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Contested Narratives: Theoretical Foundations For A Predictive Model Of Policy Content

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CONTESTED NARRATIVES:
THEORETICAL FOUNDATIONS FOR A PREDICTIVE MODEL
OF POLICY CONTENT

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Dedication

To my father and my son, my reasons for being thankful for the past and hopeful for the future.

CONTESTED NARRATIVES:
THEORETICAL FOUNDATIONS FOR A PREDICTIVE MODEL
OF POLICY CONTENT

by

RAUL ANTONIO MEDELLIN, B.S., M.S.

DISSERTATION

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Abstract

This work introduces a model to analyze policy making as an iterative narrative contestation process from which policy content can be forecasted. A theoretical foundation for the validity of introducing the Contested Narratives Forecast Model (CNF) as a new theoretical model for policy analysis is established using Lakatos' Methodology of Scientific Research Programs (MSRP). Next, an argument is made that the theoretical frameworks on which the CNF is based are not only ontologically compatible, but they also complement each other to neutralize some of their greatest weaknesses. Finally, the CNF is described using Lakatos' concepts of a negative heuristic, a protective belt, and a positive heuristic.

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Chapter 1: Overview

Understanding policy making in education requires an analysis of institutionalized policies and practices, of competing narratives defining the role and methods of education, of different actors actively promoting competing narratives, and of the public's role in the policy making process. Many theoretical frameworks have analyzed each of these factors, but none have included all factors in a single analysis. This work introduces a hybrid model where all those factors can be analyzed as interdependent parts of a single, complex system and where policy content can be forecasted based on the public narratives of different actors.

Historical institutionalism has been used to explain changes – or lack of changes – in different policy arenas. By combining historical institutionalism with the idea of paradigm change in times of crisis, Colin Hay's Punctuated Evolution Framework (PEF) allows for the study of continuous evolutionary changes in policy together with the intermittent revolutionary ones, making it a useful tool to describe the mostly steady – and sometimes turbulent – transformation of school policy in the United States. This framework allows for perceptions to influence the advent of a crisis which becomes the catalyst for a paradigm shift, a situation which has arisen in educational policy in the past and that should be taken into account when attempting to explain changes in educational policy in the future. However, the PEF does not provide a mechanism through which external eventualities directly affect the policy making process. Moreover, it does not provide information on the process through which inconsistencies become crises, crises redefine problems, and paradigms change.

A second approach comes from Paul Sabatier's Advocacy Coalition Framework (ACF), where policies change through the exchange of ideas within a policy subsystem mediated by three possible paths to change: policy-oriented learning, external perturbations or internal disasters, and negotiated agreements. These changes occur when actors are able to compromise on some of their less-strongly held beliefs in order to enact policies that further other more important ones, or a group of actors with similar beliefs becomes strong enough to enact policy changes on their own.

The ACF provides a detailed description at a macro-level of the structure and processes that are part of a policy-making subsystem. This framework includes events external to the subsystem as

catalysts for change, while describing the policy making itself as an ideational-structural hybrid. Past and present policies define existing structures, but beliefs are the principal units of operation as actors attempt to operationalize their beliefs into policies before other coalitions with different beliefs do so. A major shortcoming of this framework, however, is that the public – those who are not considered active actors within the policy subsystem – is relegated to the periphery of the system. This introspective view is not applicable to policy areas that affect a large number of the public directly like education, healthcare, and public safety among others. Where Hay's PEF makes public experiences with a set of policies the only trigger of policy change, Sabatier's ACF excludes them entirely. Combining the PEF and the ACF into a single model, together with a focus on how policy makers use narratives to define the eventual outcomes of the policy process, will not only provide a more complete explanation of how past policies were created, it will also provide the tools to forecast the content of future policies based on the narrative content of actors involved in the process. This document provides the theoretical foundations of such a model.

