Utah State Board of Education

Internal Audit Department

CACTUS Data Accuracy and Reliability Audit

18-04

Report No. 18-04

CACTUS Data Accuracy and Reliability Audit

November 1, 2018

Audit Performed by:

Internal Audit Director	Debbie Davis, CPA
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November 1, 2018

Chair Mark Huntsman
Utah State Board of Education
250 East 500 South
Salt Lake City, UT 84111

Dear Chair Huntsman,

On October 7, 2016, in accordance with Utah Administrative Code R277-116 Audit Procedure, the Utah State Board of Education (Board) authorized the Internal Audit Department (IA) to perform an audit of the Comprehensive Administration of Credentials for Teachers in Utah Schools (CACTUS) system for data accuracy and reliability. As directed by the Board, the purpose of the audit is to inform policy development and assess compliance with applicable laws, rules, and regulations. IA performed the following procedures:

1. Gained an understanding of applicable regulations, including: state code, administrative code, and LEA and school policies and procedures.
2. Reviewed and analyzed the Utah State Board of Education's (USBE's) internal control environment related to CACTUS.
3. Analyzed the USBE's and local education agencies' (LEAs') processes for CACTUS data creation and modification.
4. Conducted a data analysis of key CACTUS data elements for accuracy.

We have identified the procedures performed during this audit and the conclusions from those procedures are included in this report with suggestions for improvement.

Internal audits are conducted in accordance with the current *International Standards for the Professional Practice of Internal Auditing*, consistent with Utah Code Annotated §63I-5-2 and Utah Administrative Code R277-116.

By its nature, this report focuses on exceptions, weaknesses, and non-compliance. This focus should not be understood to mean staff do not demonstrate various strengths and accomplishments. We appreciate the courtesy and assistance extended to us by staff of the USBE and the LEAs during the audit. The response to the audit is included as Appendix A.

This report is intended solely for the information and use of the Utah State Board of Education as well as the governing boards and administration of LEAs; it is neither intended to be, nor should be, used by anyone other than these specified parties. If you have any questions, please contact me at (801) 538-7639.

Sincerely,

Deborah Davis, CPA
Internal Audit Director, Utah State Board of Education

cc.   Members of the Utah State Board of Education
        Sydnee Dickson, State Superintendent of Public Instruction, Utah State Board of Education
        Patty Norman, Deputy Superintendent of Student Achievement, Utah State Board of Education
        Scott Jones, Deputy Superintendent of Operations, Utah State Board of Education

Contents

I. Objective, Scope, and Methodology

Objective

In the October 7, 2016, Utah State Board of Education (Board) meeting, the Board approved an audit of the Comprehensive Administration of Credentials for Teachers in Utah Schools (CACTUS) system, directing Internal Audit (IA) to consider the accuracy and reliability of the CACTUS data. CACTUS data is a significant component in many reports and in several funding calculations, as well as in tracking educator data critical for student performance and safety. IA initiated this audit in March 2018.

Scope

This audit generally focused on data accuracy and reliability of records kept for educators with current assignments. IA reviewed key data fields in CACTUS using a snapshot of CACTUS data as of April 11, 2018, provided by the Utah State Board of Education (USBE) Information Technology Section. IA also reviewed CACTUS data related to Board decisions on Utah Professional Practices Advisory Commission (UPPAC) investigations of allegations from January 1, 2013, through December 31, 2017.

Methodology

To provide assurance regarding the accuracy and reliability of CACTUS data, IA first identified relevant rules, policies and procedures, and practices; IA also considered best practice guidance related to data accuracy and reliability. IA then identified the total population of LEAs and educators. Given resource constraints, random samples were determined. Per auditor judgment, the results of these samples are sufficient to draw reasonable conclusions regarding data accuracy and reliability; results were not projected to all data. IA then verified CACTUS data using source documentation such as contracts, applications, notification logs, and meeting minutes. Source documentation is maintained at the USBE, local education agencies (LEAs), and/or with institutions of higher education.

Background

Utah Code, Annotated 53G-6-201 Board Licensure, gives the Board authority to issue educator licenses. Utah Administrative Code (i.e., Board rule) R277 provides additional guidance on the licensing process. The CACTUS system was developed by the USBE in approximately 1984 to facilitate the licensing process, monitor license statuses, and track action on licenses.

