



UTAH STATE BOARD OF EDUCATION

Internal Audit Department

Audit Brief

USTAR Audit (18-06)

Background, Scope, Objective, and Methodology

The Utah Science Technology and Research (USTAR) Initiative Centers Program began in 2008, with the Legislature appropriating over \$6 million in one-time funds annually to the Utah State Board of Education (USBE); ongoing funds of \$6.2 million have been appropriated annually since then. At least 95 percent of the appropriation must be spent on qualified math and science teachers, the remaining 5 percent may be used to fund “math and science field trips, textbooks, and supplies.”

On January 3, 2018, the USBE approved an audit of the USTAR program in their monthly Board meeting. And on May 16, 2018, the USTAR audit was prioritized, directing the Internal Audit Department (IA) to analyze the operational effectiveness of the USTAR program.

The audit covers program compliance from school years 2014-2015 (2015) to 2016-2017 (2017), the most recent three-year grant cycle awarded by the USBE that has been completed. Data analyses focused primarily on the same period; however, where relevant, data were used from as far back as 2011 to identify performance trends.

Findings

Based on our review, IA identified nine findings which were separated into two categories, 1) State Oversight and Compliance, and 2) State and LEA Compliance. In general, we identified a reoccurring lack of internal control activities (e.g., formal policies and procedures, training, reviews) to ensure the USTAR program was compliant with applicable regulations (Utah Code Ann. § 53F-2-505 and Utah Admin. Code R277-492) and performed to meet expectations. Limited internal controls led to the use of non-qualified math and science teachers, over \$100,000 in questioned costs in 2017, and other questionable practices.

Recommendations

In consideration of the USTAR financial, compliance, and performance data within this report, and otherwise available information, decision-makers should consider whether the current USTAR program is meeting statutory intent and is the best use of limited state resources. At a minimum, a formal, comprehensive internal control and monitoring program should be designed, implemented, and monitored for operational effectiveness. This would ensure financial fidelity, regulatory compliance, and

program performance consistent with the requirements and intent of law and to the benefit of Utah students.

Data Analysis

The analyses within the report were based upon data provided by the USBE and LEAs, much of which was self-reported and/or unaudited. While the analyses attempted to isolate USTAR as the determining variable, multiple other variables may impact the data because of the complexity of public education. Within the constraints of time, every effort was made to ensure accurate and reliable analyses; however, decisions based on these analyses should be made in consideration of all other available information, recognizing the limitations of the data and the assumptions used.

IA made the following observations:

- The most often cited USTAR goals were:
 - Teacher retention through increased compensation,
 - Increased student opportunities (i.e., before school, after school, summer, remedial, and advanced programs), and
 - Improved test scores.
- The least cited USTAR goals were:
 - Earlier high school graduation,
 - Creation of STEM centers, and
 - Coordination of high school and post-secondary math and science education.
- There appears to be insufficient evidence to conclude that the USTAR program has led to greater retention of math and science educators.
- Of the 17 LEAs reviewed, 100% offered additional student opportunities.
- Non-USTAR LEAs SAGE testing rates of change in math and science were better than USTAR LEAs; however, they still lagged behind USTAR LEAs weighted average (WAVG) proficiency. Similar observations were made within ACT scores as well.
- In 2015 and 2016, students in grades 9-12 received more math and science credits in USTAR LEAs than Non-USTAR LEAs; however, in 2017, Non-USTAR LEAs' students surpassed students in USTAR LEAs.
- 54% of WAVG class sizes in math and science decreased in USTAR LEAs; however, 42% of all reductions took place in class sizes of 20 students or less.
- It took an average 4.75 years to fully expend the \$6.2 million appropriations awarded annually between 2011 and 2014.

Management Response

The USBE looks forward to the opportunity to improve the program and ensure the benefits of the program are realized.



Utah State Board of Education
Internal Audit Department

**Utah Science Technology and Research
(USTAR) Initiative Centers Program Audit**

18-06

Report No. 18-06

**Utah Science Technology and Research
(USTAR) Initiative Centers Program**

December 6, 2018

Audit Performed by:

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December 6, 2018

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

Dear Chair Huntsman,

On January 3, 2018, 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 Utah Science Technology and Research (USTAR) Initiative Centers Program. As directed by the Board, the purpose of the audit is to identify the operational effectiveness of the USTAR program and to ensure program fidelity to applicable regulations. IA identified local education agencies (LEAs) for review, obtained relevant documentation from staff of the Utah State Board of Education administration (USB E) and LEAs with their associated schools, and performed the following procedures:

1. Gained an understanding, through research and inquiry, of applicable state code, administrative code, and USB E policy
2. Reviewed and analyzed the USB E's internal control environment
3. Analyzed the LEAs' reported USTAR data
4. Conducted a data analysis of the USTAR program

We have identified the procedures performed during the audit above 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* and Utah Administrative Code.

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

Chair Huntsman
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This report is intended for the information and use of the Utah State Board of Education as well as the governing boards and administration of LEAs. If you have any questions, please contact me at (801) 538-7639.

Sincerely,

A handwritten signature in cursive script, appearing to read "Deborah Davis".

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
Scott Jones, Deputy Superintendent of Operations, Utah State Board of Education
Patty Norman, Deputy Superintendent of Student Achievement, Utah State Board of Education

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I. Background, Scope, Objective and Methodology

Background

In 2008, per Utah Code Ann. § 53F-2-505 (1)(a), the Legislature approved a one-time appropriation of \$6.9 million to incentivize local education boards to adopt programs resulting in greater human resource and capital facilities' efficiency, known as the Utah Science Technology and Research (USTAR) Initiative Centers Program.

The \$6.9 million was restricted to providing "full year teacher contracts, part-time teacher contract extensions, or a combination of both, for math and science teachers," with up to 5% available for "math and science field trips, textbooks, and supplies (Utah Code Ann. § 53F-2-505 (6)(a)-(b))." Since the initial one-time funding in 2008, the Utah State Board of Education (USBE) has received \$6.2 million in one-time funding every year. The USBE primarily awards the funds as a three-year grant to interested local education agencies (LEAs) through a Request for Proposal (RFP) process.

The potential benefits identified by the Legislature and the Utah State Board of Education (Board) included teacher retention and attraction, additional opportunities for students, improvement in student test scores, along with many other benefits. Since the inception of the USTAR program in 2008, the USBE Teaching and Learning Section has collected annual surveys; however, no in-depth review has been done to measure the effectiveness of the USTAR program.

In the January 3, 2018, Board meeting, the Board approved an audit of the USTAR Program.

Scope

On May 16, 2018, the USTAR audit was prioritized with the Board directing the Internal Audit Department (IA) to identify the operational effectiveness of the USTAR program in preparation to report to the Legislature. The audit covers program compliance from school years 2014-2015 (2015) to 2016-2017 (2017), the last three-year grant cycle awarded by the USBE. Data analyses focused primarily on the same period; however, where relevant, it dates back as far as 2011 to identify performance trends.

Objective

Verify compliance with applicable laws, rules, and regulations and analyze the performance of the USTAR program to inform policy and rulemaking by the Board.

Methodology

We identified 39 local education agencies (LEAs) who received USTAR funding in the 2015 to 2017 grant award cycle. Where efficient, the total population was reviewed; however, samples

and/or selections were used, when necessary, to remain efficient while maintaining reliability. Specific context related to individual findings and analysis are provided throughout the audit.

II. Findings

Identified findings were placed in two categories: 1) State Oversight and Compliance, and 2) LEA Compliance. Within each category, information is prioritized by significance. Findings are presented using 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. **Recommendation:** What action could be considered to resolve the Cause?

State Oversight and Compliance

a. Internal Control and Monitoring

Criteria: FIACCT 20-00.00 Internal Control Program, Responsibilities of State Agency Management states:

Management of each state agency is responsible for establishing, monitoring, and maintaining internal control.

Utah Admin. Code R277-114-3(A) State Superintendent Responsibilities (effective June 8, 2015 – February 6, 2017) states:

Program Monitoring

- (1) For each Program, the State Superintendent shall design and implement a consistent monitoring program that includes standards for both Program outcomes and Program financial compliance.
- (2) The State Superintendent shall notify all Recipients of the initiation of or changes to any monitoring program.
- (3) The State Superintendent shall monitor compliance with Program outcomes, reporting requirements, and financial compliance.

Utah Admin. Code R277-492-2 (A) Authority and Purpose (effective October 8, 2013 – August 6, 2018) states:

...The USOE [USBE] shall provide statewide supervision of the program and budget...

