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# The Evaluation Purposes Visualization

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**Background:** The article outlines the development of a visualization that aims to represent the *purposes* of different evaluation theories. This visualization uses a stream/river metaphor to show the evolution of different purposes (e.g. utilization, knowledge generation, accountability) of evaluation, and also highlights the historical contexts that influenced their development. The visualization shows that the end goal of all these evaluation approaches (i.e., the ocean which the rivers flow toward) is societal improvement.

**Purpose:** The article highlights the lessons learned and influences that led to the development of an evaluation theory categorization system. We hope this will serve as an

**Keywords:** *evaluation theory; information visualization; evaluation historical context; organizing framework; theory development.*

example (and maybe inspiration) for future efforts that aim to understand how evaluation theories have evolved and developed.

**Setting:** Not applicable.

**Intervention:** Not applicable.

**Research Design:** Not applicable.

**Data Collection and Analysis:** Not applicable.

**Findings:** Not applicable.

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The evaluation purposes visualization (EPV) attempts to build on previous visualizations of evaluation practices by including additional historical influences, shifting the focus to the broader purposes of evaluation rather than individual evaluation theorists or approaches, and utilizing a different metaphor to represent the development of evaluation within the United States. The EPV emerged from our shared interest in data visualization and finding creative ways to communicate complex concepts to a broader audience. We have both had the opportunity to present different visualizations (such as interactive logic models) and to conduct workshops on data visualization in the United States and Europe.

We were both involved in the visual depiction of the evaluation theory tree in the second edition of Alkin and Christie's *Evaluation Roots* (2012). This experience led to conversations about how to use different visuals to explain evaluation theories. Having both taught evaluation theory courses at Claremont Graduate University (CGU), we noted that it was difficult for students to remember the evaluation approaches described in *Evaluation Roots* because of the emphasis on theorists' names rather than on their theories or approaches.<sup>1</sup> After a series of conversations, we started to think about emphasizing and visualizing the *purpose* of the evaluation in each approach, meaning the theory/approach's ultimate goal or objective. This focus led to the development of the EPV.

## Intended Purpose

The EPV was intended as a teaching tool; both of us work in academia, with a primary focus on introducing students to the field of evaluation. This includes introducing students to basic evaluation concepts (e.g. formative/summative evaluation), the historical context that evaluation emerged from, and the different approaches or theories developed within the field. In our courses, we adopted the book *Evaluation Roots* as a way to introduce students to the various theories. In our teaching, we found that the book's structure (presenting approaches in the categories of use, methods, and values) was helpful because it translated broad concepts about each theory into practical terms that informed practice. However, students did have a challenging time recalling the connection between the theories and the theorists' names that were visually represented on the theory tree. We believed this was a limitation of the theory

tree and explored ways to increase the clarity and memorability of the different evaluation approaches. After much discussion, we used "purpose" as our organizing principle for a new visualization. We believed that focusing on purpose would improve understanding and recall of evaluation theories. In 2012, we introduced the EPV at the annual American Evaluation Association conference. The initial reactions to it were positive, and we also received helpful feedback that contributed to the visual's refinement.

## Structure and Content

The EPV's shape was inspired by a visual created in 1880 by Walter R. Houghton, titled *Diagram of the Rise and Fall of American Political Parties, from 1789 to 1880, Inclusive* (Source: [https://americanhistory.si.edu/collections/search/object/nmah\\_527958](https://americanhistory.si.edu/collections/search/object/nmah_527958)). This visual was one of the first to use line thickness and direction to depict the ebb and flow of political power through time. The timeline links the flow of political power to historical events. For example, the visual shows the takeover of the Republican Party in Congress in the late 1800s. From that takeover, various historical events start to emerge from the Republican line, such as the Dingley Tariff Act, the start of the Spanish-American war, and the open-door policy with China. These events culminated in the downfall of Republican political power and the rise of Democratic power. Other political parties also emerged and died through time, and these are depicted as lines with various thicknesses (to illustrate their political power). Smaller lines emerge from existing parties (e.g., the Populist Party emerged from the Democratic line) and later merge with other movements (e.g. the Social Democratic Party combined with the Socialist Labor Party to help create the Socialist Party in the early 1900s). This visual shows the complexity of history and how power and events shifted and interacted to direct the flow of political influence within the U.S. government.

