each district.

Figure 3: Grade Change Data Relative to Prior School Years				
School District	Prior Year Changes	Audit Tests		
		Changes Tested	Changes Undocumented	Undocumented Percentage
Arlington	408	5	3	60%
Elmira	525	29	21	72%
Fairport	383	10	10	100%
Freeport	40	5	2	40%
Saratoga Springs	126	22	21	96%
Williamsville	Not Available			
TOTALS	1,482	71	57	80%

Some examples of unsupported grade changes relating to prior years include:

- Fairport: In July 2013, a grade for a Chemistry course taken in the 2012-13 school year was changed from a 58 to a 74. Due to the unofficial practice of destroying written documentation in support of grade modifications pertaining to prior school years, no documentation exists as to the basis or necessity for this modification.
- Freeport: In June 2014, a grade for a Math course taken in the 2012-13 school year was changed from a no grade to 98. The registrar stated that she changed the grade based on an authorization from an Assistant Principal, but the transaction was not documented by a signed authorization from the Assistant Principal.

The Williamsville System does not have an audit log function that provides details and history of grade changes. We were able to test a sample of grade changes made during April 2015 and found documentation to support grade changes in the current year.⁴

District officials attribute the unsupported grade changes in the current and prior years to a lack of policy guidance. At the end of each semester, the volume of grade changes can be voluminous and

⁴ The lack of an audit log and associated risks will be discussed in the Access Controls to Systems section.

retaining emails or documenting discussions simply has not happened. Other causes include a lack of retention of supporting documentation requirements and monitoring by district officials.

When school districts do not control grade changes, the integrity of the reported grades may be compromised. This could affect statewide comparisons, graduation rates and student aptitude results, and is a major area of risk for schools. For example, we reviewed the final grade reports sent to the New York State Education Department (SED) for the 2013-14 school year, which contained 271,499 grades. We found 310 separate instances where the grades submitted to SED were lower than the permanent grade record maintained by the districts. The differences ranged from seven (Arlington) to 168 (Williamsville).

In addition to inaccurate grade reporting, districts are at risk of external threats from malicious outside users. Graduation rates, college placement and teacher performance are at risk of being compromised by these System weaknesses. The increased emphasis on teacher performance and demonstration of student growth in recent years may likely increase the risk of unauthorized grade changes and raises the need to control access to Systems and monitor any changes to student grades.

Lock Out Dates

District Systems allow teachers to enter and modify their own students' grades during each marking period until a pre-determined lock out date. The lock out date is a date in the marking period when grades are to become final and entered into the System. District Principals and other staff generally set these dates before the start of each school year based on student report card reporting dates. After a lock out date, teachers can no longer enter or modify student grades. Only staff with heightened System permissions may then make necessary changes.⁵ These heightened permissions are System permissions that enable authorized officials to modify student grades until a final year-end marking period lock out date. The practice of extending System lock out dates provides an opportunity for teachers and other personnel, some even having permissions that enable them to assume a teacher's identity, to continue to process grade changes. The proper use of a lock out function helps prevent grade modifications without authorization after the close of a marking period. Accordingly, permissions to modify the lock out date should be restricted by districts and such modifications should be made upon the written approval of a designated district official.

⁵ Generally, teachers do not have access to this level of user permissions.

We found the lock out function was not consistently being utilized across the districts. Each System had a pre-determined timeframe in which grades must be submitted each semester. Overall, we found Elmira’s System lock out function provided a strong control that limited grade changes. The other four districts can improve their controls by documenting and controlling IT staff’s ability to change the lock out dates. Williamsville’s System is well designed, as it will not allow teachers to input grade changes after they have been transferred to a legacy file; however, we were unable to identify grade changes for the audit period, as discussed previously. Figure 4 details the lock out date changes by district.

Figure 4: Lock Out Date Data

School District	Number of Times Lock Out Date Changed	Number of Changes by Users With Teacher Permissions	
		Total	Number of Changes After Initial Lock Out Date
Arlington	6	132,281	1,614
Elmira	3	29,335	3
Fairport	9	93,545	1,526
Freeport	10	77,613	2,592
Saratoga Springs	34	75,632	11,918
Williamsville	Not Available		
TOTALS	62	408,406	17,653

When the lock out date gets changed, generally all users (i.e., teachers) have the ability to make grade changes. This allows teachers and other users to make grade changes without any oversight or need for heightened permissions. As indicated in Figure 4, the number of grade modifications due to lock out date changes ranged from three (Elmira) to 11,918 (Saratoga Springs). For example:

- In Saratoga Springs, the lock out date for the first marking period in the 2013-14 school year was changed nine times, extending the original November 12, 2013 date out as far as one year.
- In Freeport, the lock out date for the first marking period in the 2013-14 school year was changed three times, extending the original November 15, 2013 date out as far as the end of the school year (June 27, 2014).