Utah Admin. Code R277-492-6 Final Decision-making and Reporting Requirements (effective October 8, 2013 – August 6, 2018) states:

- (B) The USOE [USB E] may request additional information, data or budget information if annual reports or student assessments indicate that USTAR funding is being used ineffectively, for ineligible employees or inconsistently with the school district/charter school proposal or the intent of the law or this rule.
- (C) The USOE [USB E] may interrupt USTAR funding to school districts/charter schools that do not meet timelines required by this rule or that do not provide complete information or evaluations required under this rule.

Condition: The USB E has not established a USTAR internal control or monitoring program inclusive of adequate control activities (i.e., policy and procedures, communication, training) to ensure compliance and acceptable performance.

Cause: Lack of administrative oversight and priority to design formal, comprehensive policies and procedures to ensure a monitoring plan was established to support the USTAR program. Contributing to the lack of oversight are the facts that administrative funds have not been appropriated by the Legislature for this program and that this program has been under the supervision of several different program staff in addition to their other responsibilities.

Effect: Inconsistent implementation and enforcement of applicable regulations, specifically resulting in the following issues:

1. Ineffective use of funds and questionable performance of the USTAR program. See Data Analysis section.
2. Limited monitoring of the USTAR program by program staff resulting in minimal accountability and enforcement of remedies for non-compliant LEAs. See findings f.-i. for specific examples.
3. Indifference to and/or disregard for required Board approvals. See finding b. Board Review and Determination of Awards.
4. Inadequate collection and/or maintenance of records by program staff to ensure compliance with grant requirements (i.e., grant application submission dates, reimbursement requests [see finding c. Supporting Documentation for Reimbursements]).
5. Lack of adherence to specific dates mentioned in Utah Admin. Code R277-492 by program staff; dates have not been modified to better fit LEA planning timetables.
6. For fiscal year (FY) 2015, one of 10 (10%) USTAR applications awarded did not contain all the required components for an acceptable application according to the 2015 RFP application Section V. requirements.
7. The 2016-2017 grant application included the employee, parent, and student evaluation requirement; however, it was inadvertently removed in the 2017-2018 grant application, inconsistent with Utah Admin. Code R277-492-3(I) USTAR Proposal Criteria (effective October 9, 2013 – August 6, 2018).

Inconsistency in implementation and enforcement may potentially increase disregard for applicable rules and regulations, frustration on the part of the USBE staff and LEAs, and limit accountability, which minimizes the Board's ability to provide general control and supervision of public education.

Recommendation: The USBE's new grant management system may potentially mitigate some identified concerns (e.g., documentation of submission dates). Additional control activities (e.g., policies and procedures, training) should also be formally and comprehensively designed, implemented, and monitored for operating effectiveness.

Furthermore, modifications of R277-492 should be considered given the unfeasibility of adhering to required dates while ensuring adequate time for the LEAs to design and implement USTAR programs.

Finally, the USBE should consider requesting the Legislature either appropriate new, or allow for a percentage of existing, funds to be used for state and LEA administrative costs to administer the program and for an external evaluator to provide consistent feedback on program operations and performance.

b. Board Review and Determination of Awards

Criteria: Utah Admin. Code R277-492-1 Definitions (effective October 8, 2013 – August 6, 2018) states:

(B) "Board" means the Utah State Board of Education

(G) "USOE" means the Utah State Office of Education

Utah Admin. Code R277-492-4(H) Board/USOE Responsibilities (effective October 8, 2013 – August 6, 2018) states:

The Board shall review recommendations, make final decisions for funding and notify applicants that receive funding no later than July 31 annually.

Condition: USBE program staff recommendations for grant awards to LEAs are not provided to the Board for final approval.

Cause: Lack of formal, comprehensive program policies and procedures, which led to program staff interpreting the Utah Admin. Code to mean that "Board" referred to staff.

Effect: Board governance of funding and programs is minimized.

Recommendation: The USBE should either send recommendations to the Board for review and final approval, or the Board should modify Utah Admin. Code to reflect the current practice of staff approving final awards.

c. Supporting Documentation for Reimbursements

Criteria: FIACCT 05-00.00 General Payment Overview, Policy states:

- B. Departments and agencies must pre-audit payments for compliance with policies and procedures and must maintain proper FINET payment information and appropriate supporting documentation for all payments. Agencies must make that information available for post-audit by the Division of Finance and the State Auditor.

FIACCT 05-02.00 Proper Review and Approval of FINET Payments, Procedures states:

- B. Make sure the supporting documentation for each payment includes an original receipt/invoice detailing the name and address of the vendor, items purchased, unit and total cost, and date of purchase. If the purchase is made online or if the vendor does not provide a paper invoice, a printout of an electronic or faxed invoice or an electronic file of the invoice should be used. For purposes of this policy, 'original receipt/invoice' includes any hardcopy original, or a faxed or scanned receipt/invoice received directly from a vendor. When departments scan their supporting documents and then destroy those documents, departmental policy should be clear that only original receipts/invoices are scanned.

Condition: For the 2017 (Activity T997) USTAR program appropriation, in a sample of 20 LEAs, neither program nor financial staff had supporting documentation for 47 of 47 (100%) reimbursement requests totaling \$2.4 million.

Cause: Lack of formal, comprehensive rules, policies, and procedures, which led to lack of training for program and financial staff regarding the requirements for, and approval of, supporting documentation for reimbursement requests.

Effect: Potentially high risk of fraud, waste, or abuse of program funds, which may impact program operations and outcomes. In 2017, it led to questioned costs totaling \$107,570.38. See finding g. Use of Funds.

Recommendation: The USBE should design formal, comprehensive policies and procedures that include the documentation requirements for reimbursement requests and the related roles and responsibilities of program and financial staff in obtaining, reviewing and approving such requests. Furthermore, once policies and procedures have been designed, both USBE staff and LEAs should receive training to implement the regulations and ensure compliance, consistency, and performance.

d. State Charter School Board Involvement

Criteria: Utah Code Ann. § 53F-2-505(4) Utah Science Technology and Research Initiative Centers Program states:

The State Charter School Board shall:

- (a) solicit proposals from charter school governing boards that may be interested in participating in the USTAR Centers Program;
- (b) prioritize and consolidate the proposals into the equivalent of a single school district request; and
- (c) submit the consolidated request to the State Board of Education.

Condition: Charter schools are receiving USTAR grant awards and charter school employees are involved in the prioritization of awards; however, the State Charter School Board is not involved in the solicitation, prioritization, and/or consolidation of grant proposals for the USTAR program.

Cause: SCSB involvement seemed questionable given that a single charter school authorizer would oversee the solicitation, prioritization, and consolidation process of all charter school applications. Instead, charter schools were treated like all other LEAs.

Effect: Potential of not meeting the intent of the statute in how USTAR funds are awarded to school districts and charter schools.

Recommendation: The Board should consider working with the Legislature to clarify the SCSB's role in soliciting, prioritizing, and consolidating all charter school grant proposals, given the SCSB is not the authorizer of all charter schools.

e. USTAR Educator Attraction

Criteria: Utah Code Ann. § 53F-2-505(1)(b) Utah Science Technology and Research Initiative Centers Program states:

The potential benefits of the program include:

- (i) increased compensation for math and science teachers by providing opportunities for an expanded contract year which will enhance school districts' and charter schools' ability to attract and retain talented and highly qualified math and science teachers.

Utah Code Ann. § 53F-2-505(6)(a) Utah Science Technology and Research Initiative Centers Program states:

Except as provided in Subsection (6)(b), a school district or charter school may only use grant money to provide full year teacher contracts, part-time teacher contract extensions, or combinations of both, for math and science teachers.

Condition: LEAs are not able to use USTAR funds to attract (i.e., hire) new educators using USTAR funds.

Cause: Utah Admin. Code R277-492-2(B) Authority and Purpose (effective October 8, 2013 – August 6, 2018) states: "This rule establishes standards and procedures to direct [LEAs] to develop proposals that create USTAR Centers that will enhance their ability to retain

mathematics and science teachers...” Based on this verbiage, USBE staff has provided guidance to LEAs that USTAR funds are for retention, not attraction, of educators.

Effect: Inability for LEAs to potentially make progress within their science and math programs by attracting talented educators.

Recommendation: The Board should modify Utah Admin. Code R277-492-2(B) Authority and Purpose to include the ability to attract new educators consistent with Utah Code. Both USBE staff and LEAs should receive training on any Code modifications.

State and LEA Compliance

f. Licensed Math and Science Teachers

Criteria: Utah Code Ann. §53F-2-505(1)(b) Utah Science Technology and Research Initiative Centers Program states:

The potential benefits of the program include:

- (i) increased compensation for math and science teachers by providing opportunities for an expanded contract year which will enhance school districts’ and charter schools’ ability to attract and retain talented and highly qualified math and science teachers.

