

# Data-use Process

**Attainment Advisors**  
**04.06.19**

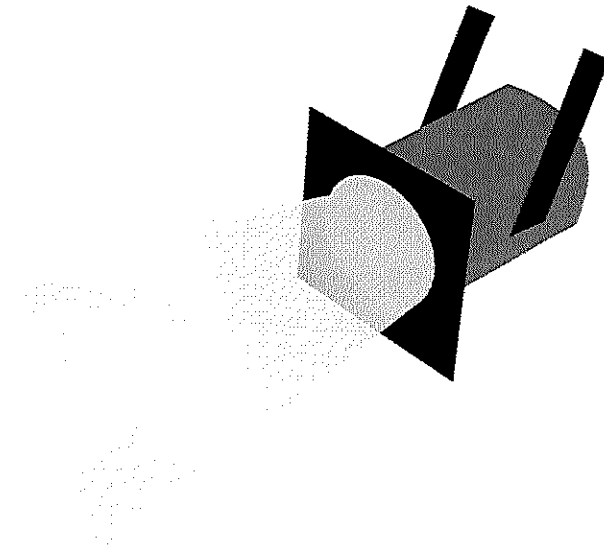
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For Scotland's learners, with Scotland's educators

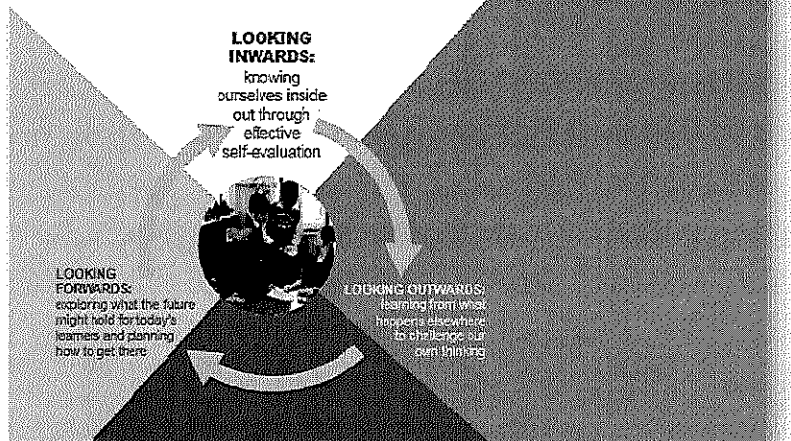
# Spotlight on data-use

- “It is no longer acceptable to simply use anecdotes, gut feelings, or opinions as the basis for decisions” Mandinach (2012, p.72)
- Teachers and headteachers are being urged to make increased and more systematic use of data (Datnow and Park, 2018; Lachat & Smith, 2005; Orland, 2015)
- Key strategy for improving schools in policy and practitioner literature (Park, 2018).
- Data-use can lead to school improvement through improved learning and teaching, resulting in raised pupil attainment (Carlson, Borman & Robinson, 2011; Keuning, Van Geel, Visscher & Fox, 2016).
- Can be a tool used to narrow attainment gaps (Lachat & Smith, 2005)
- Schools are expected to use data to increase their effectiveness and are increasingly being held accountable for this. (Schildkamp, Poortman, Luyten & Ebbeler, 2017).



