

Use Case Scenario: *Using the Data Model to Evaluate Potential Student Information Systems for Purchase*

Challenge¹

The Red River School District (RRSD) wants to evaluate a proposed Student Information System (SIS) to see if it will contain the range of data needed to perform its stated function. They want the District's requirements to drive the purchase rather than the vendor offering.

The RRSD also wants to ensure that data definitions in the proposed SIS software are consistent with definitions in other software systems already in the RRSD and in reports that the District is required to generate.

Summary

Sven McFain, superintendent of the Red River School District first convenes a core group of administrators to determine the best approach to the evaluation. Starting with a blank slate, they use the Data Model to articulate the process.

Here is the process they came up with:

- Identify the persons and roles in the school district that need to be involved in the evaluation.
- Identify what they want from an SIS in general.
- Identify the features that the current SIS lacks.
- Investigate how the proposed SIS application will fit with other existing applications in the District. For example, is there an existing gradebook application that will be replaced or work in conjunction with the proposed application?
- Create a description of the ideal SIS (requirements).
- Perform a gap analysis between the ideal SIS and the proposed SIS.
- Perform a gap analysis between the proposed SIS's data model and the District's data model.
- Create a recommended action for the purchase of the proposed SIS.

See the *Steps* section below for detail on how this was done.

Actors/Positions:

¹ This use case example is meant only to illustrate the use of the Education Data Model in addressing the challenge. Other Forum documents such as *Technology at Your Fingertips* are available that will also be useful in addressing the challenge.

Sven first identified a Core Team to help him devise a strategy for the project. This team identified who needed to be at the table, when, and in what order. Then a SIS Evaluation Team was formed to oversee the work of the project. Individuals came and left the Team as they were needed in the process.

Core Team

Superintendent

Director of Technology

School Business official

State Reporting Person

Director of Student Achievement (C&I person)

Accountability Person

The Core Team identified the following roles as important in the overall process.

- Principals
- Registrars/School Secretary (Those who enter info into the SIS and are major users of the SIS software)
- School Counselors or Registrars. This is the person that deals with student schedules and with transcripts.

The Core Team also identified the following roles as being important but they were involved later in the evaluation process.

- Support Services (Facilities Department, Transportation, Food Service)
- Personnel Services
- Special Ed
- BOCES
- Department Heads
- Teacher Representative – (Gradebook functions)
- Health Services
- Safety

Steps:

1. The Data Manager provided the core team with a list of entities to begin with in searching the Data Model. This core team browsed the Data Model and uncovered relationships that suggested who else to involve in the evaluation process.
2. The team identified a process to evaluate the SIS. They used the Data Model to refine the evaluation process as described in these steps.
3. They then identified the departments that should be involved in the process and in what order.

4. The SIS Evaluation Team evaluated the current SIS, asking questions such as:
 - a. What do we like about it?
 - b. What does the current system lack?
5. Major issues that need to be taken into account during the evaluation process were identified such as:
 - a. Multiple GPAs per student using different criteria.
 - b. New race/ethnicity reporting requirements
 - c. Keeping track of the physical structures involved in scheduling such as available rooms, physical layout of spaces, equipment available, etc.
 - d. Keeping track of classroom/space environment such as acoustics, temperature, lighting, and available space.
6. Major requirements for a SIS in general were identified. They were not yet comparing to the current or proposed SIS yet. They used the Data Model to create a base dataset for an ideal SIS.
 - a. Harold, the NSD data manager goes to the Data Model Browser tool that is part of the Data Model Website and runs a query. Since this is a Student Information System the data manager runs a query on the word *student*.
 - b. The data manager follows the relationship links listed for each entity to find other entities that the manager judges to be related to the requirements of the software system.
 - c. The data manager then consults with the SIS Evaluation Team to gain agreement on the list.
 - d. From all of the entities found, the data manager compiles a shorter list of entities that are directly related to the software system. This list is the “Information Requirements” for the system.
7. Harold, the data manager performed a gap analysis.
 - a. The data manager, or the vendor, maps the information in the proposed system to the Data Model Information Requirements.
 - b. The data manager compares the Information Requirements to the proposed software system. This is done by using the entity descriptions and attributes for each entity in the Data Model Information Requirements.
 - c. During the mapping process, the data manager discovers whether the proposed system data definitions are consistent with other software systems in the District. This is possible because the Data Model data definitions represent the definitions used in the NSD.
 - d. The data manager summarizes the results in a gap analysis document.
8. A recommendation for the proposed SIS is formulated.