A review of framework evaluation theories was performed in order to identify theoretically valid justifications for introducing a new model. Two framework evaluation theories – Kuhn's Structure of Scientific Revolutions (SSR) and Lakatos' Methodology of Scientific Research Programs (MSRP) – are explored in greater detail in order to select the one that could best evaluate whether the frameworks used in this document could be updated. Because the frameworks used in this document are not considered to be in a moment of crisis, Kuhn's SSR does not justify introducing a new theory. However, Lakatos' MSRP provides an avenue to introduce new theories regardless of the status of the existing ones, as long as the introduced theory meets the requirements to be categorized as a theoretically progressive problem shift. That is, the new theory must predict phenomena that is not explained – or that it is assumed to be impossible to occur – in previous theories while explaining most of the phenomena already explained by them. The addition of this theory does not invalidate the existing ones until empirical evidence supporting the newly predicted phenomena confirms the new theory, a process which is beyond the scope of this document and could be pursued in future research endeavors. The introduction of the new theory provides information to ensure that both requirements of the MSRP are met, and thus prove that

the new theory constitutes a progressive problem shift and a valid addition the body of knowledge of policy analysis.

Once the theoretical foundation on the validity of introducing a new model is established, an argument is made on the ontological compatibility between the PEF and the ACF. First, both models are described in detail, placing special emphasis on the analysis and description of their basic assumptions about the policy context, the actors involved in the policy process, and the policy process. Second, the assumptions are compared to each other, highlighting both the similarities and differences between frameworks. These comparisons provide the evidence necessary to conclude that, not only are these frameworks compatible, they also complement each other so that their individual weaknesses are balanced by the other framework's strengths. Where assumptions differ significantly between the ACF and the PEF – in the way that learning is defined, for example – a choice is made between the assumptions for inclusion in the new model. The result is that the new model contains all assumptions shared by the ACF and the PEF, while making a specific choice on assumptions not shared by these frameworks. The frameworks are then merged into a model that uses the shared assumptions and a new focus on narrative contestation as the nexus of analysis to explain and predict policy outcomes.

The resulting model – the Contested Narratives Forecast Model – will be described according to Lakatos' MSRP by presenting the negative heuristic, the protective belt, and the positive heuristic. That is, the assumptions about the policy context, the actors involved in the policy process, and the policy process (the negative heuristic) will be postulated; the description of the model and its hypotheses will then be presented (the protective belt); and finally, possible future additions to the model will be discussed (the positive heuristic). In the CNF, policy making is described as a continuous cycle of narrative contestation, where policies are the product of the dominant narrative. This contest occurs within a policy subsystem defined by the actors who have been involved in attempts to change policy in that particular policy area for a decade or more. Actors immersed in the subsystem experience structural conditions that guide, but do not determine, their actions. The system constrains actors through institutional arrangements that are a product of past policy decisions as well as of factors outside the policy subsystem. Actors involved in the process simplify the world around them – a process known as

bounded rationality – and have diverse motivations (their motivations are different from those espoused by rational choice models). They perceive their surroundings and their rivals through perceptual lenses, formed out of actors’ individual beliefs. These beliefs include deeply ingrained ideas acquired at an early age through socialization (deep core beliefs), a mixed set of ideas specific to the policy subsystem that depend on varying degrees of normative and cognitive constructs (policy core beliefs), and ideas built primarily from empirical results within specific areas of a policy (secondary beliefs). These actors organize themselves into groups who share the same policy core beliefs – advocacy coalitions – and produce a narrative in an attempt to have it become dominant in the subsystem so that it can bring about policy content that is closer to their beliefs. Narrative changes, and therefore policy changes, are the result of several narratives vying for dominance. These narrative contests can be triggered in five different ways – through policy-oriented learning, hurting stalemates, external perturbations, internal disasters, and a narrative of crisis. The degree of change possible is dependent upon the event that triggered the narrative contest. Two triggers – policy-oriented learning and hurting stalemates – are responsible for small, evolutionary changes to policies that are most common in policy making. Major policy change requires a narrative shift, which can be achieved when an external perturbation, internal disaster, or a narrative of crisis lead to a situation where a different narrative becomes dominant. In addition to explaining past policy changes, the CNF model is built to predict future policy content based on the process of narrative contestation. By mapping narratives and policy content into a narrative space, non-linear regression techniques can be used to predict the rate at which actors are coalescing around a particular narrative, and therefore around the content most likely to be enacted into policy.

