QUICK REFERENCE

Carnegie Foundation
for the Advancement of Teaching

THEORY OF PRACTICE IMPROVEMENT & DRIVER DIAGRAMS

A **theory of practice improvement** connects an improvement aim to the specific practices or changes that are needed in order to achieve that aim. This theory identifies key **drivers** or factors that impact, cause, or inhibit other elements of a system. Drivers are often the key structures, norms or processes upon which a team may focus its improvement work.

A theory of practice improvement can be communicated in different ways, including with a hypothesis statement, a process map, or a driver diagram. A **driver diagram** is a visual tool used to communicate a theory of practice improvement by presenting high-leverage drivers and related changes that it is believed will lead to the desired outcomes.

WHY USE A DRIVER DIAGRAM?

Driver diagrams are a key organizing tool for your improvement work because they articulate your working theory for how to reach your aim and help your team coordinate work across different components of your system. Driver diagrams represent your current understanding of what changes will lead to an improvement and should be regularly updated according to what you learn.

It's important to regularly consider the level of evidence you have for your theory. Some questions to consider:

1. Why do you believe your "theory of practice improvement" will help achieve your aim?
2. How much confidence do you have in your theory?
3. How could you test the driver diagram with experts or users?

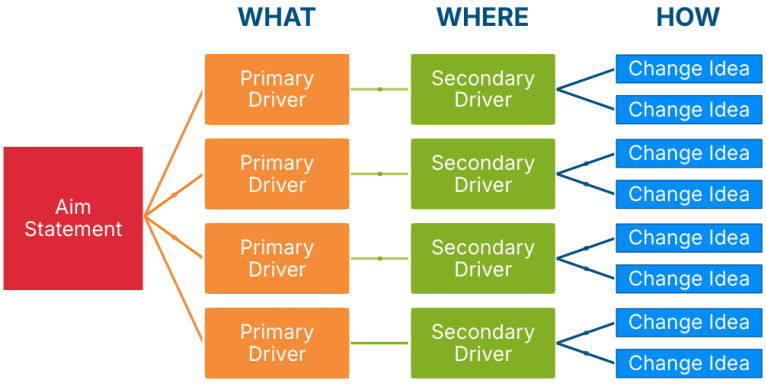
COMPONENTS OF A DRIVER DIAGRAM

Aim Statement: Improvement goal

Primary Drivers: **WHAT** are the most high-leverage areas of focus to achieve our aim?

Secondary Drivers: **WHERE** in the system can we make changes that will result in improvement? The structures, processes, and norms that are key leverage points in your context.

Change Ideas: **HOW** specifically do you make change to the key structures, processes and norms? Change ideas should be specific and targeted at changing the way work is done.



If I want to __(Aim)__, then I need to target __(Primary Driver)__ and/by __(Secondary Driver)__, and one way to do that is to __(Specific change idea)__.

