ST. JOHN'S UNIVERSITY
SCHOOL OF EDUCATION
CENTER FOR EDUCATIONAL LEADERSHIP AND ACCOUNTABILITY

EDU 5650: School Based Data Analysis

Professor Jonathan Hughes
Website: HTTP://www.jonathanthughes.com/edu5650

Course Description

A school district's effective use of data can enable the successful identification and implementation of appropriate strategies that ultimately lead to the attainment of standards and increases in student learning. However, many schools do not use data to promote increased student learning or for standards implementation. The reasons for this are varied. The data may not be easy to access, they may not be in forms that are easy to understand, no one may be available who understands and can work with data, or there may be no knowledge that the data exist. For some, there may be so much data that knowing where to begin an analysis of the data is the challenge. Each of these situations (as well as many others) actively discourages school districts from learning about the phenomena they are attempting to understand. By supporting the creation, access, and subsequent analysis of school district databases, efforts by school leaders to create and sustain professional learning communities that are focused on the success of all students can be realized.

Course Objectives

The purpose of this course is to help educators think through the issues surrounding the uses of school district databases established to achieve increased student learning. This course will help educators understand:

- what a database is and why school district databases are needed
- what key data should school district databases contain
- how can we create or modify information from a database that will meet specific needs
- what levels of information are important to retrieve from the database
- how do we translate that information into a school district accountability plan

The task of learning the structure, content, and data analysis options of a database is tolerable when you know the labor-intensive work of designing, implementing, and using a database will result in analyses that lead to school improvement and, ultimately, to enhanced student learning. This course, through a series of action assignments, reviews and explores database design, information, analysis, planning, and reporting.

Course Prerequisites

Although not necessary, some knowledge of Microsoft's Powerpoint (or any other presentation graphics program) and Excel will be helpful. Other course software will be provided as needed or required.

Class Meetings/Times

Please refer to the St. John's website for more complete information concerning time schedules.

Course Instructor

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Office Hours

Wednesday: 1:00 - 6:00 p.m.
Other office hours may be arranged on a call-by-call basis.

Skill-Based Teaming

This on-line course will be conducted by a professor with school administration and database design experience. When appropriate, participants may be divided into teams in order to work on class projects designed to introduce and strengthen newly acquired skills in each of the major areas.

Computer Experience

As with all on-line courses, exercises and assignments will be closely coordinated with the topic and course participants will do assignments using word processing, spreadsheets, business graphics and other data-analysis software as provided.

Course Credit

Participants may register for EDU 5650 School Based Data Analysis to receive three graduate credits to be applied towards meeting the course requirements of the St. John's University on-line degree program upon successful completion of the course.

Course Requirements

There will be a number of reading assignments and Action Assignments leading up to a culminating project, which involves analyzing a database and providing the initial steps for a school district's accountability plan. All problem sets will involve on-line classroom discussion, related readings, and data analysis assignments. Students are expected to complete all Action

Assignments according to the schedule plan calendar following the distribution of the problem. Assignments will be introduced and announced, along with completion dates, through the on-line scheduling calendar. Please refer to the calendar for the Action Assignment announcements and deadlines.

Culminating Project

You will be asked to complete the preparation, analysis, and research of a school district's accountability plan based upon the Action Assignments. The district will be chosen from the database based upon need. A final report to the Board of Education outlining the purpose, objectives, methods, findings and conclusions related to the initial steps of a long-range accountability plan completes the culminating project. A more complete detailing of the final project and the procedures to be followed will be discussed in class.

Student Evaluation and Grades

The following items constitute the array of items you will need to complete for successfully passing this course.

1) FINAL PRESENTATION:
Each student will complete an accountability matrix for a school district, complete with a rationale as to what the initial steps for district improvement might be. The culminating project will include preparing a Powerpoint presentation summarizing your findings and accountability plan for district improvement. This project will be due on the last day of class.

Rubric: To successfully demonstrate the ability to summarize data and effectively communicate this information to the public. Course Grade Weight: 20% of course grade

2) DATA BASE WEB SITE ANALYSIS:
Each student will be assigned four websites to compare and contrast using a course designed evaluation matrix. ***For additional credit, students will also be asked to search for other relevant and interesting database sites, which might be of interest, and conduct a discussion of these sites, with the available URL, with the class.

AND

3) CLASS ACTION ASSIGNMENTS:
The class will be assigned Seven (7) Action Assignments during the semester that will allow for a deeper understanding of the concepts and material covered in the text. Each assignment will be accompanied by a set of questions that will give the student a chance to analyze the particular district's situation and a decision matrix that will need to be fully completed for each assignment.

Rubric: To demonstrate an ability to sift through a large set of data and summarize these data by examining themes, patterns and discrepancies. Course Grade Weight: 40%

4) CLASS PRIMARY TEXT READINGS
Each Action Assignment has accompanying text readings. Each student will be responsible for those readings and for posting discussion notes to demonstrate knowledge of the themes, patterns and discrepancies among the texts.