In Saratoga Springs, the Program Coordinator told us that bypassing the lock out date was more productive than taking the time to obtain the appropriate permissions to modify the grades. In Freeport, District officials indicated that, due to the District requirement that teacher grade books correspond to legacy grades, it is necessary for teachers to input grades after the initial lock out date on a regular basis.

Three districts (Arlington, Elmira and Fairport) generally use the lock out function to restrict grade modifications.⁶ None of the districts we audited had Board- and management-established policies, and they did not require written authorization for lock out date modifications. Board- and management-established policies and procedures, with appropriate compliance monitoring, will strengthen the districts' controls over the lock out function and associated potential grade modifications.

Williamsville's System does not have a true lock out function. However, when grades are transferred to the report card process, any grade change will need to be accepted by a heightened permission user prior to the change taking effect.

The lock out function is an effective tool in limiting the ability to change grades. However, districts routinely modified the lock out date and allowed a significant number of grade changes to take place. This increases the risk that grades will be compromised.

Recommendations

District officials should:

1. Adopt policy guidance relating to the procedures and requirements for making grade changes in the current year and for prior years.
2. Periodically review the grade changes made by the heightened permission users and determine the appropriateness of the grade changes.
3. Modify the System to report historical grade change transactions if not currently available.
4. Update the annual reporting to the State Education Department to ensure accurate grade records are being reported.

⁶ Williamsville's System does not have a lock out function. Rather, Williamsville establishes, at the beginning of the school year, a date by which teachers must enter grades. Once grades have been entered and submitted by teachers, guidance secretaries enable a system function which terminates teachers' ability to alter legacy grades.

5. Restrict the ability to make grade changes after the close of a marking period to designated individuals and ensure that documentation is retained to show who authorized the grade change and the reason for the change.
6. Adopt policy guidance regarding the utilization of the lock out function and what procedures must be followed to bypass this control.
7. Periodically review the bypassing of the lock out function and determine the appropriateness of the changes.

Access Controls to Systems

Parents and students rely on district officials to ensure that students' grade information is properly safeguarded. District officials are responsible for protecting and preventing improper access to grading systems. To fulfill these responsibilities, district officials should develop comprehensive written user access policies and procedures designed to protect and monitor access to grading systems. Management should verify assigned user rights, periodically monitor user rights to ensure they are current and appropriate, and periodically monitor change reports or audit logs for any unusual activity to help ensure that only appropriate changes are being made by authorized users.

We found none of the districts have adopted written policies and procedures for adding users, establishing users' access rights, deactivating or modifying user accounts, granting user permissions and monitoring user access. 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. We found that five of six districts had active user accounts in their Systems for employees that were no longer employed by the district. We also found weaknesses in accessing, monitoring and reviewing audit logs. These weaknesses increase the risk that unauthorized individuals could access the System and inappropriately change students' grades.

Policies and Procedures

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. Policies should establish controls over users' access to the System, including adding users, establishing access rights, and deactivating or modifying user accounts, as well as the process that will be used to monitor access.

We found none of the districts have 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 districts have processes in place for adding new users based on notification from the personnel department of a new employee and the job for which the employee has been hired. The IT Department will assign employees to user groups in the Systems and grant the employees the permissions associated 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, no officials in any of the districts we audited periodically review users' access rights for appropriateness. Further, they do not review audit logs⁷ (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

District officials should ensure that there are written procedures in place for granting, changing and terminating access rights to the System. These procedures should establish who has the authority to grant or change access (e.g., supervisory approval). Also, it is important to limit individual user access rights within the System to only those functions necessary to fulfill individual job responsibilities. Such controls limit the risk that sensitive or confidential information will be exposed to unauthorized use or modification. Access should be terminated promptly when employees leave the district.