As of July 1, 2018, the CACTUS system had 193,762 educator records. Of these records 31,556 (16%) are teachers who are active (i.e., currently have assignments). The current record retention schedule requires educator licensing records to be kept for 75 years; therefore, non-

current educator licensing records have not been removed from the database. With the inclusion of new educator records, for the past 5 years the database has grown an average of 3% or 6,191 records per year.

II. Findings and Recommendations

Findings were identified as noted below and are prioritized by significance as determined by IA. Findings are presented using the five finding elements, which are:

1. **Criteria:** What should happen (e.g., code, statute, best practices)?
2. **Condition:** What is happening?
3. **Cause:** Why did the Condition happen?
4. **Effect:** What is the impact? Why should you care?
5. **Recommendations:** What action could be considered to resolve the Cause?

A. Data Accuracy

Criteria

General Data Management Criteria

USBE Policy Number: Board – 3006, USBE Data Governance Plan states:

> 1. Purpose: Data governance is an organizational approach to data and information management that is formalized as a set of policies and procedures that encompass the full life cycle of data; from acquisition, to use, to disposal ...

> 7.1 Record Retention and Expungement: Records retention and expungement policies promote efficient management of records, preservation of records of enduring value, quality access to public information, and data privacy.

> 8.1.2 Data Requirements and Definitions: Clear and consistent data requirements and definitions are necessary for good data quality. On the data collection side, the USBE communicates data requirements and definitions to LEAs through the Data Clearinghouse Update Transactions documentation ... and the same guidance is given to the appropriate LEA program directors.

Government Auditing Standards (Yellowbook 2018) Application Guidance: Information Systems Controls Considerations 8.63 states:

Information systems controls consist of those controls that depend on information systems processing and include general controls, application controls, and user controls.

a. Information systems general controls are the policies and procedures that apply to all or a large segment of an entity's information systems … General controls include security management, logical and physical access, configuration management, segregation of duties, and contingency planning.

b. Application controls are those controls that are incorporated directly into computer applications to help ensure the validity, completeness, accuracy, and confidentiality of transactions and data during application processing. Application controls include controls over input, processing, output …

c. User controls are portions of controls that are performed by people interacting with information systems controls. A user control is an information systems control if its effectiveness depends on information systems processing or the reliability (accuracy, completeness, and validity) of information processed by information systems.

Specific CACTUS Data Criteria

USBE CACTUS Training Materials state:

The accuracy of all of USBE's federal and state reports hinges on the accuracy of the data submitted by our LEAs.

The training materials further include guidance regarding input of contact hours, contract time, full-time equivalency of educators, assignments, salary, personal information, etc., and guidance on who is responsible for the input and/or update of CACTUS data.

Utah Admin. Code R277-484-3(2, Table 1) Deadlines for Data Submission states:

(2) An LEA shall by 5:00 p.m. Mountain Standard Time on the date specified in Table 1 submit reports in the format specified by the Superintendent.
TABLE 1 – Reporting Deadlines
CACTUS – Final Update – Current Year   June 29
CACTUS – Midyear Update – Current Year   November 15

Utah Admin. Code R277-512-7(3) Licensing Records states:

A license applicant or license holder shall update personal CACTUS information in a timely manner.

Utah Admin. Code R277-211-3(2)(c) Review of Notification of Alleged Educator Misconduct states:

UPPAC shall place a flag on the educator's CACTUS file after sending the notices as provided in this rule.

Additionally, each time a UPPAC investigation is conducted and an action is made by the Board, the Utah Admin. Code sections listed below state:

> … the Executive Secretary shall update CACTUS to reflect the action.

- R277-211-6(8)(b) Proposed Consent to Discipline
- R277-211-8(3)(c) Disciplinary Letters and Dismissal
- R277-212-13(8)(c) Hearing Report
- R277-213-3(18)(a) Reinstatement Hearing Procedures
- R277-216-3(2)(b) Review of Petition to Surrender

Condition

Active Licensed Educators as of April 11, 2018

Of 31,556 active licensed educators included in CACTUS:

A. 203 educators in 17 LEAs were tested for consistency with school year 2017-2018 contracts, schedules, and payroll records. We noted:
    1. 41 (20%) had an incorrect value for either contact hours or contract days in CACTUS. This statistic also includes educators who did not have a specified hour or day value in their contract, or for whom no contract was on file with the LEA.
    2. 37 (18%) had an incorrect value for FTE in CACTUS.
    3. 69 (34%) had an incorrect salary value in CACTUS
    4. 21 (10%) had an assignment in CACTUS that did not appear to match the master schedule of courses taught.
B. 125 educators contact information was reviewed. We noted 90 educators (72%) did not have correct contact information within CACTUS as compared to the contact information on file with the LEA.