AND

5) JOURNAL ARTICLE REVIEW
Each action assignment has two (2) accompanying filed articles. Students are responsible for completing these readings, posting relevant discussion notes for the class and completing a one (1) page reflection piece describing implications, reactions, commentary, or critical comments concerning the articles topic.***For additional credit, students may offer other research articles that may be of interest to the class.

Rubric: A knowledge and understanding of literature can help shape future thinking and create strong theoretical frameworks for problem solving and decision-making. Course Grade Weight: 20%

5) PARTICIPATION:
Communication may be a student's greatest learning asset in an on-line course. With this in mind, participation in the discussion board in WebCT is not only necessary but mandatory. The discussion board will be setup in such a way that any student may create a topic for discussion or follow the discussion for each Action Assignment. This environment allows the student to discuss the problem sets, readings, or other issues and concerns that he/she may be having with the course material. The instructor will post topics for discussion that will relate to the material covered during the week and closely monitor each student and the class as a whole.

Rubric: A major part of education is sharing ideas and learning from others. Course Grade Weight: 20%

Course Texts

The course draws primarily from two texts, selected readings, and multiple supporting texts. Supplemental texts will be available in the doctoral center office.

<u>Primary Texts:</u>

Bernhardt, V. (2000). *Designing and using databases for school improvement.* Larchmont, NY: Eye on Education.
ISBN 1-883001-95-1

Holcomb, E. (2004). *Getting excited about data.* Thousand Oaks, CA: Corwin Press.
ISBN 0-7619-3959-8

Hughes, J. (2005). *School District Almanac (Suffolk County Edition)*. SCOPE and Connolly – Cormack, Publishers. ISBN 1-884280-07-2
(Phone orders only: 631.360.0800: ATTN Dr. Joseph Verdone)

Reeves, D. (2004). *Accountability for learning: How teachers and school leaders can take charge*. Alexandria, VA: ASCD Publications.
ISBN 0-87120-833-4

Supplementary Texts (not required, but selected concepts from these sources may be used within the course)

Bernhardt, V. (2004). *Using data to improve student learning in Middle Schools.* Larchmont, NY: Eye on Education.
ISBN 193055687-x

Bernhardt, V. (2004). *Data Analysis for continuous school improvement.* Larchmont, NY: Eye on Education.
ISBN 1-930556-74-8

Preuss, P. (2003). *School leaders guide to root cause analysis: Using data to dissolve problems*. Larchmont, NY: Eye on Education.
ISBN 1-930556-53-5

Johnson, R. (2002). *Using data to close the achievement gap*. Thousand Oaks, CA: Corwin Press.
ISBN 0-7619-4509-1

Simon, J (2003). *Excel Data Analysis.* New York, NY: Wiley Publishing, Inc.
ISBN 0-7645-3754-7

Other Resource Texts, Materials and Website

Class participants will also receive permission to access to an accompanying on-line database (www.schooldistrictalmanac.org) related to the printed version of the School District Almanac authored by the course's professor. Students will be able to download pertinent district Adobe .pdf files associated with school districts in the database, which will provide the data for both individual Action Assignments and the culminating project.

Course Reading Assignments

Reading Assignments are contained within each Action Assignment. Each reading requires a short, one-page reflective piece written by the student. Readings and subsequent discussions about these resources amount to 30% of the course grade. Extra credit will be available to students who find and submit new relevant articles or websites, which are germane to the on-line discussion.

Course Outline

Action Assignment 1: Scanning Existing Databases

In this initial assignment, your task will be to visit several well-known data based websites, which utilize databases to convey information for decision-making. As you visit these sites, you will be asked to develop a matrix that describes the sites, outlines the data available at these sites, and determines what decisions could be made using these data. At the conclusion of this assignment, you will be asked to reflect on these sites as to their usefulness and timeliness for decision-makers.

Action Assignment 2: Data Becomes Information

We begin building analysis skills by examining a small but powerful database constructed by the professor in this course. You will begin your database skill developing work by examining these data from a regional, and local perspective and drawing some conclusions concerning our schools. Using Microsoft's Excel as the analytic software tool, you will learn about some useful tools for performing data analysis that will be of use throughout the course.

Action Assignment 3: The School District Almanac Database

In New York State, the home for St. John's University, we employ a large range of district and school based data to make educational decisions. In this assignment, you will become familiar with an on-line database and data "indicators" by exploring the 8 major areas of this database: achievement, financial, instruction, enrollment, demographic, budget, personnel, and educational indicators.

Action Assignment 4: Developing a District Data Profile: Descriptive Level Analysis

In the next assignment, you will use the information you gathered in your previous assignment in choosing one district whose achievement levels are below expectations. The achievement criteria you use to choose the district will be important! For this district, you will begin to put together the most relevant data from four areas of the Almanac database: Finance, Instruction, Demographics and Achievement. Using these data indicators, you will begin to construct a set of four district profile matrices using at least 6 indicators in each of the four areas.

Action Assignment 5: Defining the Context of the District Data Profile: Comparative Level Analysis

In this assignment, you will now choose a set of either comparable districts or contiguous (neighboring) districts to begin to build a plan of action. Your choice of districts will include an "aspiration" district and the information provided by these districts will help us to develop a series of potential steps upon which we can move the target district forward toward the district it aspires to be like. The matrices you build for this analysis will be in the same four major areas outlined in the previous assignment. This time, however, the matrix rows will be the comparable districts including the target district and the aspiration district.

