

Data Driven Decision Making: A Multisite Case Study in Early Childhood Centres in Tobago

S. Abdul-Majied (PhD); J. De Lisle (PhD); S. Herbert (PhD);
A. Gayah-Batchasingh (MEd); S. McMillan-Solomon (MEd);
R. Mohammed (MEd); K. Glasgow-Charles (MEd) &
A. Thornhill (M.A. Ed)

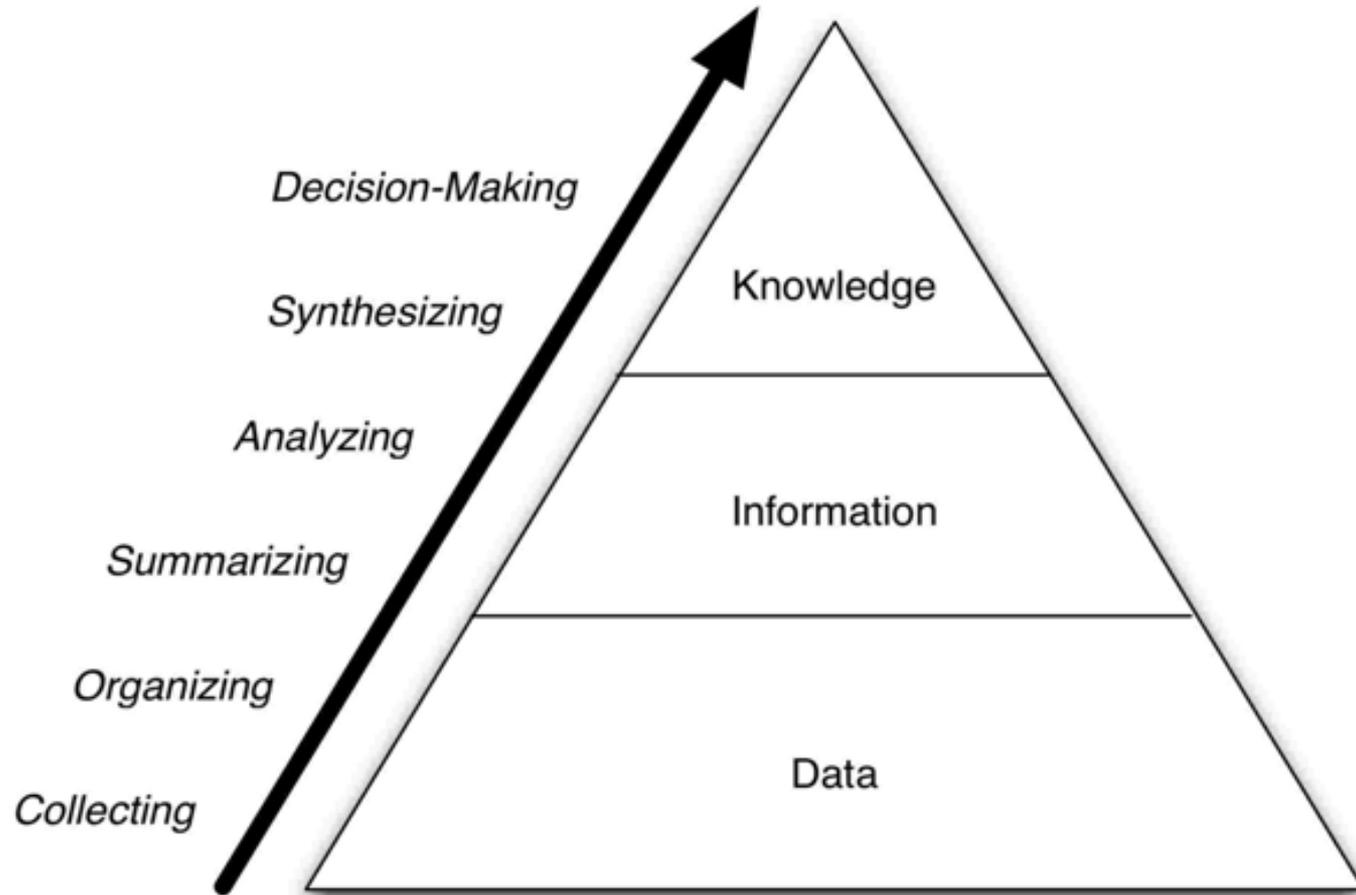
Introduction

“Now that we have all this useful information, it would be nice to be able to do something with it.”

(UNIX Programmer's Manual)

- Data-based decision making (DDDM) is increasing in importance in education
- DDDM refers to systematic collection and use of many forms of data from a variety of sources in order to improve student performance (Choppin, 2002; Marsh, Pane, & Hamilton, 2006).