Active Licensed Educators at the USBE as of May 11, 2018

Of 116 USBE employees included in CACTUS (i.e., with an educator license, active or expired):

C. One was incorrectly assigned to an LEA location rather than the USBE.
D. 15 (13%) employees with an active license were not assigned to one of the two USBE course codes "USOE [USBE] Curriculum Specialist" or "USOE [USBE] Professional Personnel".

Licensed Educators Investigated by UPPAC between 2013 and 2017

E. Of 199 educator investigations, two (1%) did not have an inquiry date listed in the BCI/Background tab in CACTUS, even though an investigation had taken place.
F. Of 194 educator investigations (199 less five open investigations), four (2%) did not have resolution dates listed in the Resolution Date field in the BCI/Background tab in CACTUS.

G. Of 193 educator investigations (194 less one case that pre-dated the requirement for Board approval) 17 (9%) did not have resolution dates listed in CACTUS that matched the Board Meeting minutes.

Cause

Multiple factors contribute to the data inaccuracies noted above including:

Design of Policies and Procedures:

In general, there is a lack of direction and resources to prioritize formal, comprehensive policy and procedure development. Specifically, current materials lack:

- Clarity regarding data field definitions (e.g., contact hours, contract days, salary, FTE, assignments).
  o For example, CACTUS training materials include guidance regarding salary data; however, LEAs are interpreting the guidance differently (e.g., some include legislative salary adjustments in the base salary and some do not, some include benefits and some do not, some have processes in place to verify data inputs and some do not).
- Internal control procedures at both the state and local level, for all CACTUS user areas (e.g., USBE Licensing, UPPAC, USBE HR, LEAs).
  o Documentation standards for various license and endorsement types are inconsistent. See **Section II.B Records Retention** below.
  o Utah Admin Code R277-512-4 Audits includes a required monitoring process for online educator licensing transactions (e.g., renewals, license modifications). Of 66 online transactions monitored for the month of March 2018, we noted no errors with the process. However, a monitoring process for non-online licensing transactions (e.g., alternative licenses [ARL, APT], endorsements) has not been developed or implemented.
- General, application and user controls within and surrounding the CACTUS system.

Implementation of Policies and Procedures:

- Training provided by the USBE may not be sufficient (e.g., comprehensive enough given the deficiencies identified with the design of policies noted above or frequent enough) for CACTUS administrators or other users, particularly considering turnover at the USBE (an average of 21% for 2016 -2018) and at LEAs as indicated by LEA staff during this audit.
  o Though CACTUS training materials are available on the USBE website, and USBE staff are available by phone and email, in-person trainings were limited to four sessions in one month during 2017-2018.

Operating Effectiveness of Policies and Procedures Design and Implementation:

- Monitoring of data accuracy and reliability, both at the state and local level, is insufficient.

- The USBE has a practice to review changes by USBE staff to the CACTUS system (i.e., Modification [Mod] Log Review). However, the current review practice is not sufficient as it is inconsistent and infrequent (i.e., done as time permits and the last review was December 2016), is based on undefined or unprioritized criteria, and includes a questionable reporting structure for the reviewer (i.e., staff reviews supervisor's work and then reports to that supervisor).
- As noted in the Design of Policies and Procedures Section above, there is no monitoring of non-online educator transactions.

Effect

As noted in **Section I. Objective**, CACTUS data is an important component in calculating funding, developing reports, and tracking educator data. Therefore, inaccurate and unreliable data, as noted above, may jeopardize:

- Student safety
- Student performance and opportunity
- Educators' professional reputations
- Public education funding
- Public trust
- Policy-making

One specific example of a potential effect related to **Condition C**, above, is as follows:

Minimum School Program (MSP) funding involves an allocation for Professional Staff Cost (ProStaff) based on educator data in CACTUS. An LEA failed to meet the final reporting deadline and an educator was not unassigned (i.e., terminated) in a timely manner. Therefore, using fiscal year 2019 legislative estimate figures, the specific LEA may have been overpaid approximately $3,800 in ProStaff funds.