# How good is our school?

4th EDITION



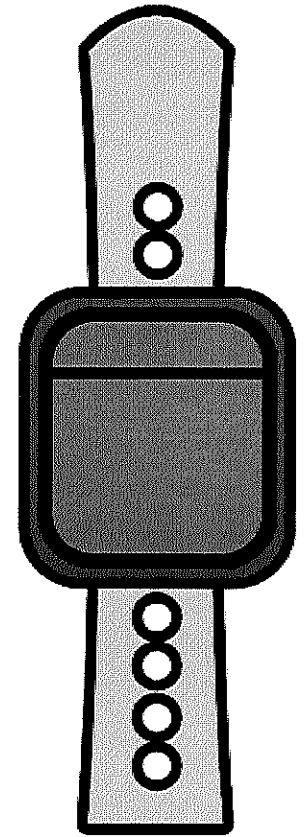
- **Staff make effective use of up-to-date research/data** from Scotland and beyond **to inform their learning** and developments
- Effective self-evaluation includes rigorous interrogation of data by **staff who are data-literate** (1.1)
- We **gather a range of data** and information **to monitor and track progress** for all learners (1.1)
- **We regularly interrogate data**, making use of digital technology to support this where relevant and appropriate (1.1)
- Does everyone in the school have a clear understanding of our collective strengths and areas for development? **Are conclusions** about these **drawn from a wide range of data and evidence?** (1.3)
- **We use data and evaluations** of the impact of previous planning priorities and learning **programmes to inform future resourcing decisions** (1.5)
- Staff have a shared understanding of what impacts on child poverty and **make effective use of current available data on levels of child poverty and apply this to ensure equity** (1.5)
- **All teachers have well-developed skills of data analysis** which are focused on improvement (2.3)
- **The school's data demonstrates our current learners are making very good progress** (3.2)



**Data-use can be an important lever  
for achieving equity.**

**We cannot simply promote data-use  
and expect good things to happen**

DATNOW, A.; PARK, V. (2018)





KEEP

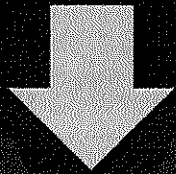
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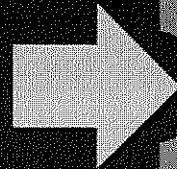
LOVE

DATA

**Know your  
gaps**



**Address your  
gaps**



**Share success**



**Mind your  
gaps**



# Closing the Gap: From data to targeted action and impact

**Know your  
gaps**

*“Pupil Equity Funding is additional funding allocated directly to schools and **targeted at closing the poverty-related attainment gap.**”*

*Pupil Equity Funding (PEF) National Operational Guidance 2019*

## 1. **Collect, organise and analyse multiple types of data:**

Demographic; Process; Pupil Learning; Perception = *information.*

Combine with understanding and expertise = *actionable knowledge.*

## 2. **Agree priorities.**



# Asking questions...



Effective schools and teachers ask questions.

Data are the answers to our questions.