Similarly, the EPV visual (Figure 2) attempts to link historical events with developments in the evaluation field. In developing the EPV, our first decision was about the elements that should be represented. After multiple discussions, we agreed to represent the following components:

- 1) The various distinct purposes of evaluation.
- 2) The historical developments within evaluation.

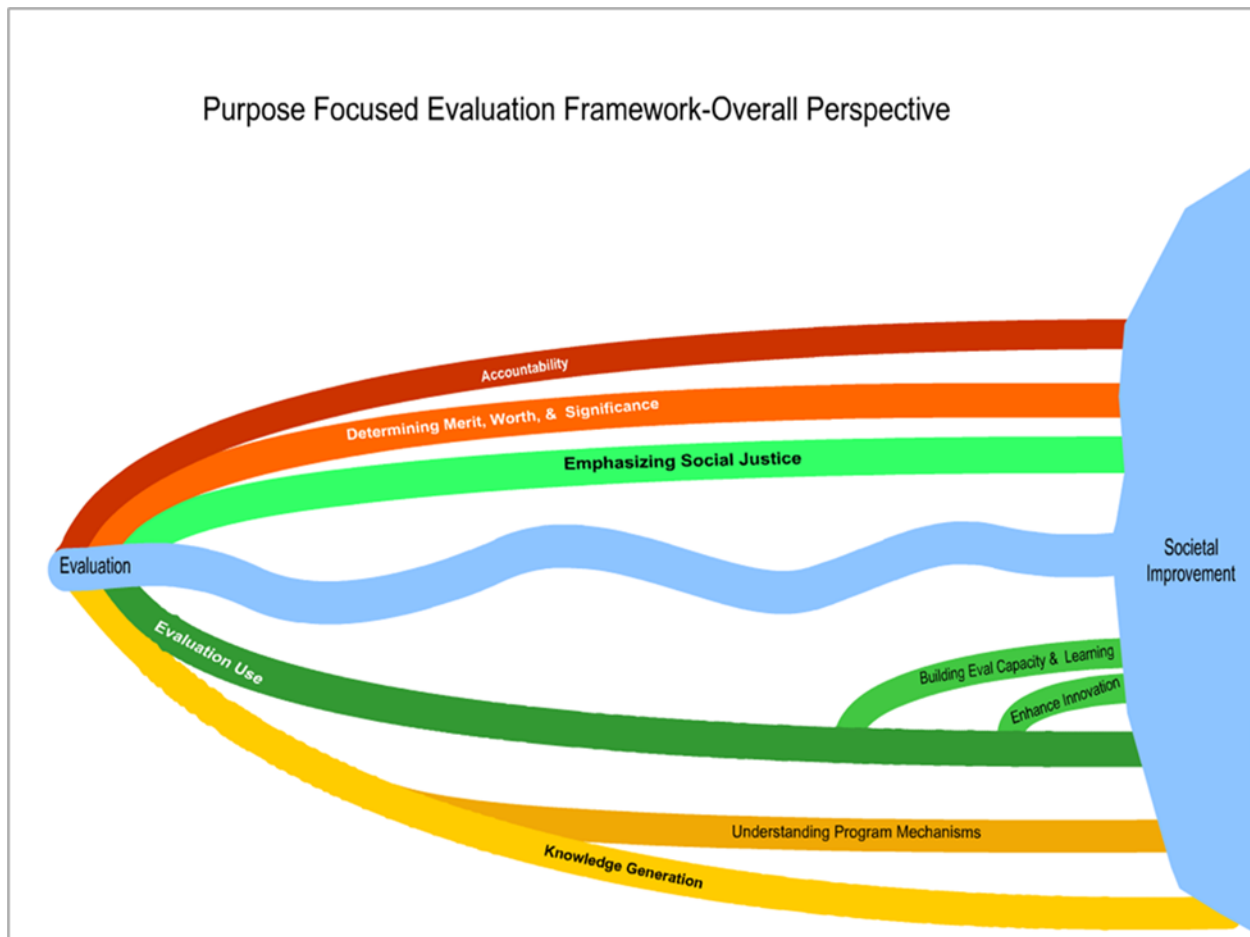
<sup>1</sup> This issue was addressed in later editions of *Evaluation Roots*.