Utah Code Ann. § 53F-2-505(6)(a) Utah Science Technology and Research Initiative Centers Program states:

Except as provided in Subsection (6)(b), a school district or charter school may only use grant money to provide full year teacher contracts, part-time teacher contract extensions, or combinations of both, for math and science teachers.

Utah Admin. Code R277-492-1(D) Definitions (effective October 8, 2013 – August 6, 2018) states:

“Mathematics or science teacher” means a teacher with a secondary (7-12) mathematics or science teaching assignment.

Utah Admin. Code R277-492-3(D) USTAR Proposal Criteria (effective October 8, 2013 – August 6, 2018) states:

...Though various school employee groups may be necessary or desirable to achieve the purposes of the proposal, the proposal shall use USTAR grant funds only to pay for hours or days worked by science or mathematics teachers with valid, current Utah educator licenses.

Condition: In a sample of 20 LEAs that received USTAR funds during the 2015 grant cycle (2014-2015 to 2016-2017 school years), 10 (50%) funded at least one educator who was not a qualified science or math teacher.

Cause: Grants are awarded to LEAs based on their proposals, which may initially align with educator interest in the USTAR program. However, an educator's interest in the program may decline over the three-year grant award period, which may lead to LEAs utilizing available but unqualified educators to teach USTAR-related classes. A lack of both state and local administrative monitoring and oversight may also contribute to a lack of schools' understanding of the requirement to use licensed math and science teachers.

Effect: Potential decrease in the quality of classroom instruction, which may impact student and program performance.

Recommendation: LEAs and the USBE should design and implement policies and procedures to ensure USTAR funds are being used for qualified science and math teachers. Furthermore, the USBE should consider appropriate corrective action for non-compliance, consistent with Utah Admin. Code R277-492-6 (2)-(3) Final Decision-making and Reporting Requirements (effective August 7, 2018).

g. Use of Funds

Criteria: Utah Code Ann. § 53F-2-505(6) Utah Science Technology and Research Initiative Centers Program states:

- (a) Except as provided in Subsection (6)(b), a school district or charter school may only use grant money to provide full year teacher contracts, part-time teacher contract extensions, or combinations of both, for math and science teachers.
- (b) Up to 5% of the grant money may be used to fund math and science field trips, textbooks, and supplies.

FIACCT 05-02.00 Proper Review and Approval of FINET Payments, Procedures states:

- B. Make sure the supporting documentation for each payment includes an original receipt/invoice detailing the name and address of the vendor, items purchased, unit and total cost, and date of purchase...

Condition: In 2017, seven of 20 (35%) LEAs selected for review did not use funds for allowable costs or USTAR activities; resulting in questioned costs totaling \$107,570.38, as follows:

- Three (15%) LEAs, were reimbursed a total of \$18,747.70 for which the LEA had no supporting documentation,
- Three (15%) LEAs were reimbursed a total of \$17,567.35 for work done by non-math or -science teachers,

- Three (15%) LEAs exceeded the 5% limit for fieldtrips, textbooks, and supplies by a total of \$16,375.33, and
- One (5%) LEA, was reimbursed \$54,880.00, which was a duplicate payment. The USBE year-end reconciliation in 2018 identified that the award had been overspent by \$27,674 and took steps to address that concern by moving those expenditures and award dollars from 2017 to 2018. However, the adjustment did not identify that the full award had not been spent and should have been reduced by \$27,206. The accounting and award adjustments made to advance the \$27,674 to the LEA and allow them to keep the \$27,206 were not appropriate; therefore, we question the full \$54,880.

Cause: The USBE did not design formal, comprehensive rules, policies, and procedures for documentation standards for reimbursement requests; roles and responsibilities of program and fiscal staff were also neither formally nor comprehensively designed. Further, the USBE's reimbursement request form may have been confusing to USBE staff and LEAs.

Additionally, LEAs may not have designed and implemented formal, comprehensive internal controls to ensure they request and receive reimbursement of only legitimate USTAR funds, which includes reporting accounting discrepancies and returning funds.

Effect: Without policies and procedures, programs may not be implemented or monitored effectively or consistently. Also, other interested and qualified LEAs and their students may have been denied an opportunity to participate in the USTAR program. Additionally, the USBE had to use their limited resources to adjust records and correct errors and will need to further investigate and rectify the identified questioned costs. See also the effect of finding f. Licensed Math and Science Teachers.

Recommendation: The USBE should design and implement formal, comprehensive programmatic and fiscal policies and procedures, to mitigate against further questioned costs and ensure program participation and performance. Identified questioned costs should be refunded to the USBE, with USTAR awards being adjusted and reallocated accordingly.

h. Parent, Student, and Employee Evaluations

Criteria: Utah Admin. Code R277-492-3(I) USTAR Proposal Criteria, (effective October 8, 2013 – August 6, 2018) states:

The USTAR proposal shall include an evaluation component that provides opportunities for student, employee and parent participation in the assessment of the proposal's effectiveness. Proposals shall provide for evaluations of program effectiveness at least annually.

Utah Admin. Code R277-492-5(G) School District/Charter School Consolidated Proposal Responsibilities (effective October 8, 2013 – August 6, 2018) states:

Funded school districts and charter schools shall provide all required evaluations to the USOE [USBE] as identified by their proposals consistent with USOE [USBE] timelines.

Condition: Of a sample of 20 LEAs who received USTAR funding during the 2015 grant cycle, we identified the following number of LEAs that did not complete student, employee, and parent evaluations:

- 17 (85%) LEAs in 2014-2015
- 18 (90%) LEAs in 2015-2016
- 17 (85%) LEAs in 2016-2017

Cause: USBE program staff did not require the LEAs to provide the required evaluations. The USTAR RFP process may be insufficiently designed and implemented to identify if LEAs have considered or possess the administrative resources to manage and/or evaluate the USTAR program.

Effect: Limits the data available to monitor program performance, which may impact policy and funding determinations.

Recommendation: The USBE should consider the resources needed to manage and/or evaluate the USTAR program and ensure LEAs are aware of resource requirements. Further, the USBE should design and implement policies and procedures to ensure LEAs submit required evaluations, utilizing program remedies outlined in R277-492-6 and R277-114 for LEAs that do not submit accurate and timely data. LEAs should design formal, comprehensive policies and procedures to ensure student, employee, and parent evaluations are completed.

i. USTAR Annual Reports

Criteria: Utah Admin. Code R277-492-1(A) Definitions (effective October 8, 2013 – August 6, 2018) states:

“Annual report” means information and data identified under R277-492 provided by funding recipients to the USOE [USBE] annually by June 30 as a requirement for continued funding of the school or school district program.

Utah Admin. Code R277-492-5(H) School District/Charter School Consolidated Proposal Responsibilities (effective October 8, 2013 – August 6, 2018) states:

Funded school districts and charter schools shall provide information as requested by the USOE [USBE] during time periods identified in the proposals...

Utah Admin. Code R277-492-6 Final Decision-making and Reporting Requirements (effective October 8, 2013 – August 6, 2018) states:

(B) The USOE [USBE] may request additional information, data or budget information if annual reports or student assessments indicate that USTAR funding is being used

ineffectively, for ineligible employees or inconsistently with the school district/charter school proposal or the intent of the law or this rule.

- (C) The USOE [USB E] may interrupt USTAR funding to school districts/charter schools that do not meet timelines required by this rule or that do not provide complete information or evaluations required under this rule.

Condition: From 2015 to 2017, LEAs did not provide annual data, did not provide accurate data, and/or did not provide timely data to the USB E as follows:

1. Did not provide data:
 - a. Each year, from 2015 to 2017, at least one LEA (approximately 2% annually) who received USTAR funding did not complete the annual report survey.
2. Did not provide accurate data:
 - a. In a small selection of five of 49 (10%) LEAs who completed the annual survey from 2015 to 2017, and whose annual report data appeared highly unusual during our initial review, five of five (100%) agreed their submitted data contained errors.
3. Did not provide timely data:
 - a. Of the 48 LEAs who submitted a USTAR annual report in 2017:
 1. 32 (67%) submitted the report after the June 30 deadline required by Utah Admin. Code R277-492-1(A).
 2. 11 (23%) submitted the report after the July 14 deadline listed on the annual report form provided by the USB E.

Cause: Carelessness, both at the state- and LEA-level in data collection and reporting due to a lack of formal, comprehensive policies and procedures.

Effect: Limited data availability and quality to evaluate program performance, which may impact policy and funding determinations. Additionally, the USB E had to use limited resources to follow up or consider corrective action measures.