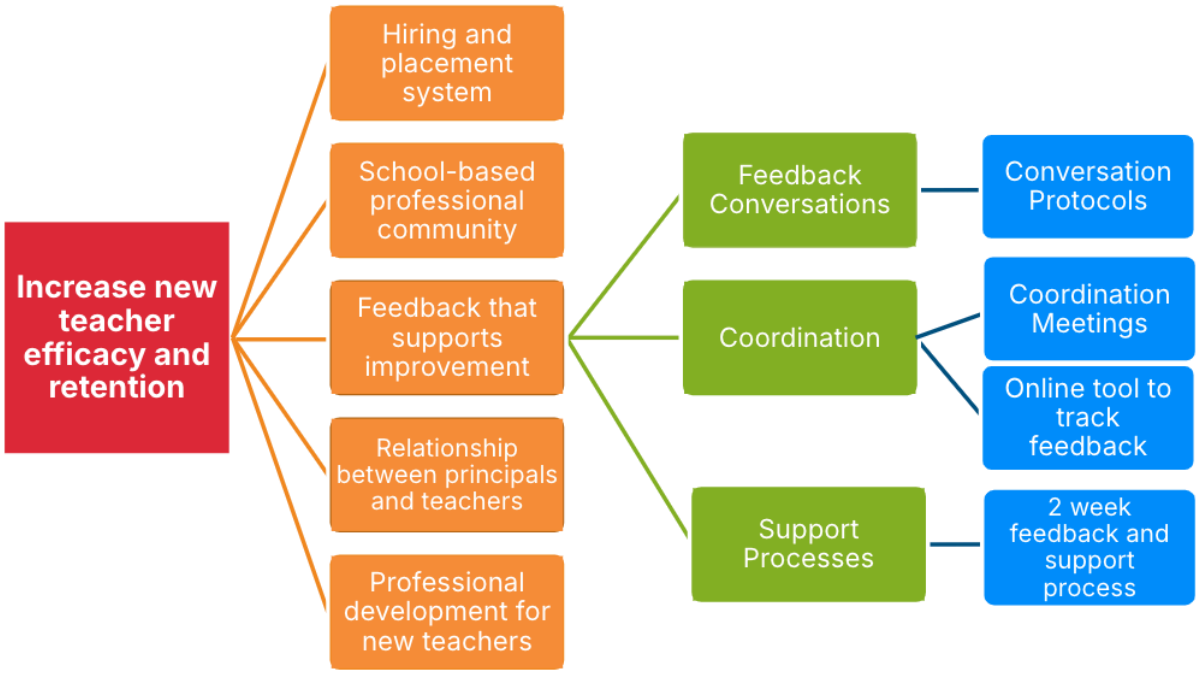
The sentence frame in the image above demonstrates the logic of the driver diagram. Reading from left to right, the driver diagram connects a high-level improvement **aim** to key **drivers** (or leverage points) for moving that aim, and to **specific changes** that can be made. From right to left, the driver diagram communicates hypothesized causal links between specific changes, drivers and the ultimate aim so these links can be tested.

Drivers should meet the following characteristics:

Primary Drivers	Secondary Drivers
• Necessary and sufficient to move the aim • No more than 3-5 (highest leverage) • Are processes, norms, and structures • Based on evidence • Similar in grain size • Organize the work in a helpful way for the team	• Necessary and sufficient to move the primary drivers • Are processes, norms, and structures

EXAMPLE OF A DRIVER DIAGRAM

Building a Teaching Effectiveness Network
(Partially complete)



*If we want to **increase new teacher efficacy and retention**, then we need to target **feedback that supports improvement**, by improving **coordination** between individuals providing feedback to new teachers, and one way to do that is to use an **online tool to track the feedback** that is given to each teacher.*

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REFINING A THEORY OF IMPROVEMENT OR DRIVER DIAGRAM

A theory of improvement should be grounded in a deep understanding of the problem and the system producing it. It is important to invite individuals from different parts of the system and those who have knowledge of and experience with the problem being addressed (e.g., teachers, administrators, students, content experts, community leaders, etc.) to participate in developing the theory and to share their perspectives on the high-leverage areas to prioritize for focused attention.

When initially developing a theory of improvement, work towards the following:

Characteristics	Questions to Ask
Working theory is **focused** on only the highest leverage points of the system	• Does the theory build off the best research and practical knowledge in the field? • How confident are you that these drivers will move the aim? • Are **all** of the drivers necessary to move the aim? Is one less "weighty" than others?
Specific change ideas are identified	• Are the change ideas tangible and specific enough so they can be tested?
Visualization productively organizes improvement activity	• Is the visualization elegantly simple enough to allow you to see the hypothesized links on a single page? • Does the language used in the diagram create comprehensible common language for the community? Does the visualization help to organize improvement activity, allowing for distributed learning or for groups to focus on different parts of the theory?

The theory of improvement and driver diagram are living documents that evolve as an improvement community accumulates new learning. As you develop a theory of improvement, consider also the kinds of data you can collect to test your theory. A system or family of measures can help to identify what is working as anticipated in the theory, and where the theory may need to be revised.

Improvement communities develop routines for periodically examining the data that they have collected related to their theory, taking stock of what they have learned, and adjusting their theory so that it reflects their current understanding of the changes and drivers that are moving them towards their aim.