In short, this identifies a potential financial reward or incentive for LEAs to maintain inaccurate and/or untimely records.

Recommendations

We recommend the USBE:

1. Prioritize a system process review and risk assessment to determine the necessity and priority of information system general controls, application controls, and user controls (see definitions in the **Criteria Section** above).
2. Based on the risk assessment, the USBE should request, if necessary, and prioritize resources for the design of formal, comprehensive policies and procedures that establish clear roles and responsibilities (e.g., USBE Licensing, UPPAC, USBE HR, LEAs), detail

processes or procedures (including record retention, see **Section II.B** below), and mitigate risks.

3. The USBE should then ensure the policies and procedures are accessible and are the basis for training all applicable staff at the state and local level on a regular basis.

4. Finally, the USBE should monitor compliance with the policies and procedures to ensure the performance outcomes are meeting established objectives of the system.

Included below are additional, more specific, recommendations by accountability area for consideration:

Design of Policies and Procedures

- Consider the purpose of collecting data for each data field (e.g., salary, FTE) and, if data collection is necessary, determine which USBE system should house the data.
  - For example, if salary information is a necessary field, consider if it should be included in a licensing system or a financial system.
- Based on data collected, consider system user roles and responsibilities at both the USBE and LEAs, including appropriate separation of duties.
  - For example, LEA Business Administrators/Managers don't currently have system access; however, it may be relevant to their job tasks or to overseeing a strong internal control environment (i.e., verifying data inputs) to have a level of system access.
  - Another example would be to ensure individuals who review or monitor system use report to an appropriate supervisory level and that there are appropriate separation of duties between data owners and data administrators.
- USBE and LEA policies and procedures must be comprehensively designed to include assurance that employees are entered, and assignments are terminated, in CACTUS in a timely manner.
  - Board Rule and/or USBE policies and procedures must be comprehensively designed to provide LEAs with guidance on required timetables for entering, updating, or terminating records/licenses and to outline the process of assigning USBE staff with educator licenses to the USBE.
- USBE and LEA policies and procedures must be comprehensively designed to include consistent, comprehensive monitoring processes, the results of which should be consistently reported to an appropriate level of management.
  - Specifically, formalizing the Mod Log Review and revising R277-512-4 Audits to include non-online transactions should be considered.

Implementation of Policies and Procedures

- As noted by the USBE Licensing staff, subject to resources (time, staffing, funds), additional in-person training, based on policies and procedures, could be provided at the beginning of the school year and online trainings or webinars could also be offered throughout the year.

<u>Operating Effectiveness of Policies and Procedures Design and Implementation</u>

- The USBE should consider building internal controls (e.g., validations, edit checks, exception reporting) into the CACTUS system to help monitor compliance and performance, which would help maximize available resources. Additional system observations were noted during the audit and have been provided to management under separate memo.

B. Records Retention

Criteria
USBE Teaching and Learning Records Management Schedule; Series: 6951; Teacher Licensing Records states:

> DESCRIPTION: The Board of Education is designated to license all educators for the state (Utah Code 53A-6-104 (2003)). Records document the training and experience of teachers who have been licensed to teach in the state, including previous certifications, educational degrees, and teaching positions.

> RETENTION: Retain for 75 year(s)

> FORMAT MANAGEMENT: Paper: Retain in Office until scanned into an optical disk system and then transfer to State Records Center. Retain in State Records Center for 35 years and then destroy.

Condition
Of 33 educators reviewed, the USBE did not have the required documentation on file for 13 (39%). Moreover, while the USBE retained hardcopy documentation for 10 educators who were reviewed, the most recent action on the records ranged from nine months to greater than two years; therefore, as best practice we expected these records would have been scanned at the time of this audit.

Cause
Multiple factors contribute to the lack of documentation, including:

Lack of management action to design and implement formal, comprehensive internal USBE policies and procedures to ensure compliance with Record Retention Schedules published by the Utah Division of Archives and Records Service.

- A result of the above is that there is a lack of prioritization of tasks for staff resulting in inconsistent documentation standards and retention, including:
  o Received documentation is scanned only as time allows.