Recommendation: The USB E should design a formal internal control and monitoring program to ensure USB E program staff and LEA staff operate the USTAR program consistent with applicable regulations. Additionally, the USB E should ensure program remedies outlined in Utah Admin. Code R277-492-6 and R277-114-4 will be utilized for LEAs that do not submit accurate and timely data.

III. Data Analysis

Purpose and Methodology

The purpose of this data analysis section is to report on the performance of the USTAR program in achieving its stated objectives and potential benefits.

The analyses herein are based upon data provided by the USBE and LEAs, much of which is self-reported and/or unaudited. While the analyses attempted to isolate USTAR as the determining variable, given that public education is complex, multiple other variables may impact the data. Within the constraints of time, every effort was made to ensure accurate and reliable analyses; however, decisions based on these analyses should be made in consideration of all other available information and measures, recognizing the limitations of the data and the assumptions used.

The analyses below were generally conducted by considering LEAs who received USTAR funding consecutively from 2015 to 2017 to determine whether program performance was achieved over time, consistent with the purpose of awarding funds on a three-year grant.

Prior to conducting data analysis, we reviewed regulations to identify potential program goals; goals are outlined below with reference to related regulations:

- a) Increase compensation by expanding teachers' contract year; which will enhance the LEAs ability to attract and retain math and science teachers;
per: R277-492-3 (B)(3)), (53F-2-505(1)(b)(i).
- b) Use buildings more hours of the day or more days of the year outside of the regular school day; e.g., during previously unused hours before/after school or summer;
per: 53F-2-505(1)(b)(ii).
- c) Decrease class sizes by expanding the number of instructional opportunities in a year during the regular school day; e.g., "buy" the teacher prep period;
per: 53F-2-505(1)(b)(iii).
- d) Support opportunities for earlier high school graduation;
per: 53F-2-505(1)(b)(iv).
- e) Improve student college preparation;
per: 53F-2-505(1)(b)(v).
- f) Offer more remedial and advanced courses in math and science;
per: R277-492-3 (B)(5), (53F-2-505(1)(b)(vi).
- g) Coordinate high school and post-secondary math and science education;
per: 53F-2-505(1)(b)(vii).
- h) Create or improve science, technology, engineering, and math centers (STEM Centers);
per: 53F-2-505(1)(b)(viii).
- i) Improve student test scores; e.g. end of year test scores, SAGE;
per: R277-492-3 (B)(1).
- j) Satisfy specific academic goals, e.g. 75% of students attend college after graduation;
per: R277-492-3 (B)(2).

- k) Improve school climate; e.g. improve the quality or character of school life;
per: R277-492-3 (B)(4).
- l) Increase student enrollment in math and science courses;
per: R277-492-3 (B)(6).
- m) Opportunity for students to learn about math and science education or careers; teach about
career opportunities in the STEM field;
per: R277-492-3 (B)(7).

For the 2015 grant cycle (i.e., 2014-2015 to 2016-2017 school years), 39 LEAs submitted proposals for USTAR funding. **Figure A** shows the number of LEAs that selected the goal as part of their proposal.

Figure A
2014-2015 LEA Proposed Goals

Goal	a	b	c	d	e	f	g	h	i	j	k	l	m
Number of LEAs	30	23	8	1	15	30	4	3	24	8	9	15	15
Percent with Specific Goal	77%	59%	21%	3%	38%	77%	10%	8%	62%	21%	23%	38%	38%

The most often cited goals are:

- Teacher retention through compensation,
- Increased student opportunities (i.e., before school, after school, summer, remedial, and advanced programs), and
- Improved test scores.

The least cited goals are:

- Earlier high school graduation,
- Creation of STEM centers, and
- Coordination of high school and post-secondary math and science education.

While specific goals for the USTAR program are noted above, educator retention is also a general program purpose applicable to all LEAs that receive USTAR funding.

Available data for the general program purpose, most common goals, and other goals as time permitted, were analyzed to identify program performance and/or if the goal was achieved.

a. General Program Purpose/Goal “a” – Math and Science Educator Retention

Analysis I. – Within LEAs Receiving USTAR Funds:

We identified a random sample of 20 LEAs that received USTAR funding during the 2015 grant cycle. These LEAs retained 68% of all math and science educators between 2015 and 2017. In contrast, within these LEAs, only 56% of math and science educators who were paid with USTAR funds in 2015 remained within the USTAR program for 2016 and 2017, a decrease of 12%.

Of the 44% of USTAR educators who didn't remain in the USTAR program:

- 54% left (i.e., quit or weren't invited back) the USTAR program, and
- 46% left the LEA completely.

Of the 54% who left the USTAR program, 24% returned to the USTAR program by 2017, representing a 6% return to the USTAR program within at least two years. Even including the 6% increase, the USTAR retention rate would still only equal 62%, approximately 6% less than the overall math and science educator retention rate of 68%, in the same LEAs.

Analysis II. – Between LEAs Receiving USTAR Funds and LEAs not Receiving USTAR Funds:

We attempted to compare LEAs who received USTAR funding during the 2015 grant cycle to a control group of Non-USTAR LEAs; however, identifying a suitable control group proved difficult as some LEAs received USTAR funds on different grant cycles and the remaining LEAs did not have demographics similar to the LEAs who received USTAR funding during the 2015 grant cycle. This is reflected in **Figure B** below which shows the data used for this analysis.

Figure B

LEA Description	# of LEAs	Math & Science Educators	Other Educators
USTAR LEAs (Sample)	20	1114	3161
Non-USTAR LEAs	60*	543	2196

*All other traditional LEAs who did not receive USTAR Funds.

In order to compare the two groups and to minimize the number of unidentified variables (i.e., location, management) affecting retention at the LEA level, we compared an LEA's ability to retain their math and science educators to their ability to retain their non-math and -science educators. We then compared the results of USTAR LEAs to Non-USTAR LEAs as shown in **Figure C** below.

Figure C

LEA Description	Retention Difference Between Math & Science Educators and Non-Math & -Science Educators
USTAR LEAs (Sample)	+1%
Non-USTAR LEAs	-2%
Overall Difference	3%*

* Within the margin of error for a 95% confidence level.

In USTAR LEAs, the retention difference between math and science educators and non-math and -science educators was +1% (a little better retention of math and science educators than non-math and -science educators). Within Non-USTAR LEAs, the retention difference between math and science educators and all other educators was -2% (a little worse retention of math and science educators than non-math and -science educators). Therefore, the overall difference between USTAR LEAs and Non-USTAR LEAs retention was a statistically questionable 3%.

Analysis I. and II. Results

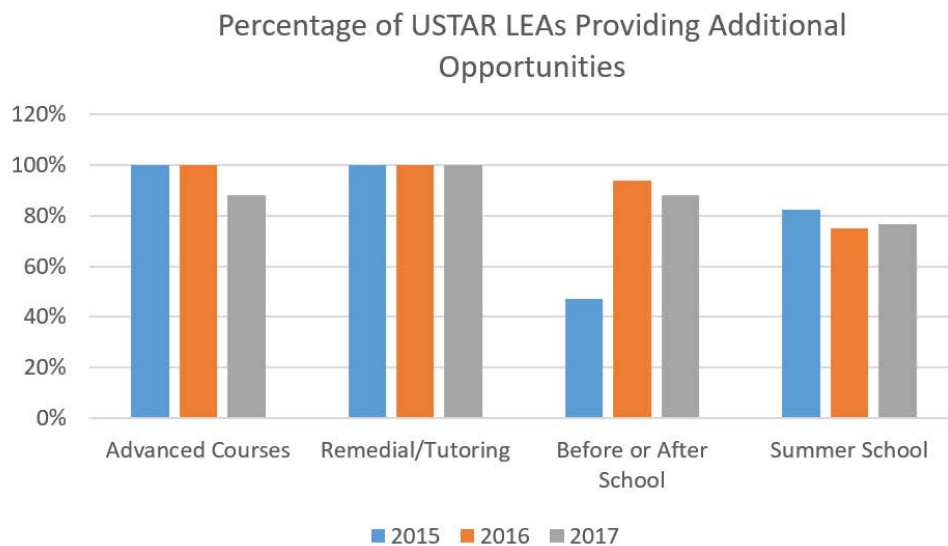
In consideration of the results from both Analysis I. and Analysis II., there appears to be insufficient evidence to conclude that the USTAR program has led to greater retention of math and science educators.

Furthermore, in discussing retention with administrators at the LEA and state level, it was expressed that the USTAR program potentially creates educator “burnout.” Although the USTAR program offers an opportunity for educators to work more hours at the same rate of pay, for an educator who already works full-time, more work for the same rate of pay, especially if it is during a preparation period, may not provide sufficient incentive to participate in the USTAR program long-term.

b. Goals “b” & “f” – Student Opportunities

To identify additional opportunities offered by USTAR LEAs, we reviewed the 2017 USTAR annual survey results. Of 17 LEAs, 100% offered additional student opportunities funded by the USTAR grant. **Figure D** identifies the type of opportunities being offered and the percentage of the 17 LEAs reviewed that offered them.