Data to Knowledge



A simplified version of Ackoff's conceptual framework (taken from Breiter, & Light, 2006)

The Problem

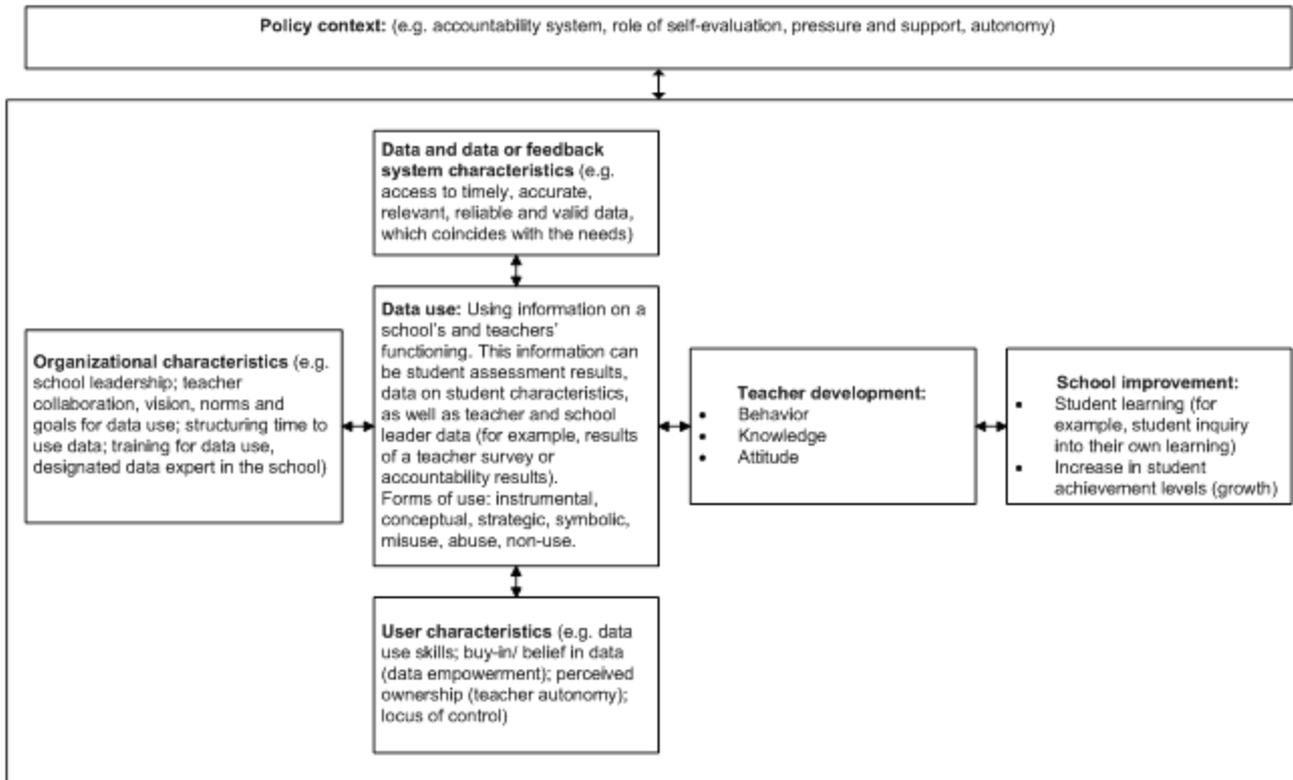
- DDDM is critical to effective equity-focused instruction even at the early childhood care and education (ECCE) level.
- In Trinidad and Tobago ECCE provision is designed to foster collaborative data-driven inquiry by teachers.
- The Ministry of Education provides many documents for record keeping. They also provide administrative support for data collection.
- In spite of this, some teachers report difficulty with data collection and use.

Research Questions

1. What types of data and data use systems are available at the ECCE Centres?
2. For what purposes are data used at the Centres?
3. What factors facilitate or inhibit data practices (collection and use) at the centres?

THEORETICAL MODEL

Schildkamp and Kuiper, (2010)



Methods

- This was a qualitative study using semi-structured interviews with staff at ECCE centres as the main tool.
- This part of the study reports only on three Centres located in the Education Division of Tobago

Data Analysis

The study employed a generic inductive approach to qualitative data analysis in which the interview text was:

1. Coded line by line by two independent researchers;
2. A unified codebook was generated and re-applied to the text;
3. Codes were integrated and coalesced into sub-categories and categories; &
4. Themes were then generated from an analysis of categories and sub-categories.

Themes were labelled based on common categories found in data use models.

