

DOCUMENT RESUME

ED 090 993

IR 000 604

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TITLE The Development and Implementation of a Multi-Level Management Information Feedback System.
PUB DATE Apr 74
NOTE 7p.; Paper presented at the Annual Meeting of the American Educational Research Association (59th, Chicago, Illinois, April 1974)

EDRS PRICE MF-\$0.75 HC-\$1.50 PLUS POSTAGE
DESCRIPTORS *Computer Oriented Programs; *Feedback; Information Needs; Information Systems; *Management Information Systems; Program Descriptions; *Program Evaluation; *Reading Programs; School Districts
IDENTIFIERS *Management Information Feedback System; Philadelphia School District

ABSTRACT

The Philadelphia School System developed a multilevel Management Information Feedback System to monitor the operation of the reading programs of its eight subdistricts. The major steps involved in the developmental process were: (1) the determination of what information was needed; (2) the development of noninterruptive information collection procedures; (3) the design of useful display formats; (4) the writing of the required computer programs; and (5) the development of cooperative working relationships with all project personnel. District resources were coordinated and a system was developed which employed the district's inhouse computer facilities to generate information useful at the classroom, school, and district administrative levels. The project was substantially completed on time. Analysis of the system's output indicated that it produced global information which was useful for management purposes but which was not sufficiently individualized and skill-specific to be useful to the teachers at the classroom instructional level. Improvements were undertaken to remedy this problem. (PB)

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THE DEVELOPMENT AND IMPLEMENTATION OF A MULTI-LEVEL
MANAGEMENT INFORMATION FEEDBACK SYSTEM

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Paper presented at the American Educational Research
Association Convention, Chicago, April 1974.

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The Development and Implementation of a Multi-Level Management Information Feedback System

- - Irvin J. Farber

The impetus for our work with an information feedback system was the School District of Philadelphia's intensive effort to improve the reading skills of its students. Each of the school system's eight administrative sub-districts was given the mandate to develop reading programs appropriate for its respective student populations. As may be expected, a wide range of programs emerged. This was influenced by the needs of the student populations served, the orientations of the professional staffs involved, and, in some cases, the success of publishers' representatives in sounding like they had discovered the "philosopher's stone."

This, in brief, was the situation that faced us. Our responsibility was to evaluate the progress of the reading program or, rather, programs. The immediate responsibility was given to the Research Associate assigned to each district office, and the effort was coordinated centrally by the Research Office. Administrative sub-districts range in size from about 17,000 students to about 45,000 students each, and there are approximately 35 schools in each district.

The main constraints which we faced in developing the feedback system included:

1. a minimal collection effort had to produce information for three levels of decision-makers: classroom, school, and upper administration.
2. information produced had to be directly usable by project personnel.
3. disruption of the instructional process had to be minimal.

4. allowance had to be made within a single system for a variety of programs among administrative sub-districts.
5. information had to be available when decisions were to be made.
6. maximum use had to be made of computer facilities so that teacher involvement would be minimal.
7. the entire job had to be accomplished on inhouse facilities (initially a Digitek 100 and an IBM 360-40, and currently an NCS Sentry 70 and an IBM 370-145).

The major steps to be accomplished in the development of the system were:

1. determining what information was needed (i.e., who needed what? When? And for what purpose?)
2. developing an information collection procedure that would involve minimal classroom interference.
3. designing display formats that would report information in a useful, easily understandable manner.
4. writing the necessary computer programs to process and display the information.
5. developing a cooperative relationship with project personnel that would assure the utilization of the information and a free flowback of reaction to it.

While the steps listed appear to be routine and straightforward, it is submitted that the final point is the critical element too often missing. It is really the interactive relationship between the evaluator and project personnel that transforms the evaluation process from an academic exercise to a process of improving the educational effort.

The details of how each step of the system was approached will be discussed in the subsequent papers in this symposium.

The coordination of this effort involved bringing together the various resources of the school system to produce the final products. In brief, data collection, transportation, scanning, data processing (i.e., report production), and report distribution had to be coordinated so that each element was where it was supposed to be, when it was supposed to be there, and its arrival was expected. In addition, the activities of seven administrative sub-districts had to be intermeshed so that they didn't bump into each other. This had to be accomplished three times during the school year.