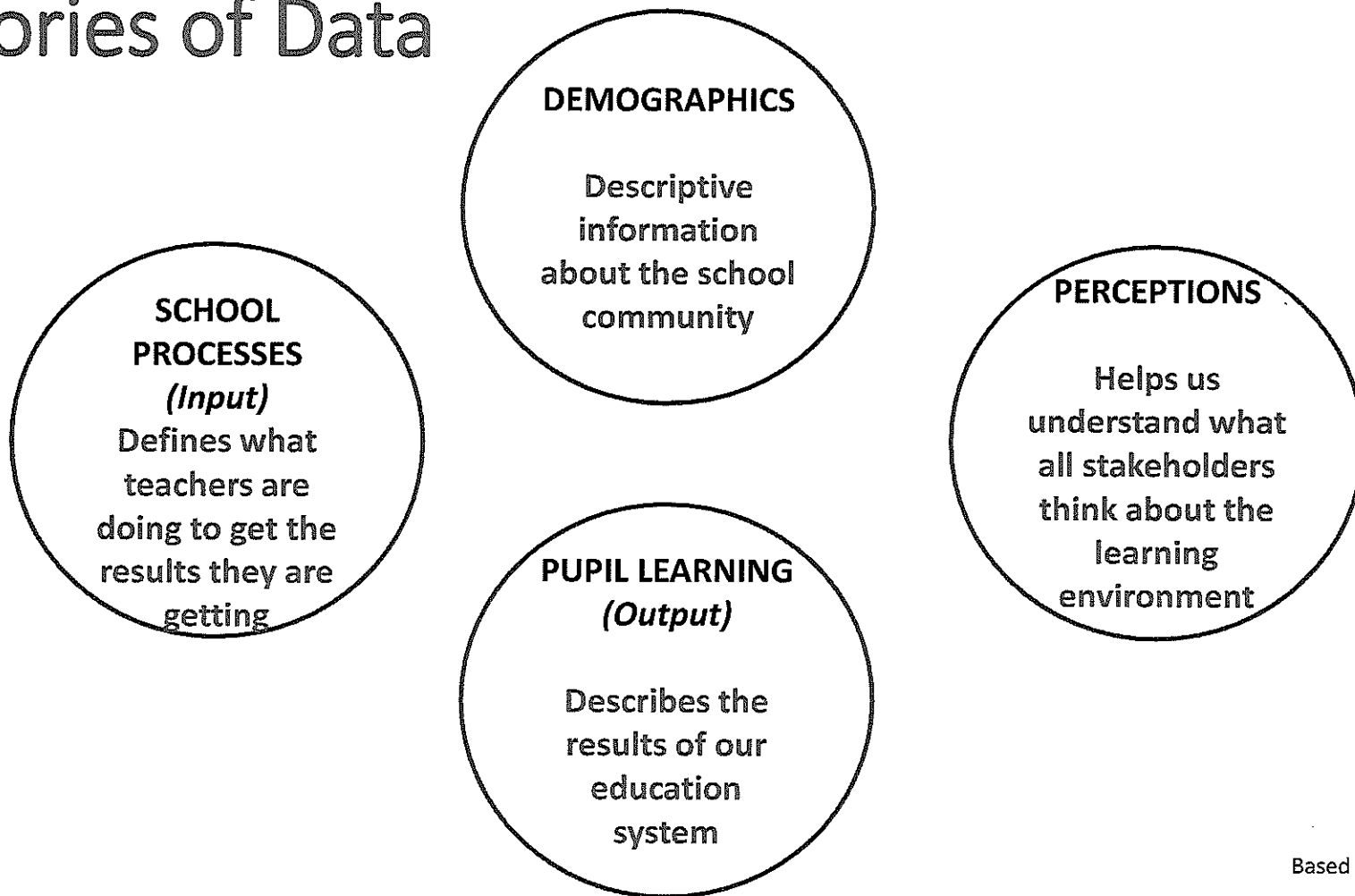
# Answering questions...



To answer these questions we need information about:

1. Our children
2. Our children's learning
3. How children feel about their learning, their 'teachers', each other, their learning environment..
4. What 'teachers' did that worked, or didn't work.

# 4 categories of Data



Based on Bernhardt, V (1998)

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# Snapshot of the data

Looking at each of the 4 categories separately, we get snapshots of data in isolation from any other data at the school level.

We can answer questions such as:

- How many children are living in SIMD 1 and 2 in Primary 5? (*Demographic*)
- How satisfied are parents, children and/ or staff with the learning environment? (*Perceptions*)
- How many children attained the expected CFE level at P1, P4 & P7? (*Pupil Learning*)
- What PEF interventions are operating in the school this year? (*School Processes*)

# Snapshot of the data – over time

By looking over time we can answer questions such as, but not limited to:

- How has enrolment in the school changed over the past five years?
- How have pupil perceptions of the learning environment changed over time?
- Are there differences in pupil scores on standardised assessments over the years?
- What interventions have operated in the school in the past five years?

