White Paper

The Significance of an SEA’s Chart of Accounts (COA) on ESSA

*Paving the COA Cow Path*

**Take 5**

Please take a 5-minute break.

The poem, The Calf Path, by Sam Foss is a delightful poem. The poem can be downloaded in Word below on this page. There is also a soothing reading of the poem at this link to YouTube, <https://www.youtube.com/watch?v=ZLWSF-nOvbI> Take 5 minutes and enjoy.

The Calf Path poem is the origin of the phrase, “Paving the cow path.” This phrase, used in various industries, is applied to situations where new work is being layered onto prior makeshift work, when instead it would be better to redo the underlying work first.

It is believed that Foss’s inspiration for the poem was the city of Boston. When the city of Boston was new and unpaved the city fathers decided against laying out a regular street plan and instead merely paved the paths that had been worn by cattle. The implication is that this has resulted in a chaotic inefficient street plan that lacks logic. The admonition not to “pave the cow path” is supposed to remind us not to enshrine a makeshift legacy solution.

**Paving the Cow Path – Implications of Every Student Succeeds Act (ESSA)**

The greatest significance of ESSA is that it transfers authority for K-12 education, a great power, from the federal government to states.

With great power comes great responsibility. So, ESSA imposes an accountability requirement – states must provide school-level financial reporting. The foundation for that new reporting is an SEA’s legacy chart of accounts (COA). For many SEAs, their COA is the result of many iterations of paving the cow path, and their COA structure is no longer efficient, effective, or flexible.

The phrase, *provide school-level financial reporting*, to a non-K-12 finance person sounds simple. It is not, for most. For the past 40 years, the National Center for Education Statistics (NCES), a quasi-governmental federal agency, has maintained an excellent lighthouse example of a *best practice* chart of accounts (COA). Any state education agency (SEA) that rigorously follows the NCES COA specification, and data discipline, could easily comply with this school-level financial reporting requirement. However, few, if any, SEAs significantly follow both the NCES model’s code specifications and data discipline.

Some SEA COA do not include the key component for school-level financial reporting – a location/school code. Others have cow path-like legacy data structures that have evolved based on *path-of-least-work* priorities, which tend to migrate a data structure from *normalized, relational characteristics* toward *flat file characteristics*. In short, their data structures are capable to produce a specific legacy regulatory report, but not new reports to address tomorrow’s questions – and cannot provide useful school-level reporting without much mitigating work to compensate for inadequate accounting data structure.

***To Comply, or To Lead?***

Satisfying the ESSA reporting requirement for school-level financial reporting is only the threshold to building a new barn it is not the barn.

Today, many SEAs are consumed with the difficult task of satisfying ESSA’s threshold requirement, as opposed to ESSA’s most significant implication, building the state’s new barn for K-12 education – exercising the state’s new powers.

SEAs are pursuing school-level fiscal reporting solutions with various workgroups through organizations like the Council of Chief State School Officers (CCSSO) and others. Much of that work is focused once again on the *least-time, least-cost solution* to produce a single new report to comply with ESSA’s new requirement. The asphalt trucks are lining up to lay another layer of paving upon the *COA cow path* by the end of fiscal year 2019. Are there alternatives?

The alternative is to do more than just comply — to lead. Use this opportunity to reevaluate legacy COA structure.

First, there are questions that need to be asked. The idea of school-level reporting has been around for more than a decade, and the exemplary NCES COA model, which would make that task easy, has been around even longer. So, ask: Why is this such a difficult task for my state? When you drill down on this question, the answer will most likely lead you back to your state’s legacy COA structure. Ask also about ESSA’s goal and intent.

***ESSA’s Intent -- When Good Enough for Compliance is Not Good Enough***

ESSA’s accountability requirement is more than just reporting a total expenditure amount by school. ESSA’s intent is for states to: increase fiscal transparency; include and empower local decision-makers (principals), parents, taxpayers, and other stakeholders in decision-making; and ensure equity, with emphasis on under-served students.

ESSA’s intent suggests a need for highly flexible, and comprehensive fiscal data and analyses at the school-level, by instructional program, by function for every demographic represented in the student and community populations. Not only does a state need to use a school location code, it needs to have other well-disciplined COA code dimensions for funds, functions, objects, programs, grants, sources of revenues, and for cascade relationships through the layers of administration to classrooms and teachers.

