

# **Demolishing the Silos: Integrating Data Systems for Effective Decision Making**

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October 22, 2015

# Data Collection vs Data Analysis

- **Data collection** is the process of gathering information in an established systematic fashion.
- **Data Analysis** involves examining data collected in ways that reveal the relationships, patterns, trends, etc. that can be then be used for decision making or to test a hypothesis.

# Data Collection

- **A student information system (SIS)** is for gathering information, in an established systematic fashion, to meet a need or requirement (school, district, state and/or federal).
  - Maintenance and reporting of student data
  - Enrolling new students and enabling online scheduling
  - Automatically creating class and teacher schedules
  - Maintaining records of absences and attendance
  - Recording communications with students
  - Maintaining discipline records
  - Regulatory reporting

# Data Analysis

- Statistical Packages - SPSS, SAS
- Data Analytics “Big Data” & Data Mining
- SWIS Suite

# Why Data Integration?

- Most districts use multiple programs to store data:
  - Student Information System
  - Assessment and Progress Monitoring
  - Special Education / Individual Education Plan (IEP) services
  - Student health records
  - Transportation Management
  - Student Lunch Program
  - SWIS Suite

# Benefits of Data Integration

- **Take advantage of specialized applications** - Every application was designed for a reason. Few software programs meet the data needs of all users or keep up with the continual improvement of specialized programs.
- **Reduce data complexity** - A data integration solution simplifies the interaction between diverse systems
- **Data integrity** - Data integration technology should cleanse and validate the information passing through. We all want our data to be robust, high quality, free of errors, inconsistencies, and duplication.
- **Efficiency** – Eliminates the entry of the same data into multiple systems. Integration processes can be automated.
- **Make data more available** – Users of one system are not always the same as the users of another.
- **Easy data collaboration** - With accessibility comes easier collaboration. Anyone who works with the data will find it easier to use brain power now that they can actually use the data in the format they require.
- **Understanding data means smarter decisions** - By giving people the flexibility to use your data in whatever system, you're giving them the opportunity to better understand the information.
- **Make your data live** - An integrated data solution makes it easy to keep information up to date. One input can propagate across all integrated systems, keeping your data current.

Adapted from **9 Reasons You Should Have a Data Integration Plan**

About Data | April 9, 2014 | By Tiana Warner

# Data Integration

- Data integration, in its simplest form, is the capture and movement of data from one database on a **source system** to another database on a **target system**.
- SWIS Suite Data Integration Options
  - DataLink: SIS (source system) to SWIS Suite (target system)
  - SWIS Suite (source system) to SIS (target system)
    - S-DEX
    - Distributor
  - Both SIS and SWIS Suite can be the source and target for different data.
    - For Staff and student the SIS is the source system and SWIS Suite is the target system
    - Referrals: SWIS Suite can be the source system and SIS the target system

# Data Integration

- Issues and Solutions
  - State reporting requirements may determine:
    - the direction of the data transfer.
    - or if schools would prefer dual entry of required behaviors.
  - Special features of the target system may not be supported by data integration.
    - If specialized features are not supported the choices are:
      - to integrate and not use these features
      - not to integrate for referrals. The school can still use the integration process for staff and students.



# DataLink Best Practice with SIS as Source System

- All required SWIS fields should be entered into the SIS.
  - This may require fields to be added to the SIS.
- Timely and complete entry of all data.
  - Some SIS's treat some fields as optional and don't require data to save referral.
- Automated uploads on a regular basis.
  - Most districts are doing nightly uploads

# DataLink Integration Process with SIS as Source System

- Mapping – identifying which SIS code matched which SWIS code
- District authorizes data options to be sent to ECS.
  - Staff and students
  - Staff, students, and referrals
- Creating SIS download files for transfer to SWIS
- Sending the files through a secure file transfer method
- Testing files and validating data in a “sandbox”
- Schools can identify what data they want uploaded into SWIS
  - Staff and students Only
  - Staff, students, major and minor referrals
  - Staff, students, and major referrals only (minors are entered at the school level)
  - Note: School options can only include what is authorized by district
- Going live and upload data into school SWIS accounts

# DataLink Data Integration

- Issues and Solutions:
  - Schools may have less data for decision making if they use DataLink.
    - Custom Fields and Sub-Categories are not supported.
  - Current SWIS schools may have incorrect or missing student or staff ID's or may have duplicates student or staff records
    - Data Integrity report in SWIS will identify help identify which records need to be corrected.

# Potential Issues

- Data may be stored in the incorrect format
  - Formatting options are often available within your SIS
- Data coming out of the SIS is only as good as the data put into the SIS.
  - Lack of timely input of referrals
  - Incomplete referrals (Administrative decisions not entered)

# Integration Process with SWIS as Source System

- S-DEX: Creates a download file.
  - Mapping: identifying which SWIS code matched which SIS code
  - Creating a download file (multiple schools can be in one download)
  - Creating an upload interface for the SIS (District will need to have the expertise or have the vendor create the interface)
  - Test the upload into the SIS
  - Go live – the process can be automated.
- Distributor : a web service providing read-only access to PBIS Application data in a format most useful to software and database developers at the district level and above.

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