Normalization Paper

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Project Description

The school I currently work at, Brighter Choice Middle School for Girls (BCMS) at wastes a great deal of paper. The school is an urban charter school and is single gender (female). There are about 180 scholars (i.e., students) grades 5 through 8. Roughly 90% of the students receive free or discounted lunches. The school program is aimed specifically at this population. Accordingly, it has specialized needs, particularly in terms of its daily paperwork. Most of this various information is dynamic and recorded / contained on papers on clipboards. There are a myriad of problems with this system. Atop that list is that scholars have been known to steal tracker pages, some faculty handwriting is illegible, and it can often take several minutes to find necessary information and even longer to tabulate scholar scores. Further, it is not usually possible for teachers to search back to immediately search a previous week's data.

The information on the clipboards is disparate. There is the basic tracker, which is a list of the scholars and their inappropriate behaviors in each of their four core classes (i.e., ELA, science, math, and social studies), their special (i.e., art, music, computers, or gym), and the other category, which covers the Accelerated Reader, hallway, and boot camp obligations. Inappropriate behaviors include (T)alking, (B)ehavior, (S)eat, and Recovery Zone (RZ). The tracker is also use to record if a scholar has been sent to the Inspiration Room (IR) during the day or it they have Lunch Detention (LD) . Currently, teachers hand off paper “tracker” clipboards to each other during transition between classes.

There is other information that is often necessary and used daily. During the daily Accelerated Reader period, scholars are expected to read from their self-chosen library book. A library list of books the scholars have on loan is printed to paper and is also clipped to the clipboard. At the end of the day, a dismissal list is generated, printed, and delivered to the faculty. It too gets added to the clipboard. Further, teachers hand off paper “trackers” on clipboards with all of these pieces of information as scholars transition between classes.
The aim of this database is to act as a central repository for all of the above daily information. Teachers will use an iPad to track the scholar behavior as well as have access to the other necessary data. Teachers will not have to hand off their clipboards, hoping that pages are not lost or taken, but will retain their tablets. Changes made to the database will instantly be accessible by the core and specials teachers. Past trackers and less commonly used information will also be instant accessible. The database will simplify communication between the 7th grade team members and act as an efficient repository.

**Normalization**

The name of the database will be named “Mini-Scholar Information System-7,” and called “M-SIS-7.” It will have four tables: Scholar, Tracker, Library, and Dismissal. Below is a description of the fields and data type for each.

The Scholar Table will have four fields. They are as follow: Scholar ID, Scholar Name, College Name, and Home Room Number. This is the basic and demographic information for each scholar. This will not be the default front page of the database as, for example, scholar IDs are only used when scholars check into lunch. The Scholar ID data type is a number, but is not auto-generated. As each scholar already has a designated ID number, it will be taken from the school's PowerSchool SIS and will serve as the primary key. The Scholar Name data type is text; The College Name data type is text; And, the Home Room Number data type is number.

The Tracker table / tab will be the default first page of the database as it is where the bulk of the dynamic information will be input, altered, and calculated. Teachers will be able to mark inappropriate behaviors as they happen, and the database will tabulate an individual scholar's score based upon the number of symbols (listed above in the project description). The Tracker Table / tab will have twelve fields. They are as follow: Scholar Name, College Name, Date, Science, ELA, Math, Social Studies,
Specials, Other, IR, Lunch Detention, and Points. The data for the Scholar Name and College Name will come from the Scholar Table, and their data type is text. The data type for the Science, ELA, Math, Social Studies, Specials, and Other tables is text. The data type for Date is date/time. The data type for IR and Lunch Detention is yes/no. Finally, the data type for Points is number.

The Library Table will have five fields. They are as follow: Scholar ID, Scholar Name, AR Book Title, Book Status Out, and Overdue Balance. Scholars are only allowed to borrow one book at a time from the library. They cannot borrow a second unless they return the first or pay for the cost of its replacement. Scholars are not permitted to even go to the library to look for a new AR book unless they have in possession the last book they took out. The Library Table / tab will allow teachers to know if they may permit their scholars to go to the library. The data for the Scholar Name and College Name will come from the Scholar Table, and their data type is text. The data type for AR Book Title is text. The data type for Book Status Out is yes/no. The data type for Overdue Balance is number.

The Dismissal Table will have eight fields. They are as follow: Scholar Name, College Name, Walker, CDTA, Bus Number, ACP (Albany College of Pharmacy), ASP (After School Program), and ASD (After School Detention). The current dismissal check list remains static the vast majority of the time, but paper sheets are printed each day. With this table / tab, the most common scholar dismissal information will be accessible. Only updates or last minute changes will need to be printed. The data for the Scholar Name and College Name will come from the Scholar Table, and their data type is text. The data type for Walker, CDTA, ACP, ASP, and ASD is yes/no. The data type for Bus Number is number.

Creating this database will allow instant access to a variety of current information as well as permitting access to archived data. It will reduce the amount of paper printed on a daily basis, and it will increase the amount and quality of communication between the 7th grade team. Last, it should prevent theft of the tracker sheets.
— Database —
Mini-Scholar Information System-7 Database

— Tables —
Scholars
Tracker
Lunch
Dismissal

— Scholar Table -- Fields and Data Types —
Scholar ID (number) -- PowerSchool generated, Primary Key
Scholar Name (text)
College Name (text)
Home Room Number (number)

— Tracker -- Fields and Data Types —
Scholar Name (text, drawn from Scholar table)
College Name (text, drawn from Scholar table)
Date (date)
Science (text)
ELA (text)
Math (text)
Social Studies (text)
Specials (text)
Other (text)
IR (yes/no)
Lunch Detention (yes/no)
Points (numbers)

— Library -- Fields and Data Types —
Scholar ID (number, drawn from the Scholar table)
Scholar Name (text, drawn from Scholar table)
AR Book Title (text)
Book Status Out (yes/no)
Overdue Balance (number)

— Dismissal -- Fields and Data Types —
Scholar Name (text, drawn from Scholar table)
College Name (text, drawn from Scholar table)
Walker (yes/no)
CDTA (yes/no)
Bus Number (number)
ACP (yes/no)
ASP (yes/no)
ASD (yes/no)