Section 1: Theoretical Foundations

Section 1 prepares the foundations for the introduction of a new theoretical model for policy analysis and forecasting. Chapter 2 discusses the criteria used to justify approaching policy analysis from a perspective that is different from the perspectives of current theories. Two criteria for evaluating the need for a new theory are introduced: Kuhn's Structure of Scientific Revolutions (SSR) and Lakatos' Methodology of Scientific Research Programs (MSRP). An argument is then made on the use of MSRP to justify the validity of introducing a new theoretical model created from the merging of two existing policy frameworks: Hay's Punctuated Evolution Framework (PEF), and Sabatier's Advocacy Coalition Framework (ACF). Chapter 3 explores the Punctuated Evolution Framework in detail, placing special attention on its assumptions about the policy context, the actors involved in the policy process, and the policy process itself. Chapter 4 provides a similar analysis of the Advocacy Coalition Framework, mirroring the emphasis on its basic assumptions. Finally, Chapter 5 compares the assumptions from both frameworks and makes an argument for their compatibility.

Chapter 2: Criteria for Framework Comparison

The purpose of this work is to introduce a new model for the analysis of educational policies. In doing so, one must first justify the need for a new approach. One way of justifying a new approach is to argue that the existing frameworks are limited in their explanatory and predictive power, and that the new framework improves upon them. The argument that existing frameworks are limited and must be improved upon is a common justification used when introducing new theory (see for example Brigg, 2007; Hall & Taylor, 1998; Jones, M. D. & McBeth, 2010; Mishra, Anand, & Kodali, 2007; Shanahan, Jones, & McBeth, 2011; Smith & Hay, 2008). However, the arguments used against existing theories are not consistent, and tend to use the new frameworks' strengths as indicators of the old frameworks' weaknesses. For example, when the Punctuated Evolution Framework – which emphasizes actor agency over structural constraints – was introduced, Hay's argument against historical institutionalism was that it was unable to explain actors' agency appropriately (Hay & Wincott, 1998). In contrast, when the Structured Alternatives Perspective – which emphasizes the existence of resources for institutional transformation within an established institutional path – was introduced, Schneiberg's argument against historical institutionalism was that it was unable to appropriately explain institutional change in the face of path dependence (Schneiberg, 2007). Of course, it can be argued that different authors are evaluating different parts of a framework, and therefore should use different criteria to justify their explanatory and predictive power. However, the use of different criteria lends itself to accusations of cherry-picking evidence to support the author's case. In addition, if a new framework is arguably better than an existing one only within a certain set of criteria, then one cannot claim that it can replace the old framework entirely. In this case, the old framework must be used for some cases – specifically those where the new criteria are not included – and the new framework in other cases where the criteria apply. Furthermore, if different frameworks are used to update different parts of an existing theory – as in the example above – further analyses will need to take into account three or more frameworks with different criteria and assumptions. The result of using different criteria to evaluate the same framework is a patched-up set of theories that may or may not be compatible with one another. By using pre-determined criteria to

evaluate the explanatory and predictive power of frameworks, the justification of a new framework will be seen as less ad-hoc and more impartial than when using the new framework's strengths as the only justification for its use.

There are several schools of thought dealing with methods to evaluate theories. In attempting to select the most appropriate method of theory evaluation, the problem becomes evaluating theories on how to evaluate theories. By using one of those theories to evaluate the others, the first theory used would always end up as the most appropriate. For example, using the criteria set forth by Lakatos (1970) to evaluate his method and Popper's theory-evaluation framework, Lakatos' theory would seem better. At the same time, if one were to use Popper's criteria to evaluate his method and Lakatos' framework, Popper's theory would seem better. Therefore, one cannot use a theory-evaluation framework to evaluate theory-evaluation frameworks, or in Kuhn's words, "there is no neutral algorithm for theory-choice" (Kuhn, 1970c, p. 3034). Faced with the inability to use existing theory to choose a theory-evaluation framework, the decision was made to use the frameworks that will be evaluated as a guide to choose the theory-evaluation framework that would be best suited for their evaluation. It is important to note that all theory-evaluation frameworks were originally designed to compare theories in the physical sciences and later extended to the comparison of theories in the social and behavioral sciences. Some theory-evaluation frameworks were rejected by the author because they only made use of the concept of hypothesis falsification as their main test. These frameworks, labeled *naïve falsificationists* by Lakatos (1970), disregard the explanatory power of a theory as soon as a single prediction turns out to be wrong. Since the frameworks reviewed were created for explanation purposes rather than predictions, these approaches cannot be applied. Of the remaining theories reviewed, two are best suited for evaluating the frameworks used in this document: Lakatos' Methodology of Scientific Research Programs, and Kuhn's Structure of Scientific Revolutions. Each theory was used to analyze both the frameworks to be evaluated and the requirements to justify the introduction of a new framework in an effort to determine which one provided a better fit for the intended purpose of this document. The following comparison includes a short description of each method, definitions of the principal terms used, implications of