Figure D



Although 100% of the LEAs in our sample offered USTAR-provided student opportunities, the percentage of students who participated in the opportunities, as per the 2017 USTAR annual survey, varied as follows:

- 12% in Remedial Opportunities in Mathematics
- 6% in Remedial Opportunities in Science
- 7% in Accelerated Opportunities in Mathematics
- 5% in Accelerated Opportunities in Science
- 13% in On-Level Opportunities in Mathematics
- 7% in On-Level Opportunities in Science

Therefore, it appears USTAR grants have led to increased opportunities for students; however, the type of opportunities offered may be of limited interest or value to the majority of students.

c. Goal “i” – Improved Student Test Scores

To determine whether the USTAR program was increasing students’ success in year-end tests, we reviewed the LEAs’ secondary student average score on the Student Assessment of Growth and Excellence (SAGE) test.

Most LEAs experienced an increase in SAGE proficiency in both math and science from 2015 to 2017. To determine if USTAR may have been a variable, we identified and divided the 2014 to 2017 LEA population into three groups:

- 1) LEAs who received USTAR funds and specifically stated a goal of improving test scores (**USTAR w/Goal** – 24 LEAs),
- 2) LEAs who received USTAR funds (**USTAR** – 39 LEAs), and
- 3) All other LEAs (**Non-USTAR** – 52 LEAs).

Using 2014 as the baseline year and weighted average (WAVG) percentage proficiency, according to **Figures E** and **F**, USTAR w/Goal LEAs scored higher in both math and science on the SAGE test from 2014-2017 than USTAR LEAs and Non-USTAR LEAs. Likewise, USTAR LEAs scored higher than Non-USTAR LEAs in both math and science in all four years.

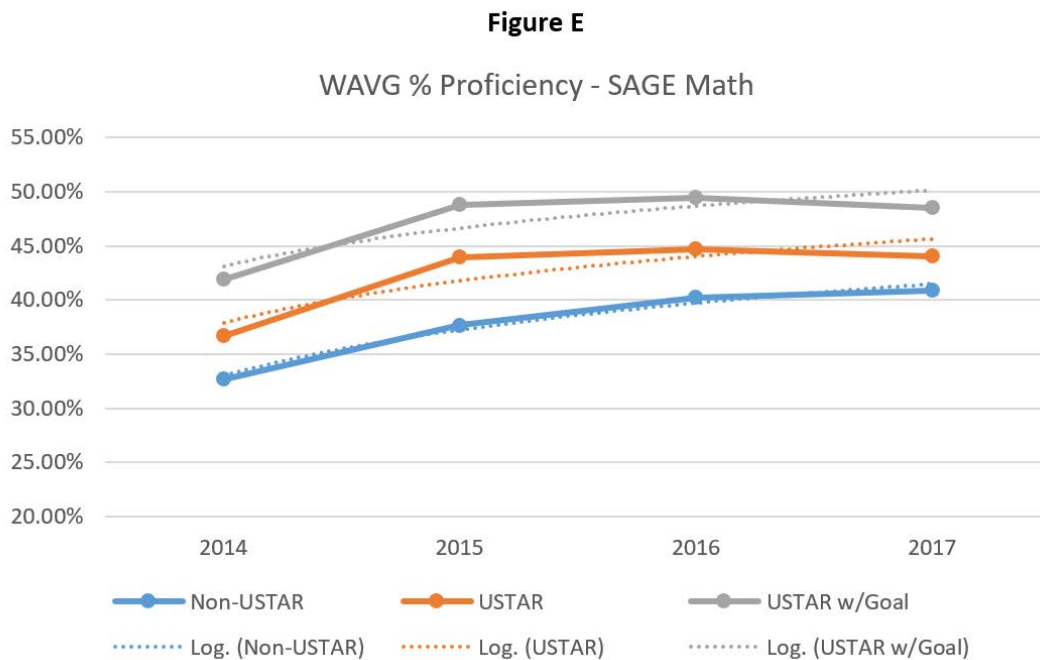
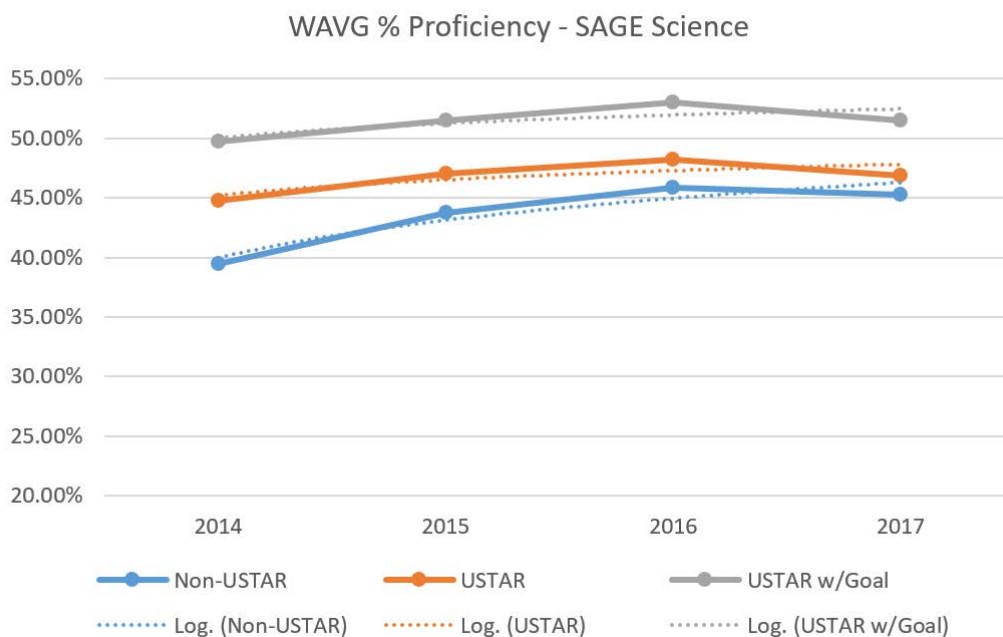
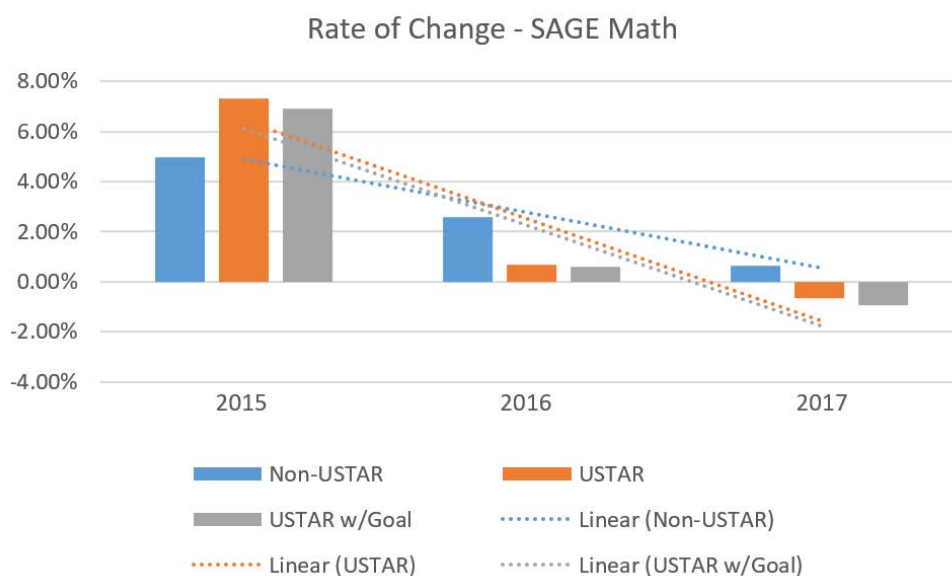


Figure F



However, **Figures E and F** also illustrate that although the two USTAR groups may have outperformed their counterparts, the gap was closing. According to **Figure G**, although Non-USTAR LEAs did not experience the rate of increase in math proficiency the other two groups experienced in 2015, they also did not experience the same rate of decline in subsequent years.

Figure G



Overall, as illustrated in **Figure H**, Non-USTAR LEAs experienced a greater change in proficiency than both other groups. USTAR w/Goal LEAs performed lowest with a 6.58% increase over the last three years.