IT Department personnel are generally responsible for adding and deactivating staff user accounts in the System. A super-user is a user group, typically assigned by the IT Department staff, that provides access rights that allow users to create, modify and delete data and groups within the System. These privileged accounts carry implicit security risks since users can bypass the internal controls of the System, breach confidential information, change transactions and destroy System data. Effectively managing these accounts, while preserving access and ease of use, are essential in maintaining System integrity. We found all districts, with the exception of Williamsville,⁸ did not adequately control user access to their Systems. Specifically, we found several super-users, users with System permissions that were not consistent with their job duties and active accounts for former district employees, as indicated in Figure 5.

⁷ Williamsville's System did not have the capacity to produce audit logs, which limited our ability to identify and test user access to the System.

⁸ Ibid.

Figure 5: User Access by School District

	Arlington	Elmira	Fairport	Freeport	Saratoga Springs	Williamsville	Totals
Super-Users	18	15	8	36	32	2	111
Users With the Ability to Modify Student Grades at Any Point During the School Year	22	19	26	79	175	7	328
Users Who Made Grade Modifications During Audit Period	5	3	12	5	21	Not Available	46
Active System Accounts - Former Employees	23	15	42	127	27	0	234

The number of super-users varies across the districts, from two (Williamsville) to 36 (Freeport). In addition to the super-users, other user accounts with heightened permissions allow grade changes to be made at any point throughout the school year. Across the districts, these users ranged from seven (Williamsville) to 175 (Saratoga Springs). These users include district IT staff, administrators, counselors, registrars, principals and various other staff (this group generally does not include teachers).

The districts attribute the large number of users that have not made grade changes to general user groups that include a bundle of heightened permissions. For example, employees of district IT support vendors would be included in a user group with heightened permissions. However, these employees do not need grade modification privileges. By granting these employees the permissions to change grades, the districts increase the risk of unauthorized grade changes being made.

Further, we found each district, with the exception of Williamsville, had active user accounts in the System for former district employees, who no longer should have access. Specifically, we found 234 active user accounts, ranging from none (Williamsville) to 127 (Freeport) for former district employees.

District officials attribute this weakness to a lack of awareness and monitoring. Generally, district IT staff stated they are not notified of an employee’s retirement or other separation from the districts and the need to deactivate the applicable account.

By not properly restricting user privileges and accounts, a district puts its System’s integrity at risk and there is an increased risk that sensitive or confidential data will be exposed to unauthorized use or modification. For example, users may be able to view confidential data to which they should not have access or perform functions that they have no authority to do, such as adding a new user account or modifying student information (e.g., grades and demographics). This increases the possibility of unauthorized grade modifications and lack of accountability over the System.

Assume-Identity/Account

District officials should strictly control the ability to grant or modify user rights in the System. Individual users should not have the capability to assign themselves additional user rights beyond those rights they have already been authorized.

Five of the districts' Systems⁹ allowed users with certain permissions to assume the identity or the account of another System user.

- The assume-identity feature allows a user to retain their own rights/permissions while accessing student information for students assigned to the user whose identity they assume.
- The assume-account feature is similar to the assume-identity feature in that it allows the user to access student information for students assigned to the user whose identity they assume. However, it also allows a user to inherit all the given rights/permissions of that user.

Figure 6 details the number of users, by district, with these powerful permissions. We identified between seven (Freeport) and 37 (Saratoga Springs) users who have the ability to assume the account of another user.

District	Users With Assume-Identity Permissions	Users With Assume-Account Permissions
Arlington	18	18
Elmira	15	15
Fairport	16	8
Freeport	15	7
Saratoga	185	37
Williamsville	Not Applicable	Not Applicable

While our audit testing of grade changes (by these users), enabled by the use of the assume-identity or assume-account permissions, found no unauthorized changes, the potential exists that users so enabled could undermine the System's integrity. Accordingly, the districts should restrict the granting of such permissions wherever feasible and monitor, on a periodic basis, the use of permissions granted.

⁹ Williamsville's System did not, at the time of our fieldwork, have the capacity to allow a user to assume the access rights of another user.

Audit Logs

Audit logs or change reports maintain a record of activity or show changes or deletions made in a computer application. Student grade systems should have mechanisms in place to identify when a grade modification is/was made and by which user. District officials should review these reports to monitor for unusual activity. These reports provide a mechanism for individual accountability and for management to reconstruct events.

We found five of the six districts do not monitor audit logs or change reports on a periodic and systematic basis. Despite having the ability to produce audit logs, these districts did not generate audit logs or review them for potentially unauthorized changes. Williamsville's System does not have an audit log function to monitor activity for grade changes or user activity in the prior period. Its System identifies grade changes that take place after the close of each semester, once report cards are processed. The System currently does not have the ability to review grade changes for prior semesters and school years.

