Data Sources and Collection Procedures in Physical Education

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Results: Sources of Input Data

- Needs assessment at district level
  - School Health Index
  - Curriculum evaluation (PECAT/HECAT)
  - Research study
  - Previous fitness scores
- Class rosters
  - Class sizes not to exceed 45:1

Background

Data-driven decision-making (DDDM) has received extraordinary attention in education, but few studies have explored how the process unfolds within the context of K-12 physical education. The purpose of this study was to conduct an in-depth investigation into data sources and collection procedures in a large urban school district.

Examples of Potential Data Sources in Physical Education

- Equipment availability
- Class sizes
- Meeting frequency

- Physical activity time
- Teacher feedback
- Standards addressed

Input Data

Process Data

Outcome Data

Satisfaction Data

- Achievement of standards
- Health behaviors
- Self-efficacy

- Opinions of students, teachers, and/or parents

Framework adapted from Marsh, Pane, & Hamilton, 2006.

Results: Sources of Process Data

- Piloting of Virtual PE Administrator®
  - Potential to collect lesson content data
- Heart rate monitors & pedometers
  - Potential to collect physical activity time data
- Observations & routines
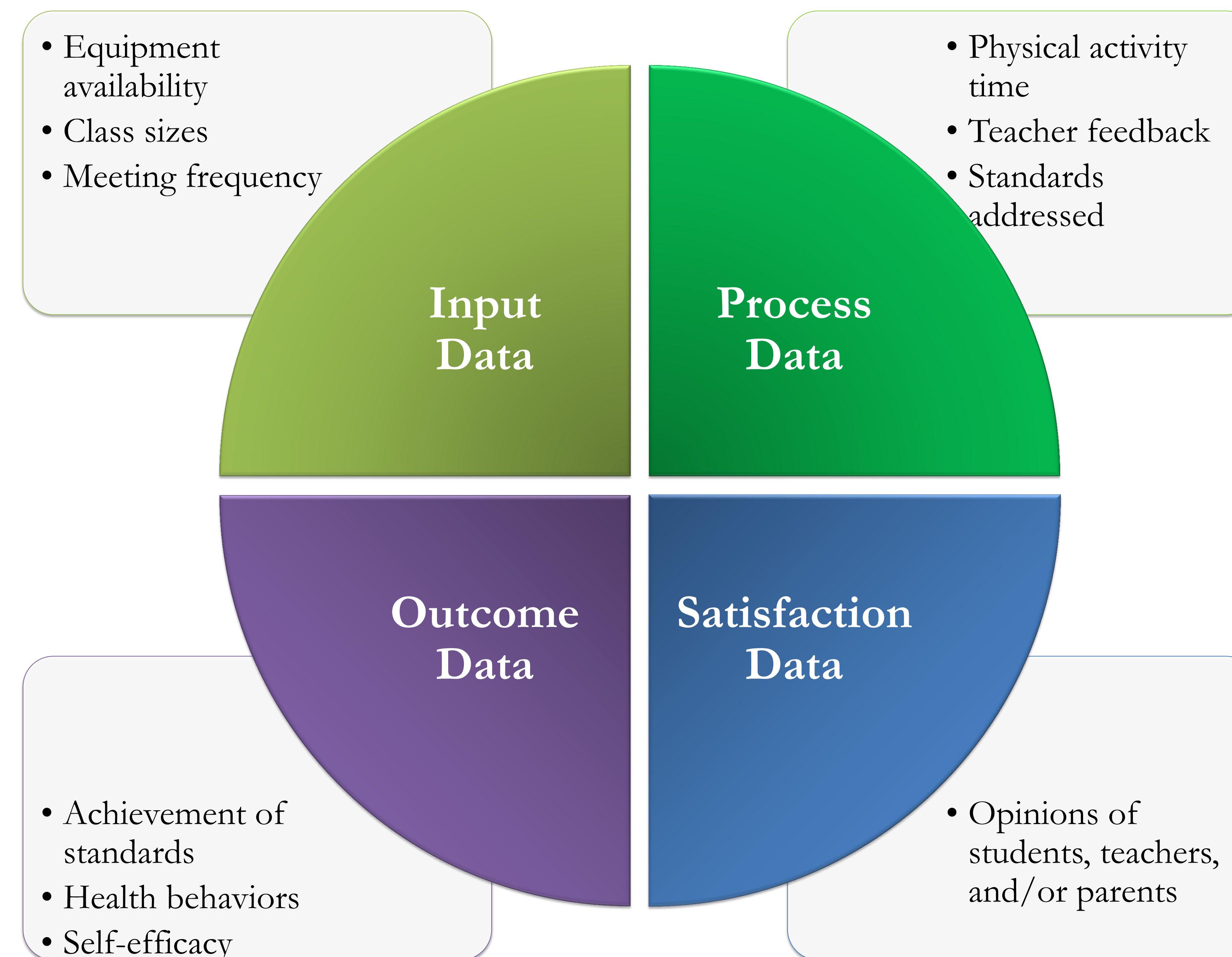 - Teachers were "aware" of physical activity time

Method

- Multi-site case study design:
  - One district, eight schools (3 ES, 3 MS, 2 HS)
- Criterion for district selection:
  - Recipient of a Carol M. White Physical Education Program (PEP) Grant
- Research question:
  - What types of physical education-related data were teachers and administrators collecting and how?
- Case study evidence:
  - Interviews with teachers & district coordinators
  - Direct observations of physical education lessons
  - Documents/artifacts
- Analysis
  - A priori coding system based on Marsh et al. (2006)
  - Integrative memos
- Trustworthiness
  - Triangulation, member checks & peer debriefing

Key Findings

- Sources of data were determined primarily by grant requirements and state policies
  - Heavy emphasis on health-related outcomes at the expense of motor skills, knowledge, social skills, and values
- Minimal collection of process and satisfaction data
  - Potential for improvement with technology
- Data collection/management was time consuming
  - Major turn off for teachers
- Questions surrounding the validity/reliability of data
  - Misuse of pedometers & low motivation among students to complete assessments
- Large class sizes at the elementary school level made data collection challenging

Implications

- Grants & polices need to be aligned with standards
- Teachers need more training on data collection strategies

Results: Sources of Outcome Data

- Required PEP Grant Data (GPRA)
  - Pedometer steps, fruit & vegetable questionnaire, 3-day physical activity recall, 20 meter shuttle run, height/weight
- FitnessGram®
  - PACER, pushups, curl-ups, trunk lift, shoulder stretch, height/weight

Results: Data Collection Procedures

- GPRA data collected five times per year at middle and high school levels
  - Teachers provided with data collection forms, pedometers, and a checklist of collection/data input procedures
- FitnessGram® data collected 1-2 times per year at elementary school level
  - Collected in stations over 2-3 weeks

Results: Sources of Satisfaction Data

- Teacher surveys
  - Related to professional development needs
- No parent surveys
  - Strict district policy discouraged parent surveys
- No student surveys