Action Assignment 6: Developing the Framework for Decision-Making: Summative Level Analysis

In this assignment, you will examine the root causes behind the target district's difficulty in raising its level of achievement. The matrices you built previously will be quite beneficial in your search for answers. You will learn to do graphical correlation analysis and "skeleton analysis" to examine trends and relationships between and among your districts. You will complete a summary matrix of the four major areas, which will lead to determining the initial steps toward an accountability plan.

Action Assignment 7: Using Data, Information, and Planning to Define Accountability

As you have now discovered, knowing "root causes" is an effective way to use data descriptively, comparatively and, ultimately, summatively. With the arsenal of data you have now collected, the final piece of the puzzle is to develop an accountability plan, which will aid the target district move toward its aspiration. Your job is to develop the first steps in that plan. We will use the Douglas Reeves framework for plan development and utilize the

extensive data you have gathered to frame the initial tasks for your target district. The culminating presentation will directed toward the Board of Education of the Target district.

Course Learning Resources

Each of the 7 Action Assignments in *EDU 5650 School Based Data Analysis* has a task and/or problem to solve. In order to address each task, I have assembled an array of resources that are designed to aid students in the successful completion of each assignment and, at the same time, expand their understanding of the issues and capabilities of data based decision-making. Below are some of the resources I have developed this far.

1) Video Introductions and Assignments

Students will have access to individual videos that provide information to the student from me regarding the course and each assignment. These videos are for students to see and hear me about important information about the course as well as for me to provide them with a face to match the course. These videos are built in **Visual Communicator**, a wonderful piece of software that provides a network TV quality to videos.

2) Course lectures

There are several course lectures that use **Harvard Graphics** software and in which I narrate the lecture as it linearly moves through the topic. These on-line lectures are built with **Camtasia** software, which allows me to add narration and use the mouse to highlight sections of the lecture. Each is a small video, which can be downloaded and replayed.

3) Supplementary training videos

Students have access to a series of videos that teach students about various aspects of **Excel,** which is inherently important for their data analyses tasks. Constructing data matrices, as well as data sorting, filtering, sub-grouping, summary functions (Average, Sum, etc.) and ranking are a few of these important skill-building topics. Again, each is a small video, which can be downloaded and replayed.

4) Topical Issue-Driven videos

Students have access to a Peter Senge video which talks about teamwork in the "Learning Organization" and several small videos on "Data Analysis", "Root Causes", "Bridging the Achievement Gap" and "Accountability" which I have gathered for this course. Like other resources, these videos are to be discussed on-line with at least two other students.

5) Reading Assignments from Primary Texts

Each assignment has chapter readings from three primary texts (outlined below). Readings must be completed for each assignment and each student must write a one-page review of the content covered and its application to the assignment.

6) Research Articles

There are a series (14) of research articles about various aspects of data based analysis, each article matched to the assignment. Students are to read and critique each and discuss the articles with at least two other students on-line. After discussion, each student must post a reflective piece about the article and its significance to their every day administrative work as school leaders. All articles are in .pdf mode and are copyright cleared.

7) School District Almanac Database (www.schooldistrictalmanac.org)

The "Almanac", as it is now commonly known, is a database for all of New York State school districts, and one I have developed over the past 4 years in FileMaker Pro V.7.0. These data will be of consummate importance for their

work The data base has four major areas: Finance, Instruction, Achievement, and Census demographics.

8) Matrix Worksheets

As students learn to examine the database, I have constructed a set of **matrix templates,** which each student must complete before moving to the next assignment. Each matrix represents an array of data that have been "mined" from the Almanac in four major areas: Finance, Instruction, Achievement and Census Demographics. The matrices constructed in each assignment build toward an accountability plan crescendo where students must determine what initial steps a district in need (the Target district) must now take toward reaching its goal (the Aspiration District).

9) Website Links

I have gathered a set of websites that will complement the readings and the Action Activities throughout the course. I will be asking students to expand this initial list with other relevant sites. Below are some of these sites.

www.schooldistrictalmanac.org

www.schoolmatters.org

http://www.just4kids.org/jftk/index.cfm?st=US&loc=home

http://money.cnn.com/best/bplive/cities_table/

http://www.usnews.com/usnews/edu/grad/grhome.htm

www.schoolboarddata.org

www.mprinc.com/pubs/

www.wested.org/csrd/guidebook/toc.htm

http://www.nber.org/sddb/

www.naesp.org

www.ncrel.org/csri/tools/makegood.pdf

www.nwrel.org/csrdp/tool2.pdf

www.aasa.org/issues_and_insights/technology/

www.ecs.org/html/project.asp?projectID=26

www.cse.ucla.edu

www.nsse.org

www.publicagenda.org

Additional Notes and Resources

All homework will have a due date and is due on the date assigned and will be posted to the calendar in WebCT.

HONOR PLEDGE:
Each assignment must be the student's own work and is expected to contain the Honor Pledge.