District officials generally indicated they would review audit logs only if an issue was brought to their attention. However, they generally do not routinely review the log. 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, when audit logs are not available, districts are unable to identify the user that affected changes.

Recommendations

District officials should:

8. Review current procedures for assigning user access rights and strengthen controls to ensure that individuals are assigned only those access rights needed to perform their job duties. District officials should monitor user access rights periodically.
9. Evaluate the user permissions currently assigned to each user group, develop a process to verify that individual users' access needs are compatible with the rights of the assigned groups, and update the permissions or groups as needed.
10. Review current user permissions and deactivate inactive users from the System.
11. Consider whether the assume-identity and assume-account features are appropriate for use.

12. Periodically review available audit logs for unusual or inappropriate activity.
13. Implement compensating controls due to a lack of an audit log function by certain grading systems.

APPENDIX A

RESPONSE FROM DISTRICT OFFICIALS

We provided a draft copy of this report to each of the six school districts we audited and requested responses. We received a global response from four of the six school districts - Elmira City School District, Freeport Public Schools, Saratoga Springs City School District and Williamsville Central Schools.

We also provided a draft version of the respective individual letter reports to each of the six school districts and received responses from all of them. All the school districts indicated that they planned to initiate corrective action. Each school district's individual letter report includes the district's response to our audit and, in some instances, responses that we had to address the district's comments.

The following are excerpts from the global responses that we received:

Elmira City School District: "...Working through the audit process, we were able to examine our own systems, procedures, and protocols and through this experience with the auditors helped to confirm the areas of growth that we had identified. We have well-thought-out and diligent undocumented processes to manage the system to enter and change grades, but these processes need to be solidified into policy and regulations that provide district staff specific guidance for a day to day operations to ensure the integrity of student grades..."

Freeport Public Schools: "...The recommendations made by the audit team should be helpful to districts as they implement policies and practices that will strengthen the management of student information. However, it is noted that the audit team identified very similar issues in each of the districts audited over the past year. It would not be surprising to find that many districts across the State may need similar assistance. Since expertise in data systems and sophistication in such arcane matters as "assume functions" and "lock out dates" will vary widely in districts across the state, we believe that it would be helpful if the State would generate a "best practices" guidance document that would benefit all districts..."

Saratoga Springs City School District's response to our global report only addresses findings specific to this district. It does not address the report as a whole. As our individual report of this district includes officials' comments on our findings, we did not include an excerpt of their comments in the global report.

Williamsville Central Schools: "...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..."

APPENDIX B

AUDIT METHODOLOGY AND STANDARDS

We reviewed access to the districts' Student Grading Systems for the period July 1, 2013 through May 1, 2015.

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

- We interviewed district officials and staff, as well as applicable Board of Cooperative Education Services and Regional Information Center staff, to gain an understanding of the districts' Systems 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 also compared a list of employees who left district employment during our audit period to the list of current System users to verify they were no longer active System users.
- 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 compared final grades submitted to SED with the appropriate legacy grades currently reported by the System. We reviewed discrepancies.
- 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 obtained the parent user list and judgmentally selected an on-site staff person who was a parent.
- For districts where audit logs were available:
 - o We selected a judgmental sample of 10 grade changes made by users with teacher permissions, selected from System audit logs, to determine whether the teacher had made the change. We focused our testing on changes made to grades for marking periods that had already been closed out, fail to pass changes and changes made for different courses.
 - o We selected a judgmental sample of 90 grade changes made by users with counseling permissions, selected from System audit logs and determined whether these grade changes were authorized, documented and supported. We focused our testing on changes made to final grades for marking periods that had already been closed out, fail to pass changes, and changes made for different courses.

- o We obtained a listing of children enrolled in the district who were related to influential district officials including district administrators, principals, counselors and Board members. We determined that district officials had children as students in the district. We reviewed grade changes, if any, associated with these students to determine whether such changes were appropriately authorized and documented.
- o We reviewed the audit logs and analyzed trends to determine items for further testing.
- o We judgmentally selected 10 final student grades and determined whether they agreed with teacher-prepared grade books for the 2013-14 school year.
- For the district where audit logs were not available:
 - o We identified 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.
 - o 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 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.

APPENDIX C

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