Figure H
WAVG* Change in Proficiency, Mathematics

Category	Overall Increase from 2014-2017
Non-USTAR	8.18%
USTAR	7.36%
USTAR w/ Goal	6.58%

*WAVG = weighted average

Figure I illustrates a slightly different story in science than in math and **Figure J** illustrates that, similar to math, Non-USTAR LEAs experienced a greater change in proficiency in science than both other groups.

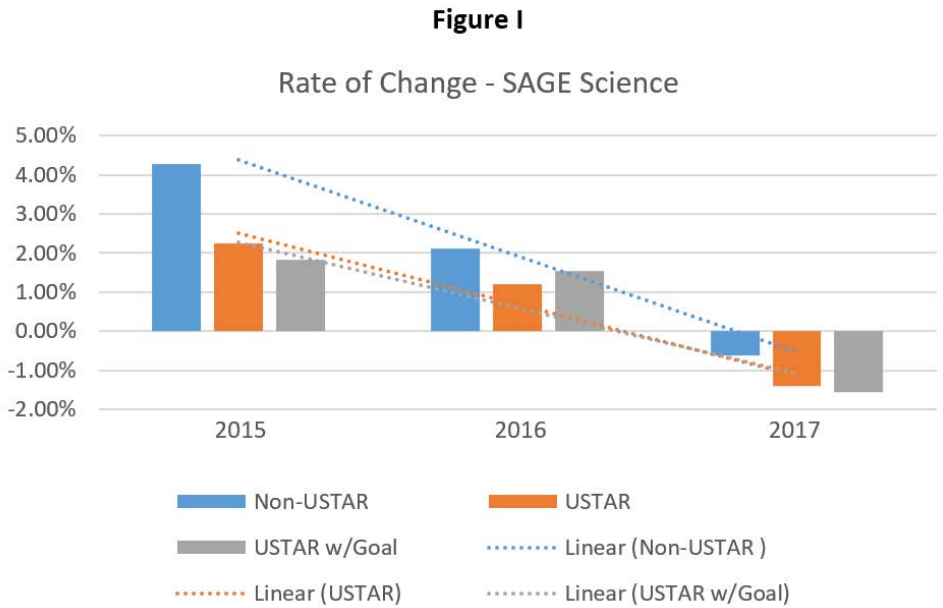


Figure J
WAVG Change in Proficiency, Science

Category	Overall Increase from 2014-2017
Non-USTAR	5.77%
USTAR	2.05%
USTAR w/ Goal	1.79%

In consideration of SAGE results, and specific to the 24 USTAR LEAs that selected the goal to improve student scores:

- 5 LEAs (21%) increased SAGE proficiency rating in mathematics in all three years,
- 2 LEAs (8%) increased SAGE proficiency in science in all three years, and
- 1 LEA (4%) increased SAGE proficiency in both subjects in all three years.

Potentially, 23 of 24 (96%) USTAR LEAs that stated a goal of improving test scores in math and science were unsuccessful in accomplishing the goal for all three years in both subjects if their purpose was to specifically increase test scores in SAGE, or if SAGE test scores were an accurate depiction of other student test results throughout the year.

d. Goal “e” – Improved Student College Preparation

To review improved college readiness, we analyzed ACT data from state-provided ACT tests in grade 11.

As illustrated in **Figures K** and **L**, per ACT results, on average students in USTAR LEAs have scored better (i.e., <1 point) than students in Non-USTAR LEAs in both math and science. USTAR LEAs and Non-UTAR LEAs slid less than one point on average on the ACT in math and science, and both groups have returned to within one or two tenths of a point from their 2014 average scores.

Figure K

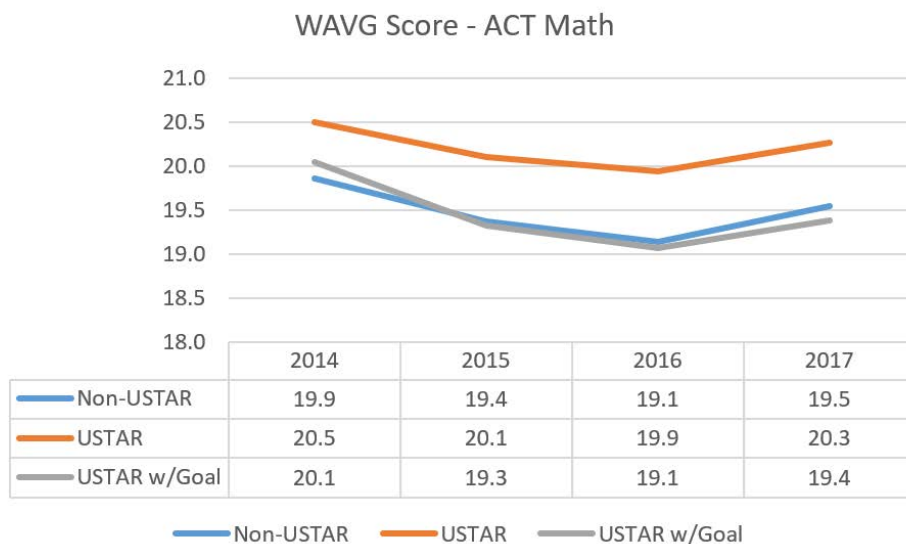
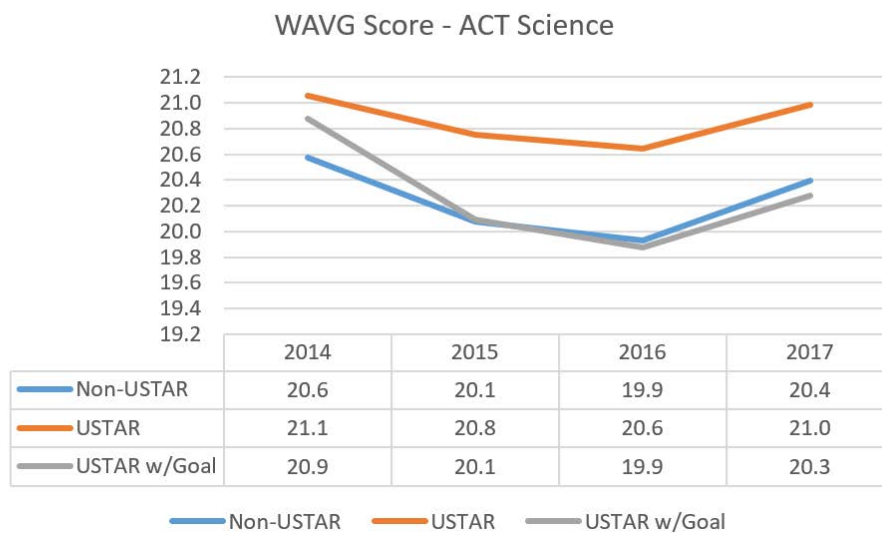


Figure L



In contrast, USTAR LEAs, with a goal to improve student college readiness, slid further in ACT math and science scores than the other groups and have shown the least improvement of all three groups. **Figures M and N** provide additional information regarding the rate of change in both math and science.

Figure M

Rate of Change - ACT Math

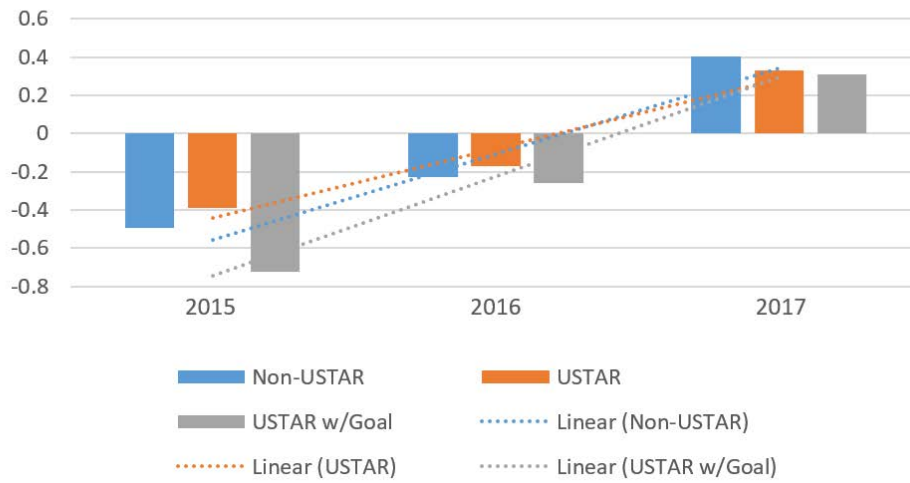
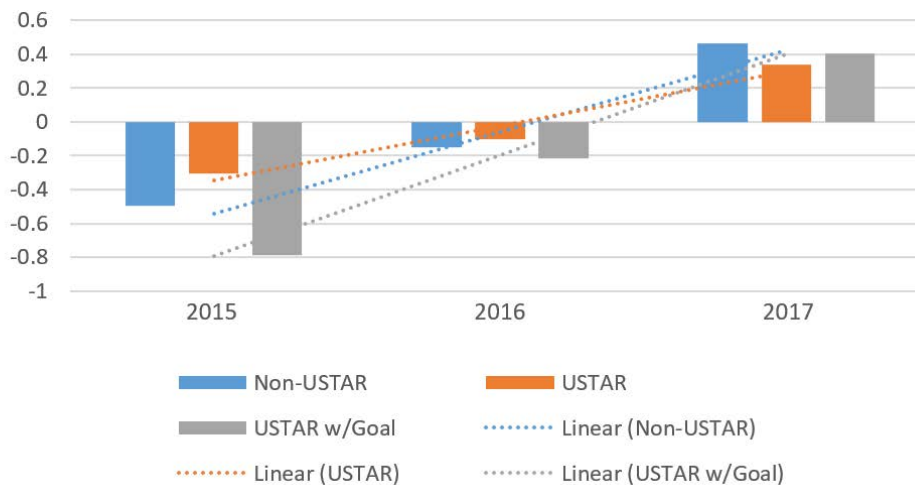