# Intersection of two categories

Intersecting two measures, we begin to see a much more vivid picture of the school, allowing us to answer questions such as:

- Do children who attend school every day perform better on school assessments than children who miss more than five days a month? (*Demographics by Pupil Learning*)
- Is there a gender difference in children's perceptions of the learning environment? (*Perceptions by Demographics*)
- Do children with positive attitudes about school do better academically, as measured by in-school assessments? (*Perceptions by Pupil Learning*)
- Do children who engaged in a play-based curriculum perform better than the children who were in our more 'traditional' class? (*Pupil Learning by School Processes*)

# Intersection of three categories

The types of questions that we are able to answer may include:

- Do children in different SIMD quintiles perceive the learning environment differently, and are their in-school assessment scores consistent with those perceptions? (*Demographics by Perception by Pupil Learning*)
- Is there a difference in children's reports of what they like most about the school by whether or not they participate in afterschool clubs? Do these children attain higher assessment scores than children who do not participate in afterschool clubs? (*Perceptions by Pupil Learning by School Processes*)
- Which PEF intervention is making the biggest difference on attainment for our most disadvantaged children this year, and is one group of children (e.g. boys) responding 'better' to the process? (*School Processes by Pupil Learning by Demographics*)

Looking at three types of data over time allows us to see trends, to begin to understand the learning environment from the children's perspectives, and to know how to deliver instruction to get the desired results for *all* children.

# Intersection of four categories

With this intersection we can answer the ultimate question:

- Based on whom we have as pupils and how they prefer to learn, and what programs and/or interventions they receive, are all pupils making the expected progress?



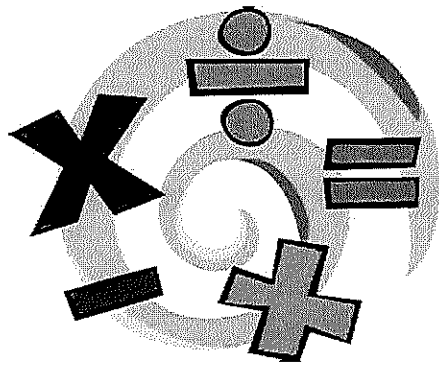
# Focusing the Data

- *Analysis paralysis* – not about just gathering data.
- Effective data use: helps teachers/ schools to understand if they are achieving their purpose and meeting the needs of *all* pupils – and, if not, why not? **Identifying root causes.**
- To avoid analysis paralysis – think of key questions and build your analyses around the answers to these questions (using different categories of data)

Bernhardt, V.L. (1998)

# Focusing the Data

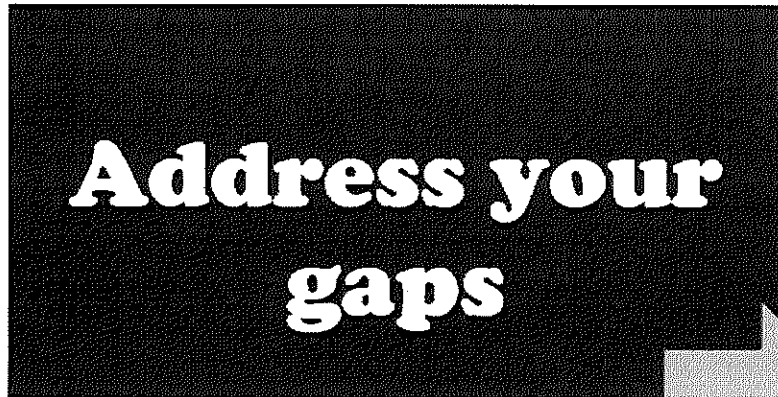
*Multiple measures of pupil learning data alone are not sufficient for comprehensive class/ school improvement, and, in fact, can be misleading in this regard.*



Example

Bernhardt, V.L. (1998)

## Closing the Gap: From data to targeted action and impact



“Headteachers must develop a clear rationale for use of the funding, based on a robust contextual analysis, including relevant data which identifies the poverty-related attainment gap *in their schools and plans must be grounded in evidence of what is known to be effective at raising attainment for children affected by poverty.*”

*PEF National Operational Guidance 2019*

3. **Define outcomes** (aims): This is the change you want to see. Specify *what* you are going to change; for *whom*; by *how much*; and by *when*.
4. **Identify measures**: What, and how, will you measure, so that you know your action is leading to improvement?
5. **Focus actions**: Plan the detail of your interventions. Careful consideration should be given to how you are going to achieve the desired change.