- Standards applied to electronic (online) documentation are different than standards applied to paper documentation. Specifically, universities in Utah that are recommending licensure are not required to send the USBE any documentation related to the issued licenses and the USBE is not currently doing site visits to review documentation and/or licensing recommendation processes; however, they do review the teacher preparation programs on a 7-year rotating basis.

Effect

Lack of assurance that educator license status, area, level, and endorsements as noted in CACTUS are accurate and reliable, which could result in unqualified or underqualified educators being assigned to courses (see **Section III. Observations** below), compromised student proficiency, and/or waste or abuse of funds for educators.

Recommendations

We recommend the USBE consider their Licensing oversight responsibility and perform a capacity study to determine resource needs. As part of the study the USBE should review the Records Retention Schedule for Teacher Licensing and 1) update it as necessary for current practices related to the documentation being collected and 2) consider required resources to maintain records in compliance with the schedule.

Principles related to design of formal, comprehensive policies and procedures, as well as implementation of those policies and procedures, and monitoring operating effectiveness of the policies and procedures should also be employed.

III. Observation

Utah Admin. Code R277-520-3 Required Licensing outlines requirements for educator licensure and potential remedies if licensing requirements are not met. The CACTUS system includes a report that identifies underqualified educators. We reviewed the report for educators at 17 schools and noted 88 educators (12%) were classified as underqualified; we verified with the LEAs that the classification of underqualified was correct. The Board should consider if additional action is needed related to this information.

IV. Management Response

See Appendix A.

October 19, 2018

Ms. Deborah Davis
USBE Internal Audit Director
250 E 500 S
PO Box 144200
Salt Lake City, UT 84114-4200

Dear Director Davis:

USBE management appreciates the close collaboration between USBE Internal Audit staff and USBE program and operations staff to arrive at the findings and recommendations in the CACTUS Data Accuracy and Reliability Audit (18-04). We concur with the findings and recommendations of the audit with additional input for consideration by our Board.

We are experiencing similar findings and recommendations from other audits. For example, the pending federal audit on our graduation rate calculations and controls by the Department of Education's Office of the Inspector General (OIG). What is highly apparent from this and the OIG audits, among others, is that we have a systemic problem that exists in all our data collection policies, procedures, controls, and/or systems. In the past, this agency didn't include the necessary controls in our system designs and implementations. We are establishing an information technology and data and statistics infrastructure and system that will resolve these systemic issues. The designed infrastructure and systems within the infrastructure is called the Utah Schools Information Management System (USIMS).

As you know, the beginning steps of an infrastructure of system redesign is to clearly define data elements, user permissions and business rules and to document all of this in a set of system and infrastructure specifications. These infrastructure/system specifications are the foundation of the developer's work and are used to eventually provide a comprehensive training tool that describes how to use the system, what the data is used for, and how it is entered. As it relates to this audit, the auditor found significant issues (such as clarity regarding field definitions) and less significant or low risk issues like address information on educators. USBE staff disagree with the finding that the field definitions are not clear. Neither the auditor nor the employee is necessarily wrong. It is a matter of acceptable risk to the accuracy and reliability of the data.

Therefore, as part of our infrastructure and system redesign process, we will develop a risk assessment for the data elements and identify system controls that both validate data when entered and identify anomalies and create exception reports. This will ensure adherence to the definitions and standards of all data elements whether they are, as in the case of this audit, FTE or address related. This will allow for perpetual improvement to further ensure accuracy and reliability.

To have effective internal controls we will develop a training and monitoring plan that includes USBE staff periodically following up on these exception reports, and sampling LEA's supporting documentation to see if the data elements were entered accurately. This is all done on a risk basis as well. Once the risk assessment is complete, USBE staff may require additional resources to conduct these training and monitoring activities depending on the frequency and volume of monitoring activities.

Your audit is extremely beneficial to the USBE and its responsibility to govern public education and to their staff to support their direction. More importantly you have identified opportunities for us to improve on our systems in the interest of the educator and individual student. Effective governance and support to our educators and students relies on accurate and reliable data. We will ensure that our data is accurate and reliable within CACTUS by way of the infrastructure and system redesign process currently under way.

Deputy Superintendent of Operations

cc: Utah State Board of Education
       Sydnee Dickson, State Superintendent of Public Instruction