Figure N

Rate of Change - ACT Science



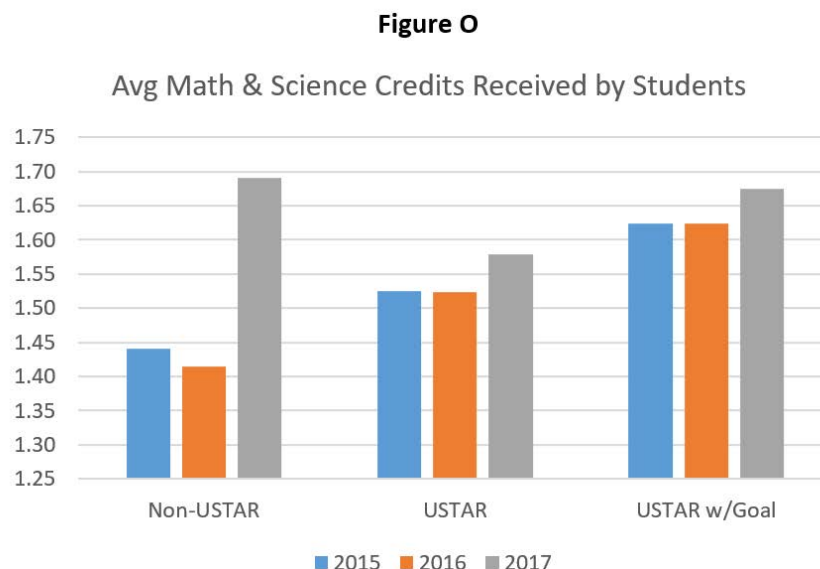
In consideration of ACT results and specific to the 14 USTAR LEAs that included a goal of improving student college readiness related to math and science (15 less one LEA that does not have grade 11 enrollment), with this goal:

- 0 LEAs (0%) increased college readiness for mathematics in all three years,
- 1 LEA (7%) increased college readiness in science in all three years, and
- 0 LEAs (0%) increased college readiness in both subjects in all three years.

Potentially, 14 of 14 (or 100%) USTAR LEAs that stated a goal of improving college readiness in math and science were unsuccessful in accomplishing the improvement for all three years in both subjects.

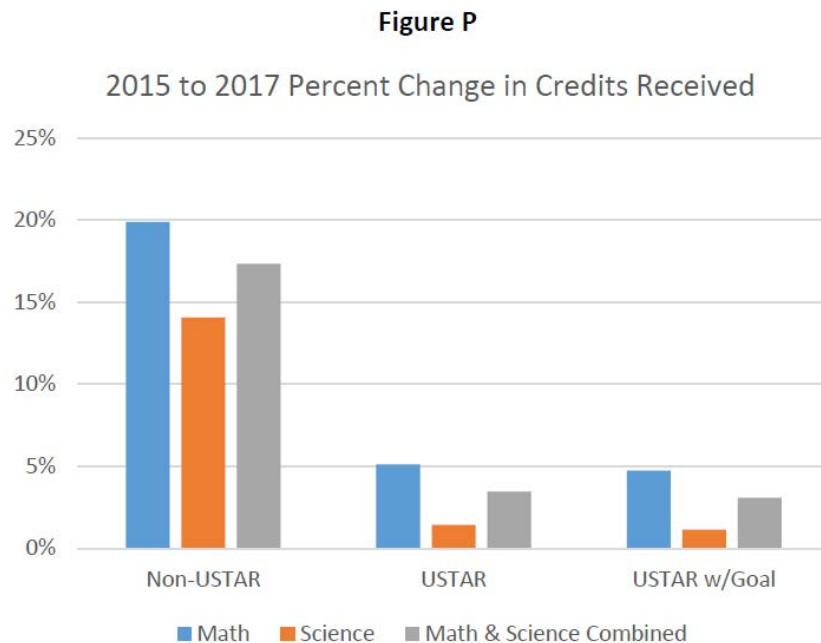
e. Goal “I” – Increased Enrollment in Math and Science Classes

To determine increased enrollment in math and science classes, we analyzed data for students in grades 9-12 for LEAs who received USTAR funds during the 2015 grant cycle, LEAs who received USTAR funds during the 2015 grant cycle with a specific goal to increase enrollment in math and science credits (a subset of the previous group), and LEAs who have not received USTAR funds. In general, both groups of USTAR LEAs obtained more math and science credits on average than Non-USTAR students in grades 9-12. However, as noted in **Figure O**, Non-USTAR LEAs experienced a measurable improvement in 2017, surpassing both USTAR groups.



Furthermore, **Figure P** illustrates the improvement that each group experienced from 2015 to 2017. Non-USTAR LEAs experienced a combined improvement of 17% in math and science,

while USTAR LEAs in general and USTAR LEAs with a specific goal to increase enrollment in science and math courses experienced a 3% improvement.



Using credits earned by students in grades 9-12 as a measurement, we reviewed 15 USTAR LEAs who had a stated goal to increase math and science course enrollment during the 2015 grant cycle. Ten (67%) LEAs did not improve math and science enrollment (i.e., credits earned) in either 2015-2016 or 2016-2017. Specifically,

- For 2015-2016, eight (53%) LEAs had decreased average credits earned per student in math and science, and
- For 2016-2017, five (33%) had decreased average credits earned per student in math and science.

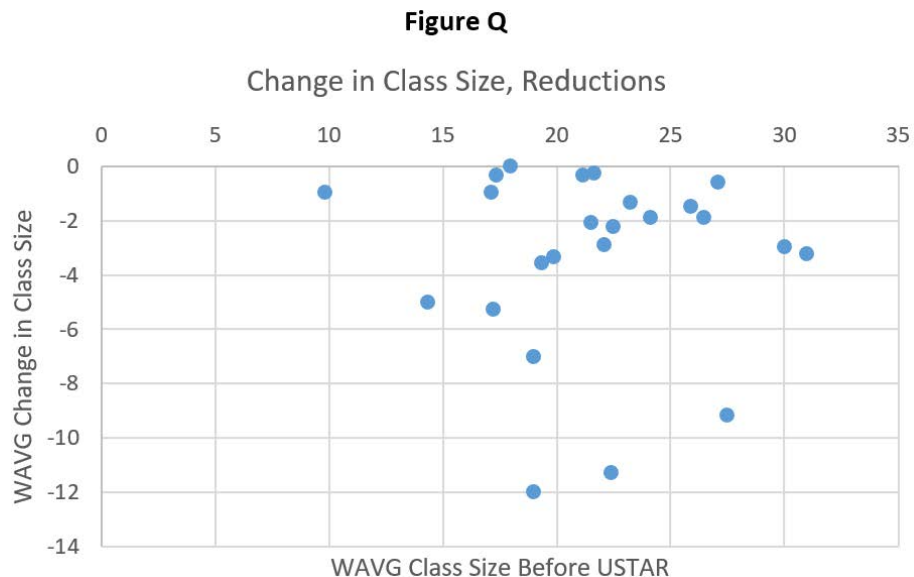
f. Goal “c” – Decreased Math & Science Class Size

To determine whether USTAR funding may have led to class size reduction, we looked at LEAs that received USTAR funding for the first time between 2012 and 2017; we identified 22 LEAs. Using class sizes for all math and science classes reported in those 22 LEAs, we calculated the average math and science class size for all 22 LEAs for the year they received USTAR funding, and the prior year. Comparing the two years,

- 14 of 22 (64%) LEAs reported a reduction in average math class sizes.
- 10 of 22 (45%) LEAs reported a reduction in average science class sizes.
- 15 of 22 (68%) LEAs did not reduce both math and science class sizes.
 - Five (23%) LEAs did not reduce class size in either math or science.
 - Ten (45%) LEAs reduced class size for either math or science, but not both math and science.