## Closing the Gap: From data to targeted action and impact

**Mind your  
gaps**

**“Schools should articulate clearly defined outcomes to enable progress and impact to be measured.”**

*PEF National Operational Guidance  
2019*

6. **Measure impact:** Implement change/ intervention. Measure the impact at regular intervals, as planned (see 'Address your gaps'). *In practice, evaluation and reflection are present throughout. Adapt, adopt or abandon.*

## Closing the Gap: From data to targeted action and impact

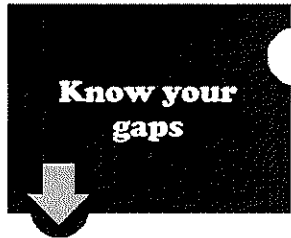
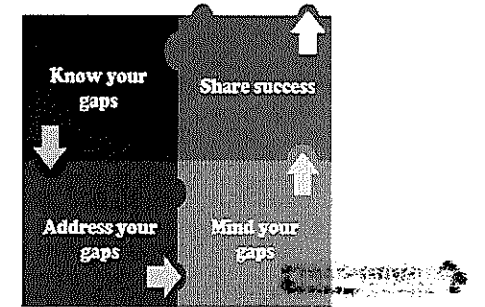
**Share success**

Can you articulate **what you know** (*data*), **what you intend to change** (*gap you want to close*), **for whom** (*targeted children*), and **how you are going to change it** (*approach you intend to use*)?

7. **Share success and scale up:** What can you learn from this change? Can you now adopt this approach more widely? What can others learn? Celebrate and share success.

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# Closing the gap: From data to targeted action and impact