Appendix A is a copy of the schedule for one month. The numbers refer to the administrative sub-districts. I cannot report that all deadlines were achieved. I can, however, testify to the fact that Edsel Murphy's law works beautifully! Still, before the end of the year the anticipated turnaround was being achieved.

With all of this planning and forethought one might imagine that we had "arrived." As one commercial has it: even your best friends won't tell you. Well, teachers will! They found the information produced less than useful. If nothing else, it was too global. The question addressed by our reports was: what is the status of class X as of time Y? The question being asked by the teachers was: what shall I do with Johnny tomorrow morning? The indication was that our reports were more useful for management purposes than for instructional purposes.

Teachers required information about specific skills to which they could address their instructional programs. This meant that instruments had to be

developed to measure these skills and the procedures outlined above repeated, but with one additional constraint. Classroom data becomes stale very quickly. We had to gear up for eventual overnight turnaround.

This, then, is the outline of our system addressed to each level or decision-maker in the school system. My colleagues will describe how each step was approached.

I would like to add one last footnote: since we submitted the outline for this symposium, a decision has been made to undertake some major changes in our system. It will be expanded to another curriculum area, and it will attempt to reduce the amount of teacher involvement by making better use of the capabilities of our new scanning system.

One might reasonably ask whether we are ready to share our experiences if our system is not finished. It has been our experience that a system begins to become obsolete as soon as it is "finished." At this point I'm not sure that it will be any more "finished" ten years from now. The critical need is to be flexible enough to change and secure enough to listen when you are rather pointedly told that you need to do so.

JAN

1972

1972 JANUARY 1972
S M T W T F S
2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29

1972 FEBRUARY 1972
S M T W T F S
1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29

1972 MARCH 1972
S M T W T F S
1 2 3 4
5 6 7 8 9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30 31

1972 APRIL 1972
S M T W T F S
2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29

1972 MAY 1972
S M T W T F S
1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

1972 JUNE 1972
S M T W T F S
4 5 6 7 8 9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30

1972 JULY 1972
S M T W T F S
2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29

1972 AUGUST 1972
S M T W T F S
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31

1972 SEPTEMBER 1972
S M T W T F S
2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29
30

1972 OCTOBER 1972
S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31

1972 NOVEMBER 1972
S M T W T F S
6 7 8 9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30

1972 DECEMBER 1972
S M T W T F S
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31

SUNDAY

MONDAY

TUESDAY

APPENDIX A-1

2

002

3

003

4

004

7-Plan labels

9

009

10

010

11

011

4-Plan labels
3-Pick up forms

3-Process forms

16

016

17

017

18

018

7-Pick up forms
2-Test labels
2-Plan board
1-Plan labels
3- Report program
3- Print report

7-Process forms
3-Decollate
3-Deliver reports

23

023

24

024

25

025

4-Process forms
7- Report program
7- Print report

4-Process forms
4- Cards to tape
4- Sort by I.D.
7-Decollate
7-Deliver report
2-Pick up forms

30

030

31

031

2- Validation program
2- Sort by location
2-Return forms

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

1 New Year's Day 001

APPENDIX A-II

5 005

6 006

7 007

8 008

7-Test labels
7-Plan board

12 012

13 013

14 014

15 015

4-Test labels
4-Plan board
3-Process forms

2-Plan labels
3-Process forms
3-Cards to tape
3-Sort by I.D.

3-Validation program
3-Sort by location
3-Return forms

19 019

20 020

21 021

22 022

7-Process forms
1-Test labels

7-Process forms
1-Plan board
7-Cards to tape
7-Sort by I.D.
4-Pick up forms

7-Return forms
7-Validation program
7-Sort by location
4-Process forms

26 026

27 027

28 028

29 029

4-Return forms
4-Validation program
4-Sort by I.D.
2-Process forms

4-Report program
4-Print report
2-Process forms

4-Decollate
4-Deliver report
2-Process forms
2-Cards to tape
2-Sort by I.D.

Notes Numbers include district.