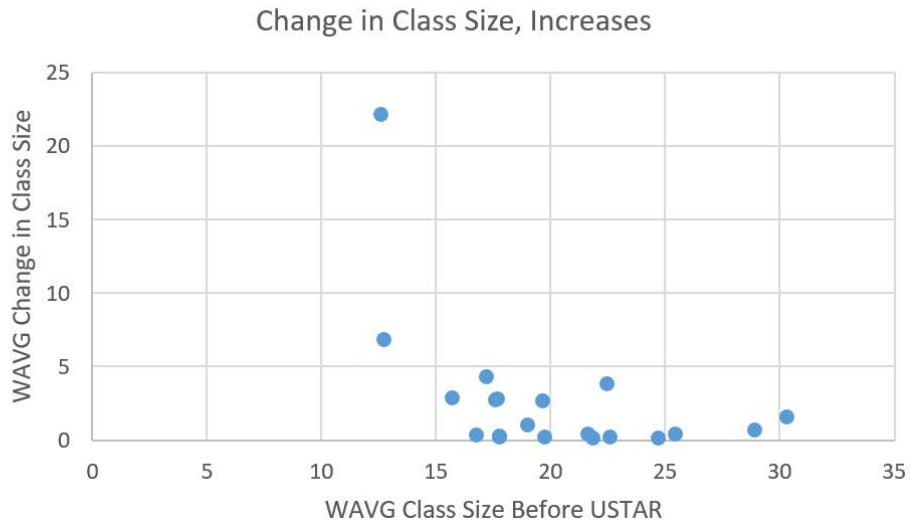
Within the 22 LEAs receiving USTAR funds, we identified 44 combined weighted-average (WAVG) math and science classes.

For 24 of 44 average math and science class sizes that decreased, 75% of the class size reductions took place in average class sizes of 25 students or less, including 42% of class size reductions in average class sizes of 20 students or less. See **Figure Q** for additional details.



For 20 of 44 average math and science class sizes that increased, 85% of class size increases took place in average class sizes of 25 students or less, including 60% of class size increases in average class sizes of 20 students or less. See **Figure R** for additional details.

Figure R



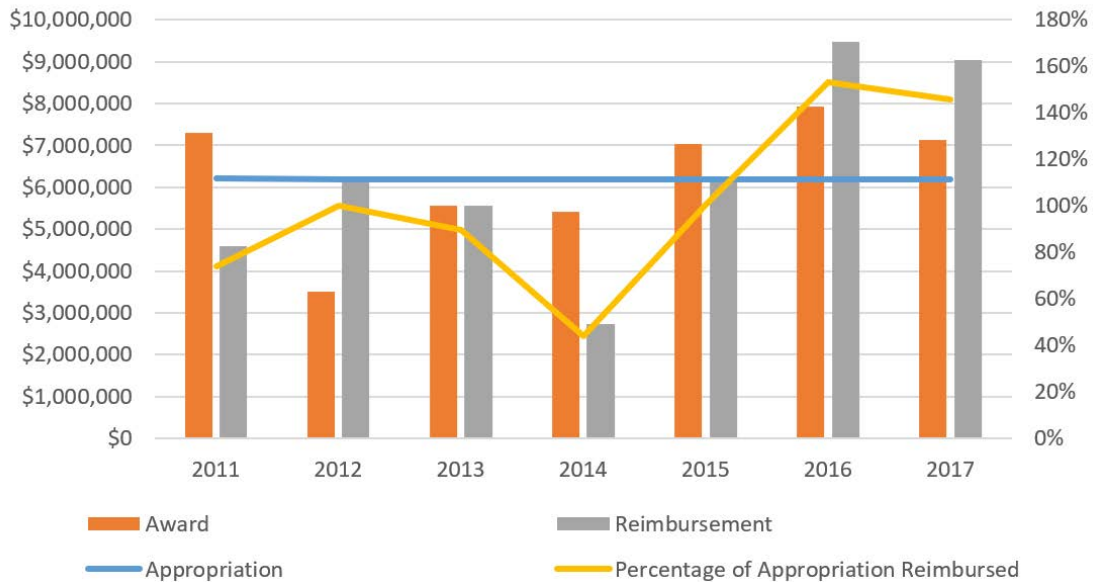
USTAR Financial Performance

Since 2011, the USBE has received \$6.2 million annually to fund the USTAR program. Each year, the USBE goes through an RFP process to determine which LEAs will be awarded the funds.

Figure S illustrates the consistent appropriation, while highlighting the changes in award and reimbursement amounts. Reimbursement amounts exceeding award amounts are not necessarily an indication of an overpayment; but, are likely more indicative of the slow reimbursement process.

Figure S

Financial Performance



Each year USBE staff conduct a year-end reconciliation to determine which LEAs have not spent their entire award. If an LEA has not spent its award, the unused funds would be rescinded and then added to the total award amount for allocation the next year; awards are amended to equal the actual reimbursement amounts. This creates an extra burden on USBE financial operations to track funds for years beyond the original appropriation date and performance period and does not meet the intent to spend funds in the year that they are appropriated, thus benefiting the students for that specific year.

According to **Figure T** it has taken an average of 4.75 years to completely spend appropriated funds awarded from 2011 to 2014. Appropriated funds received in 2015-2017 have not been completely spent.

Figure T

Grant Appropriation	Number of Years to Expend Appropriated Funds
2010-2011 Grant	4
2011-2012 Grant	6
2012-2013 Grant	5
2013-2014 Grant	4
2014-2015 Grant	Not Completely Spent
2015-2016 Grant	Not Completely Spent
2016-2017 Grant	Not Completely Spent
2011-2014 Average	4.75

IV. Concluding Statement

Per Utah Code Ann. § 53F-2-505 1(a), the purpose of the USTAR program is to “provide financial incentive for local education boards to adopt programs in respective charter schools and school districts that result in a more efficient use of human resources and capital facilities” through innovation and adherence to statute and administrative code. In consideration of the USTAR financial, compliance, and performance data within this report, and otherwise available information, decision-makers should consider whether the current USTAR program is meeting statutory intent and is the best use of limited state resources. Given our recommendations within the findings section, it is our position that, at a minimum, a formal, comprehensive internal control and monitoring program should be designed, implemented, and monitored for operational effectiveness to ensure financial fidelity, regulatory compliance, and program performance consistent with the requirements and intent of law and to the benefit of Utah students.

V. Appendix A - Management Response



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Lorraine Austin, Board Secretary

November 27, 2018

Debbie Davis, CPA,
Director of Internal Audit
Utah State Board of Education
250 East 500 South
PO Box 144200
Salt Lake City, UT 84114-4200

Dear Director Davis:

The Utah State Board of Education (USBE) administration appreciates the close collaboration between the Board Internal Audit staff and the USBE program and operations staff in performing audits to assess risk and identify opportunities for improvement. We appreciate the opportunity to respond to the Utah Science Technology and Research (USTAR) Initiative Centers Program Audit.

Since 2008, our staff has solicited proposals for the USTAR program that would provide a financial incentive to retain mathematics and science teachers while also providing opportunities for students. We concur with the internal auditors that a lack of funding for administration of this program is a contributing factor for oversight of the USTAR Program. Funding for administration of this program would allow for training, comprehensive program policies, and stronger monitoring and oversight of the program which would increase accountability of the USTAR Program.

During the 2017-2018 school year, our staff began a review to Board Rule R277-492 and recognized areas of improvement that USBE staff would like to incorporate as well as areas of clarification between Board Rule and Utah Code 53F-2-505. We look forward to the opportunity to improve the program and ensure the benefits of the program are realized.

We are confident the actions taken based on the recommendations of this audit and the potential revisions to Board Rule R277-492 and Utah Code 53F-2-505 will enable USBE to retain mathematics and science teachers.

This audit is extremely beneficial to the Board with its responsibilities for governance of public education and to USBE staff in supporting their direction. The USBE is committed



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Lorraine Austin, Board Secretary

to utilizing data and resources for the continuous improvement of public education that will benefit the students and citizens of the State of Utah.

Sincerely,

Patty Norman
Deputy Superintendent of Student Achievement

cc: Members, Utah State Board of Education
Sydnee Dickson, State Superintendent of Public Instruction
Scott Jones, Deputy Superintendent of Operations