- 3) The broader historical context within which these developments occurred.
- 4) The connections between evaluation purposes and theories.
- 5) Key publications/articles where the evaluation theory or purpose was first introduced (by using interactive features).

The first iteration of the figure only had represented evaluation purposes, without any additional context or information (Figure 1). As a

starting point, our job was to represent (what we considered at the time) the significant purposes within the evaluation field. Visually, the evaluation field was the springhead from which multiple streams emerged and diverged, and all the purposes had a common goal of societal improvement. Each line represented a river or stream that eventually flowed into the ocean of societal improvement, each using a different path. Along each flowing path, new ideas could emerge and split an existing river into sub-streams.

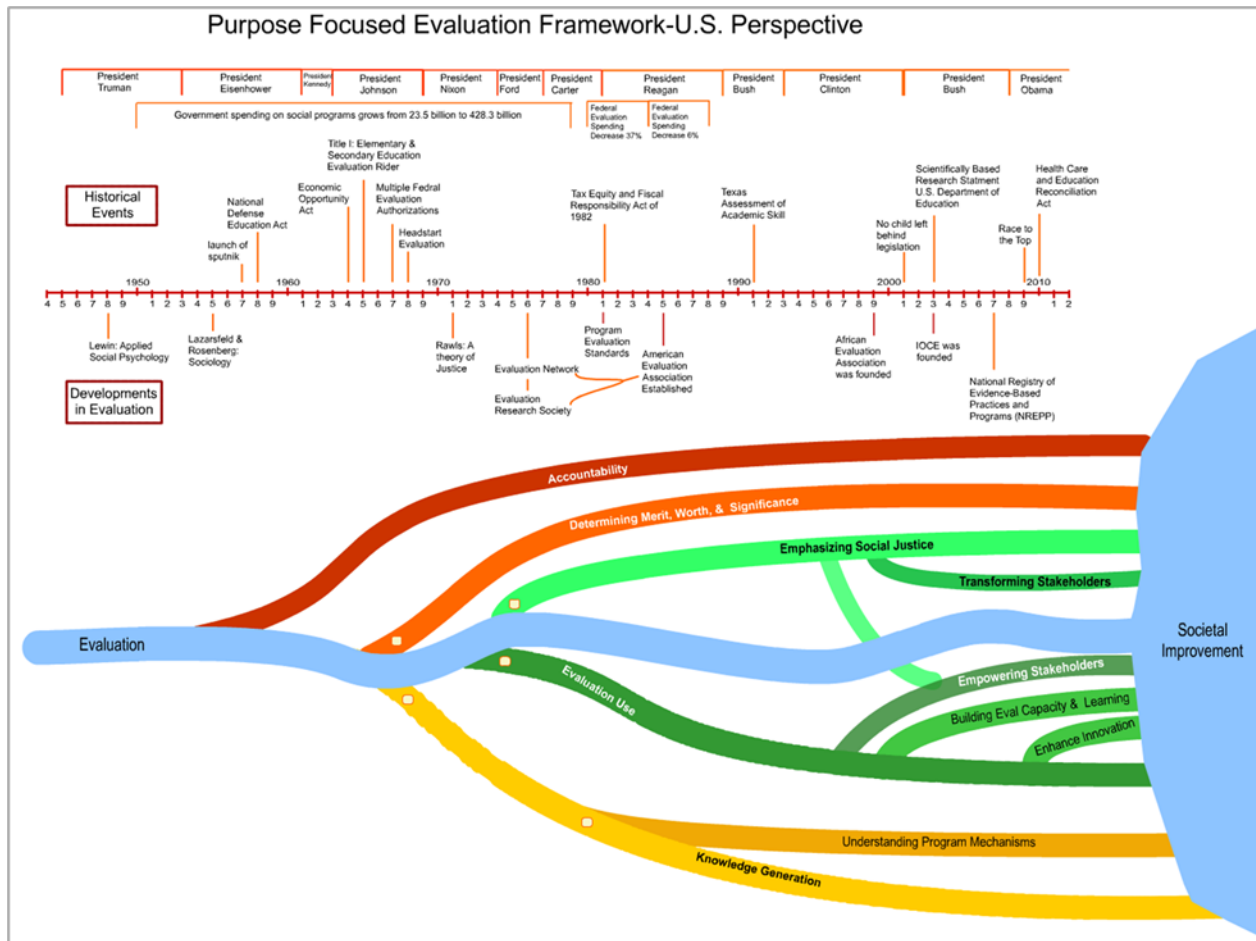
Figure 1. Initial Draft of the Evaluation Purpose Visualization (Created Early 2012)