Examples of Codes & Categories-Data Use

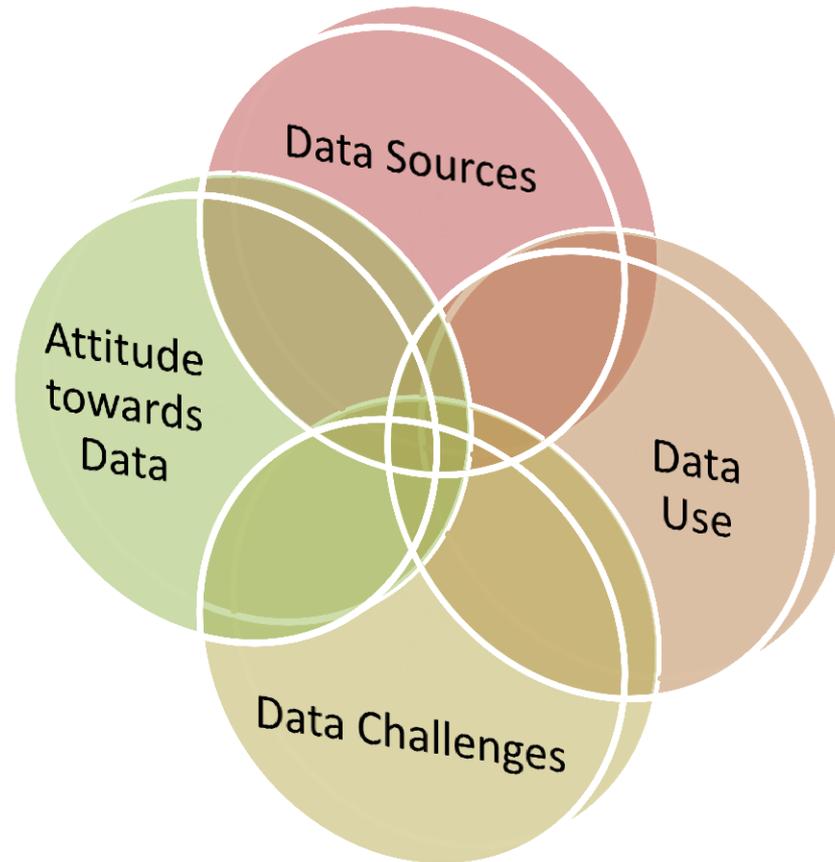
Category	Codes
Using data to aid planning learning activities	Using observation narratives to decide follow up activity, Using observation data to make decisions, Viewing data as helping with diagnosis, Using data to help diagnose needs, Using data to plan instruction, Using data to plan, Using data to plan work that meets needs of students, Using data from observation, Passing on information to other teachers, Recognizing a need to diagnose and group, Using assessment and record keeping to plan, Using data to see where to aid planning, Looking at needs of child
Using data as evidence	Giving parents proof of child's progress, Providing parents with data, Meeting with parents to discuss data on child, Using data to document time span of an issue, Reporting reliability, Using the same instruments, Using standardized forms, Using data to aid talking to parents about child's progress, Using data to conference with parents, Using data like evidence, Showing evidence of what was done, Using data as evidence during term, Using data as evidence, Documenting what the child did, Using data to help with behavior, Using data to report to parents, Giving example of discussion with parents

Data Analysis Tools

This general approach to inductively deriving themes were supplemented with the following **qualitative data analysis strategies** as described in the work of Leech and Onwuegbuzie (2007)

1. Line by line coding (Grounded Theory),
2. Constant comparative analysis (Grounded Theory) &
3. Content analysis

Findings: DDDM in ECCE-Themes



Theme 1 with Categories & Samples

- **Sources of data**
 - There were many sources of data in use
 - Sometimes multiple data sources were used for triangulation purposes
- So, in getting information on a child, you try and get from as many different sources as possible; the different people that impact the child's life. Try and see their take on it before you decide "well, this may be a troubled child, or at risk, or a whatever child".

Theme 2 With Categories and Samples

- **Data use**

- Using data to document students' progress
- Using data to aid planning learning activities
- Using data as evidence
- Using data to understand students' background

Well recently coming out of the practicum we try to get a database in place so that we know who our parents are what they're good at where they work, things they do and stuff like that. It helps a lot or it is helping a lot and we have now started compiling that. That is helping a lot to find out really where children come from and some of the things that they have to put up with, half the time some of these parents are not even around. So you could tell when the children behave a certain way it is only granny alone or aunty around.

Theme 3 with categories and samples

- **Challenges of Using Data**

- Storage and access of data
- Subjectivity of different sources of data
- Experience and training are necessary for data use
- Lack of monitoring & support in Tobago

It's only since I started doing the course I started putting things on flash drives and computer stuff, you know. And that has helped me a lot too, because I wasn't into the technology either, you know. The exposure was good. But everything else I have is on hard copy. Hard copy so far.

Theme 4 with categories and samples

- **Attitudes towards data**

- Perceptions of data
- Challenges in manipulating data
- Collaborative working and Collegial thinking

To collect data can be tedious sometimes. Sometimes the day doesn't allow for you to do that. In terms of actually sitting down to do the narratives where you can easily look at something and make up a little jotting as to certain behaviours you observed during the day. Certain things that weren't pleasing, certain things that were pleasing. Rather than actually sitting down and going through the whole observation. Because sometimes you might be doing free play and a child may have an accident and you may need to go to see about the child so you may not actually be able to have the one- on- one observation that you need.

Summary

- There were multiple opportunities to use data and many sources of data. However, most of the uses centred upon instruction or teaching-learning. There were few or no cases of data used for institutional improvement.
- Attitudes towards data were mostly positive; however, there was a need for training.
- The absence of resources and tools was a major obstacle to using data in these ECCE centres.

Educational Implications

- Data based decision making should be formally installed just like any intervention
- The Division must pay attention to data warehousing, training for teachers, and fostering collaborative cultures for efficient data use.
- Training will provide ECCE teachers with the capacity to make better choices and to judge the utility of assessment data.

THANK YOU!