

Designing a Data Warehouse: Advice from Calhoun ISD

December 2007

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Advice:

- Keep communicating the focus
 - Data warehousing is not a technology project; it is a school improvement project with a great technology tool.
- Keep all stakeholders informed
 - Communicate the vision, the progress, the results frequently to superintendents, school improvement staff, curricular staff, principals, technology leaders, teachers, counselors, data entry staff.
- Don't work in isolation, especially when planning
 - When designing the project for bid, and then for the first two months after selecting the tool, engage school improvement staff together with technical staff to define the school improvement scope of the data warehouse.
- Ask questions
 - When someone wants to add data to the data warehouse, always ask 'what school improvement question will this assessment data answer?' If that can't be answered, don't add the data.
- Hold staff accountable
 - Districts need to think and articulate why they think they want in a data warehouse and then once they have it, how will they hold administrators accountable for using it and then teachers.
- Establish support structures
 - Support structures, both technical and school improvement, need to be established minimally at both the district and intermediate school level in order to answer questions in a timely fashion. This encourages collaboration and shared learning/leadership among all stakeholders.

Designing a Data Warehouse: Lessons Learned at Calhoun ISD

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Lessons learned:

- Once school improvement leaders have designed their data warehousing scope/needs, it becomes a technology project until the data is 95% clean.
- A data warehouse project has two phases; depending on multiple variables, districts will grow through the phases at different speeds
 - Phase One – Data Warehouse is a Technology Project after the scope is defined
 - Keep school improvement leaders informed, but not engaged fully until the technological glitches are fixed.
 - Phase Two – Data Warehouse is a School Improvement Project after the first six months
 - Keep school improvement and technology leaders informed and engaged – AND retrained on the basics as necessary
- ISDs need to provide leadership (and funding) because they have longstanding relationships with local districts and intimate knowledge of local contexts
- ISD needs to provide liaison between curriculum and technical departments that is the
 - Key contact at the ISD for the districts,
 - Primary technical support for the districts, and
 - Primary contact to vendor for all product needs.
- Though school improvement staff at ISD and districts rely on technical contacts, they must integrate the use of the tool into their professional responsibilities
- School district key contacts are central to the success of the data warehouse. Each district technical and school improvement contact must communicate with each other and work together.
- School district key contacts prefer to train each other
- Superintendents need to initiate some questions; principals need to find the answers and use those results to probe deeper (data mining).
- Principals need to be given a meaningful pre-built report(s) that encourages them to ask more questions (i.e. hold their hand at first).
- There will always be technological glitches.
 - Student unique IDs MUST be complete and accurate.
 - Teacher IDs must be unique, no matter what school building they are located.
 - Course names should be unique and consistent year to year.
 - Data should be refreshed every other week minimally.
- Student registration is the point closest to the source data and is the most critical time to fully and accurately collect data .
- It is a critical learning experience for district staff to work to clean and validate their own data:
 - District staff can best assess the data they receive to determine why it is not accurate – which is a critical step in problem-solving.
 - District staff can best assess who is responsible for the data error so that that individual(s) can be brought along to enter data correctly in the future.
 - District staff can monitor data for ‘red flags’ that aren’t apparent to ‘outsiders.’
- Data Access agreements signed by superintendents are essential for consortium models; provides permission for school district, ISD, and vendor staff to access student level data.