As can be seen, the first visual was not very exciting or interesting to look at, and it lacked a lot of potentially relevant information. From that starting point, we began to add historical events and link the development of different approaches to broader events within and outside of the evaluation field. After reviewing multiple accounts of the

development of the field by Weiss (1998); Shadish, Cook, and Leviton (1991); and Alkin (2004), we compiled a list of influential events within evaluation (Figure 2). We also added broader historical events, such as the election of various presidents and the passing of evaluation-related legislation.

Figure 2. Latest Version of the Evaluation Purpose Visualization (Created 2013)



The last step of the process was to gather and agree upon a list of crucial purposes for evaluation and identify the critical articles that introduced the ideas to our field. The book *Evaluation Roots* was very influential in helping us identify the purposes, and we included categories similar to those in the book, such as accountability, evaluation use, and knowledge generation. We also highlighted how each approach was connected to or influenced by earlier work. For example, along the evaluation use line, which began in the late 1970s, the visualization shows that empowerment evaluation emerged from that initial orientation in the late 1990s but was also influenced by or combined with the emphasis on social justice. In this way, the visualization shows how the various purposes emerged through various time periods and how they interacted to form new ideas.

To read the EPV, start from the left-hand side and look at, for example, evaluations that emphasize social justice (light green line). Scroll over the little box at the start of the line to see that

this idea was introduced by House in 1975, as well as to view the historical context from which it emerged—in this case, the publication of Rawls's *A Theory of Justice* in 1971, which House acknowledged influenced his thinking. This theory also emerged within a decade of the war on poverty, wherein U.S. government spending on social programs increased from \$23.5 billion to \$428 billion (and which was the start of systemic funding for evaluation), and the passage of the 1965 elementary and secondary education evaluation rider.

As a teaching tool, the EPV aims to introduce each theoretical approach by highlighting how it can be used, but also to provide some background knowledge on its historical context within and outside the evaluation field. The intention is to offer students a deeper understanding of how and why a particular approach was developed and used to meet an emerging need in the evaluation field. For example, if we were to focus on the knowledge generation purpose, we would talk about Taylor's

Eight-Year Study (1933–1941), which marked the starting point for modern-day evaluation. We would explain to students that this study was initially conducted to compare the effectiveness of progressive educational curricula to traditional curricula. The study also represented one of the first and largest (at the time) evaluations to inform policy and contribute to theory and knowledge generation in the field. Through this event, we identify one of the initial evaluation's purposes that focused on knowledge generation and explain that evaluation with a knowledge generation purpose aims to produce generalizable information that contributes to theory and its development.

The knowledge generation purpose is similar to basic research, where the evaluator/researcher has more control over the evaluation questions and methods and aims to test a theoretical hypothesis. This purpose stream has continued to develop and evolve throughout the history of evaluation. One of its most notable representatives was Donald Campbell, who believed that the knowledge generation process would contribute to an experimenting society that tested its hypotheses, disseminated programs and policies that worked, and discontinued ones that did not.

The knowledge generation purpose contributed to developing the “understanding program mechanisms” purpose. This purpose emerged from knowledge generation as an approach that maps and tests the underlying program theories and the connections between the activities and the outcomes. Evaluators who select this purpose may utilize existing theoretical frameworks, work with stakeholders, or combine both to represent the key program activities and their predicted outcomes or effects on participants. This process can inform the evaluation design by helping the evaluator and stakeholder identify key/critical activities and outcomes and test the effectiveness of the connections between these different points.

## Concluding Thoughts

We are excited by the increased interest in visualizing evaluation theories and approaches. This seems to be a potentially effective way of helping to teach evaluation theory and practice, as well as introduce new converts to the myriad of creative and insightful approaches that can be used in contemporary practice. More can be done to help support this effort, and we are excited about being part of this journal issue focused on documenting the various creative efforts used to map out theoretical approaches. Ultimately, the importance of these visualizations is directly related to how they

will be used. As evaluation teachers and scholars, we rely on multiple modes of instruction, and these visualizations can support our mission of teaching evaluation theory to new emerging evaluators as well as to grizzled veterans.

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