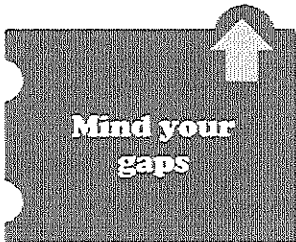


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2. **Agree priorities.**

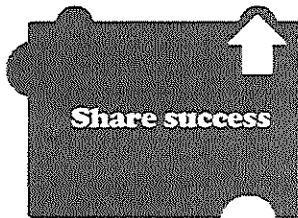
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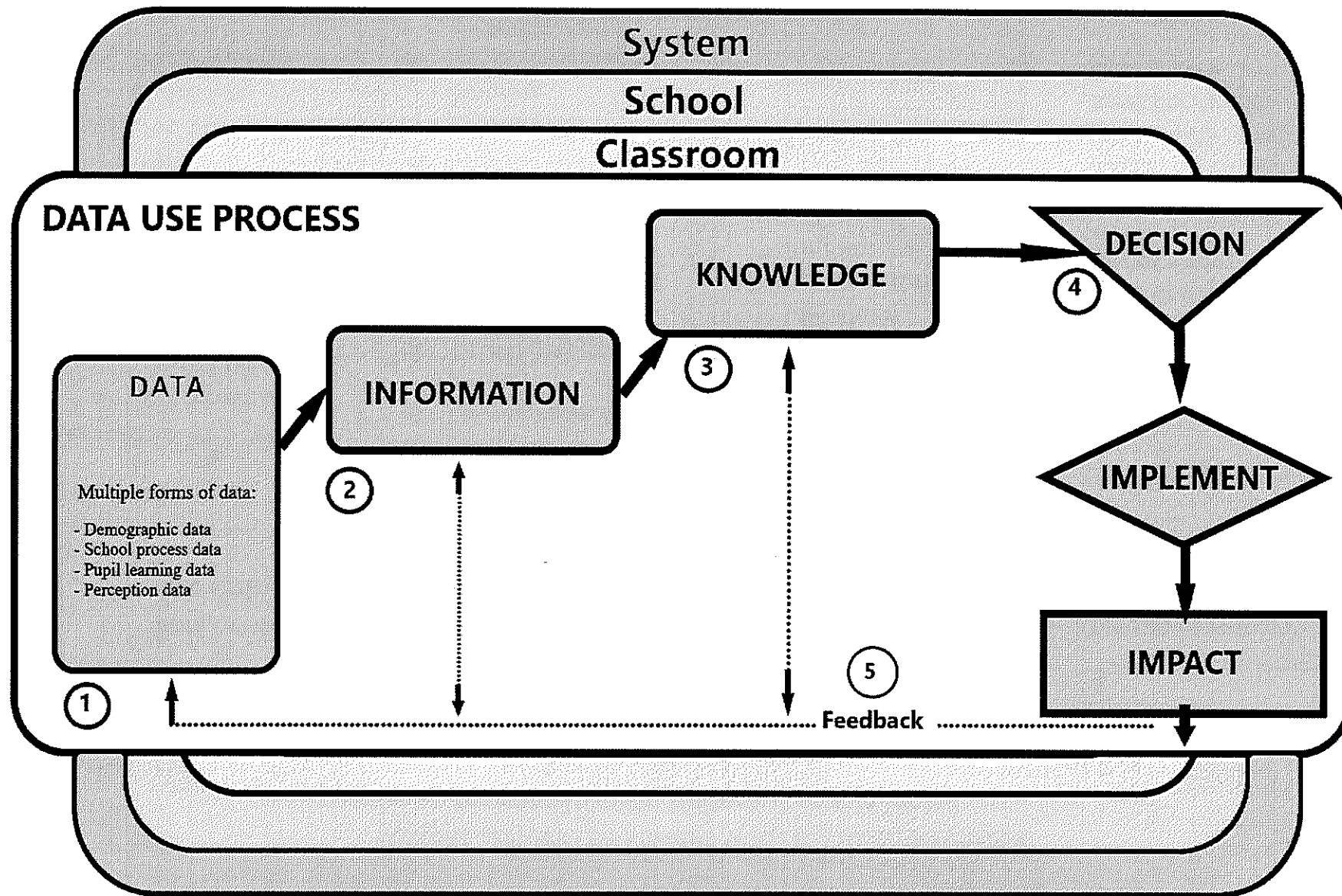
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@PFlemingHT



**Headteachers' practices which foster teachers' instructionally oriented use of data.**

**1. Build a data-use culture**

- a) Co-construct shared meanings
- b) Distribute data leadership
- c) Establish shared vision, norms and goals for data use
- d) Promote collective responsibility

**2. Build staff capacity (PDL)**

- a) Develop own data literacy
- b) Model data use (positively)
- c) Focus on improving teacher pedagogical content knowledge
- d) Training and professional learning
- e) Respect teachers' professionalism

**3. Focus on collaboration**

- a) Provide informal opportunities (data talk)
- b) Dedicate time for data use collaboration
- c) Agree norms, routines and structures to collaboration