***Practical Action***

Today, it is impractical to replace Boston’s *cow path road layout* with a more efficient design because it would require tearing down all the buildings. Similarly, in some cases, it might be impractical to replace a state’s *cow path COA accounting structure* with a more efficient and disciplined structure over-night. Here are the practical options:

* *Most Aggressive for Most Gain* – Plan a 3-year course of action to migrate an existing, under-performing COA structure with a highly efficient and effective structure that will better meet future reporting needs. That structure might look much like the NCES COA structure, one that borrows from the best expertise in accounting and technology.
* *Fastest Thoughtful Approach* – Keep using the COA structure you are using today, and Layer on to that a low cost, low effort crosswalk to a reporting model that can help you meet the ESSA requirement before the end of fiscal year 2019. The overlay model can be used to meet many (but likely not all) of the other expectations of ESSA reporting for transparency, decision-support, and equity. The “thoughtful” part of this solution is that working with this model would help an SEA to understand and write an effective requirements document for doing a more aggressive replacement of the existing COA design down the road.

For any state that chooses to lead as opposed to just comply with ESSA, EduAnalytics would be pleased to help assess your current COA structure, consider the two above options, or partner with you to implement of a long-term solution.

Instead of just paving the legacy COA cow path, EduAnalytics stands ready to help you engineer your own new path built on best practices and independent professional accounting and systems expertise. Call us.

**About Paved Cow Paths**

*Cow paths get paved* because they are the *least-work* solution today.

But, those *least-work* solutions today are at the expense of less effectiveness and efficiency forevermore – long-term costs far exceed the initial benefits of the *least-work* solution.

*Paved cow path* situations are numerous across many different industries and governments. They occur most frequently where organizations within an industry follow parochial practices rather than professional *best practices* in specialized disciplines – disciplines like: professional CPAs, economists, professionally trained technologists, financial analysts, engineers, and architects. For professionals in each of these disciplines certain cases of *paving a cow path* stand out. In K-12 education, a common example from the perspective of a professional CPA is a district’s and/or state’s use of a poorly designed, parochial general ledger coding structure (also known as a Chart of Accounts, or simply COA).

***K-12 Education Chart of Accounts (COA) – A Paved Cow Path?***

A chart of accounts defines components of a general ledger account coding scheme. Many COAs utilize a 12 to 24 character-long account number. The full account string is made up of 4 to 15 discrete component code dimensions of from 1 to 6 characters each. By example, an account string of 10-2700-200-0101-22-1 might represent the following:

* Fund 10 – General Fund
* Function 2700 -- Transportation
* Program 200 – Special Education
* Object 0101 – Teacher Salaries
* Location 22 – Elementary School A
* Type of Transaction 1 -- Expenditure (“2” might be Revenue)

The COA defines each of the codes used in each dimension of the account string. There might be only a few different codes in each dimension or thousands (hence the different number of code digits). Every transaction in the organization has these account strings attached to the transaction amount in order to classify the transaction into the proper account in a general ledger system.

COA structures are critically important because they determine what can later easily be reported from the general ledger system; and what cannot.

The National Center for Education Statistics (NCES), a quasi-governmental federal agency, has maintained an excellent lighthouse example of a *best practice* COA for the past 40 years. The NCES COA is not required, only provided on a voluntary basis for districts and states as a *best practice*. Many districts and states say that they use the NCES COA, but none have fully adopted the NCES structure. Most states use some of the suggested NCES codes, but they do not comply with the more important code dimension disciplines and business rules.

Effective and efficient accounting and reporting requires a logical coding scheme at the intersection of accounting and technology, similar to the type of data discipline needed to construct a highly useful relational database. The most important features of the NCES COA is its disciplined coding scheme, business rules, and implied structural logic. There are four critical business rules as follows:

1. Each dimension (e.g. fund, function, program, object, or other) must contain **items of like-kind** – a program code dimension must include only programs. Typical programs include: general education, special education, ESL/Bilingual, compensatory education (Title I), Vocational, and Other. Programs can also contain more specific programs, such as, a specific reading program.
2. **Code dimensions are mutually-exclusive** – no two code dimensions can have any code that is replicated in another dimension (a code for special education should not appear in multiple dimensions, only in the “program” dimension.
3. **Unique code numbers and descriptions within a code dimension** – within each code dimension of the COA, no numbers should be duplicated with different descriptions. The same description should not be applied to multiple code numbers.
4. **Every COA dimension should be structured via technology to allow intersection with every other code dimension** – Among programmers this is referred to as “AND” statements – i.e. you can filter data or sum totals where Fund = 10, **AND** Function = 2700, **AND** Program = 200 in order to get a sum for general fund, special education, transportation (using the COA codes illustrated above). This example also illustrates how the fund dimension is different from the program dimension – there may be a restricted fund for special education, but some general fund dollars may also be spent on the program of special education.

It is not by accident that the above rules generally follow database normalization. *Database normalization* is the process of organizing data into tables in such a way that the results of using the database are always unambiguous and as intended. Such normalization is intrinsic to relational database theory. It may duplicate certain data keys and create additional tables of data, but generally normalization does not introduce unnecessary redundancy. Normalization allows for the possibility of millions of possible current and future COA code combinations, without requiring actual instances of them in the data. Also, existing actual data combinations that are deleted do not prevent them from occurring in the future.

In contrast, data files that are not normalized and do not have relational database type features are often referred to as “flat files.” *Flat files* contain records that have little or no structured interrelationships; they are typically just one large table with much unnecessary redundancy of data.

In a normalized relational structure, for example, there would be a separate Object code table with just the code number in one field and the code description in another field, and there might be 200 hundred different code and description pairs. Relationships are used to connect the Object code table to every other table that uses Object code numbers. The descriptions exist only once in the system, and are looked-up by the system for reporting purposes. Whereas, a flat file table would contain the Object code number and description for every record (every row in a table), which may be 100,000 times, with 100,000 description instances in the file, instead of just 200.

The practical and significant impact of using a normalized, relational file vs. a flat file is ease and flexibility of reporting.

Flat file tables usually evolve looking something like a specific desired report, although the actual report (or a few reports) might be generated from subsets of the flat file table. A flat file structure may be adequate if that one fixed report is adequate to meet your needs and no additional questions or report formats are anticipated. But, In K-12 education those conditions never exist. A 100,000-record file (rows of a spreadsheet) sounds like a lot of data, but if the data include school-level data and there are 100 schools, that leaves only 1,000 unique data elements to describe 5 or more different COA data dimensions with relative ease of reporting. Whereas, a normalized, relational file with 5 data dimensions, each with just 20 different code options enables up to 3,200,000 possible combinations for easy reporting.

**K-12 Education – Less Than Optimal COA Practices**

Many state education agency (SEA) COA structures are not optimally normalized, and their COA violates many of NCES’ critical business rules for an effective COA. The following summarizes a few real SEA examples of these violations of *best practice*.

**SEA #1** -- This SEA maintains a COA that violates at least 3 or 4 of NCES’s COA critical business rules, resulting in a far from normalized data structure, as follows:

* **Not Items of Like Kind** – The SEA #1 COA combines functions, grants and objects with programs into its “Program” code dimension. The functions in this “program” code dimension include, but are not limited to:
  + student transportation
  + substitute teachers (and for every other category of substitutes)
  + school nursing services
  + attorney & related fees
  + office of the superintendent
  + accounting services
  + office of human resources
  + and more …

The SEA’s “program” dimension also contains object codes, as follows:

* + utilities
  + sabbatical Leave
  + donations & gifts
  + civil rights compliance
  + criminal history records check
  + indirect costs
* This entire coding structure more resembles a “flat file” structure rather than a normalized relational database style structure. As a result, this SEA has significant difficulties answering ad hoc questions regarding its finances, because every question requires significant analysis to answer, as opposed to a simple filtering of data, with use of multiple **AND** statements. This structure varies so significantly from the NCES structure that it would be completely inaccurate to suggest that this SEA follows the NCES specification.

**SEA #2** – SEA #2’s COA contains an Object code dimension that mimics the NCES specification, but the COA deviates significantly and structurally by compressing NCES-like functions into a single code dimension called “Category (Function-like)/Program/Activity.” This SEA’s coding structure also lacks use of a location (school) code, which has numerous limitations. Like the SEA #1 example above, this combination of **un-like-kind items** results more in a flat file than a normalized relational file, and reporting capability is severely limited. The reporting flexibility in this SEA is so limited that they have never been able to report how much funding is distributed to charter schools in the state.

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