**4. Provide resources and support**

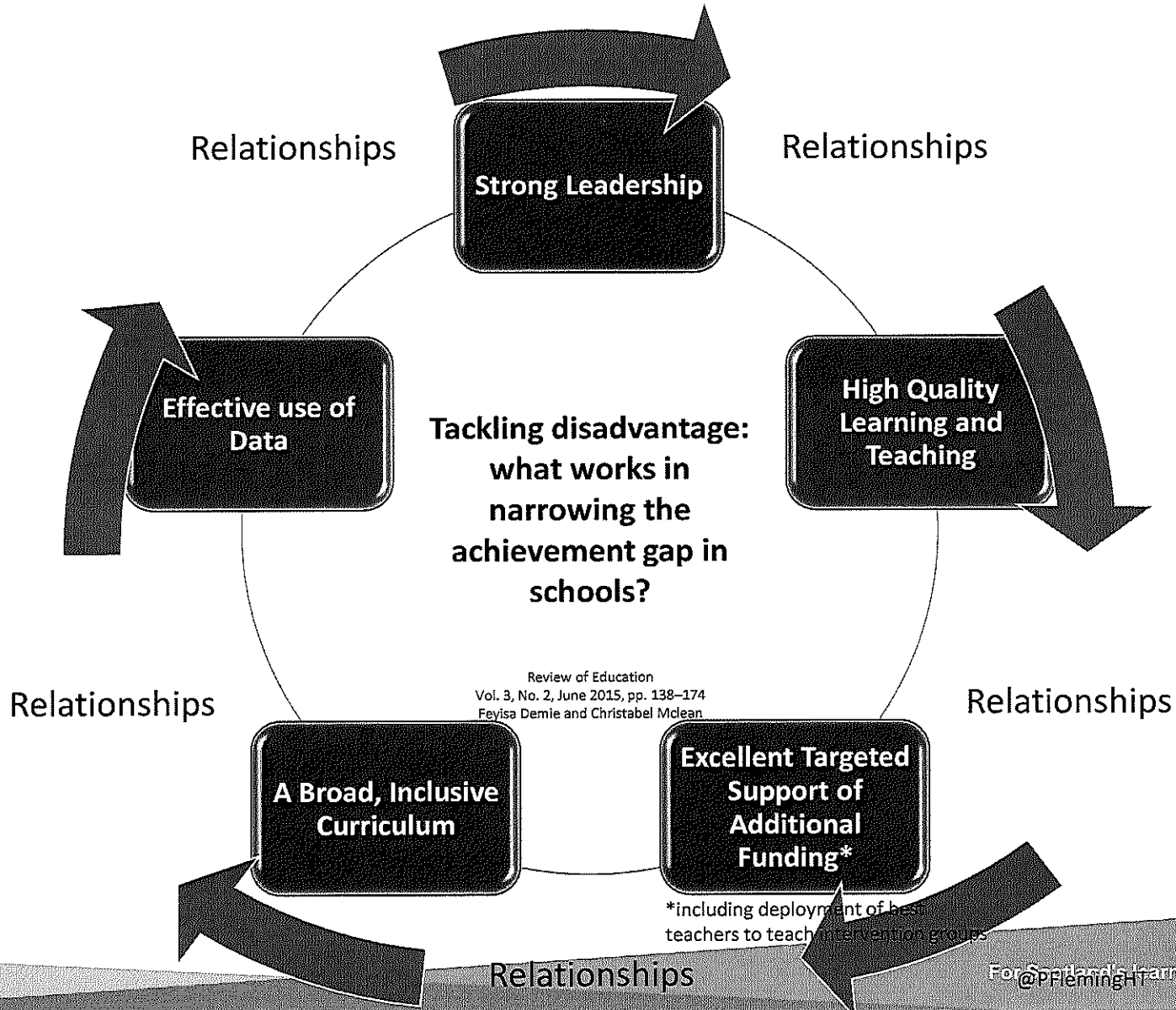
- a) Provide time – support
- b) Ensure use of suitable data management system
- c) Make a data coach available
- d) Ensure data quality, accessibility and relevancy



# Effective data use for excellence and equity

- **School culture:** Data use for continuous improvement, not to 'point fingers' (*school, teacher, system...*)
- **Engage in collaborative enquiry** (*teacher professional judgement, building capacity*)
- **Know your gaps, Address your gaps, Measure your progress** (*PEF Plan/ School Improvement Plan... suite of measures - Not just 'attainment'*)
- **Focus on 'Excellence and Equity':** *Progress for all, and a relentless focus on closing gaps*
- **Look inwards** (dig deep, triangulate, look at pupil engagement, look at organisational data, understand and commit to equity...)
- **Look outwards** (*Dundee Data/ RIC data, BGE Improvement Tool, National Improvement Framework*)
- **Look forwards** (*create class/ school aims – look at Dundee/ Tayside/ National aims*)
- **Intersect different categories of data to identify root causes** (Think about demographic; pupil learning, process, perception)

# Importance of data



ANY  
QUESTIONS?





# Data-use Process

Attainment Advisors 04.06.19

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[REDACTED]

[REDACTED]

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