using one method versus the other when evaluating the frameworks used in this document, and requirements of each method for introducing a new framework.

2.1 KUHN'S STRUCTURE OF SCIENTIFIC REVOLUTIONS

Kuhn's Structure of Scientific Revolutions (SSR) describes scientific progress as a cycle where the practice of normal science under an accepted paradigm produces a build-up of anomalies followed by a crisis and a paradigm shift. This change then inspires further practice of normal science under the new paradigm, which then allows the cycle to repeat itself (Kuhn, 1970a). The description and application of the theory to the frameworks is divided into the three main cycle stages: normal science under an accepted paradigm, paradigm crisis, and paradigm shift.

2.1.1 Normal Science under an Accepted Paradigm

In Kuhn's SSR, a paradigm is defined as "universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners" (Kuhn, 1970c, p. 76). More precisely, it is a set of common elements that practitioners of a particular discipline have in common, the most important of which are symbolic generalizations, beliefs in particular models, values, and exemplars (Kuhn, 1970b). Symbolic generalizations are "expressions deployed without question or dissent by group members which can readily be cast in a logical form" (Kuhn, 1970c, p. 2772). These expressions can take the form of a mathematical relation, such as Newton's second law of motion $F = ma$, or a statement like the Advocacy Coalition Framework's (ACF) premise that "public policies (or programs) can be conceptualized in the same manner as belief systems" (Sabatier, 1993, p. 16). These generalizations serve both as definitions and as "laws of nature" (Kuhn, 1970c, p. 2779) and allow practitioners to use them in conjunction with the available logical and mathematical tools to arrive at new conclusions. Assumptions made in the construction of the frameworks included in this analysis can, in general, be placed under this category.

Beliefs in particular models are shared commitments to particular heuristic or ontological models. These models help determine acceptable explanations to problems as well as what unsolved problems should be pursued and their relative importance to the theory (Kuhn, 1970b). Examples of these models would be the Punctuated Evolution Framework's (PEF) use of actor agency as the main

driver of institutional change, and the ACF's assumption that "most policy making occurs among specialists within a policy subsystem but that their behavior is affected by factors in the broader political and socioeconomic system" (Sabatier & Jenkins-Smith, 1999b, p. 118). Values shared by practitioners are most commonly used when judging theories or choosing between incompatible ways of practicing their discipline (Kuhn, 1970a). Many of the values listed by Kuhn, such as a preference for simple, self-consistent, plausible theories that are compatible with other theories currently deployed (Kuhn, 1970c) seem to be important to the authors of the frameworks being reviewed. Others, however, like the value of accurate quantitative predictions over qualitative ones, may not be as deeply held as in the physical sciences given that the frameworks do not attempt to predict future changes but rather explain past ones.

Finally, exemplars are "the concrete problem-solutions that students encounter from the start of their scientific education... [and] the tacit knowledge which is learned by doing science rather than by acquiring rules for it" (Kuhn, 1970c, p. 2838). It is the process through which students, as they become more familiar with their chosen field, internalize the symbolic generalizations, beliefs in particular models, and values shared by the community of practitioners. By sharing an education, language, experience, and culture, new practitioners see the problems in their field in the same way as those who came before them and learn acceptable methods and solutions to the puzzles dictated by the paradigm. This internalization of the paradigm causes practitioners from different paradigms to actually interpret the same input in different ways and thus have difficulty communicating even when – or especially because – they are using the same terms (Kuhn, 1970c). The enumeration of these exemplars for each framework used in this document would require a deep analysis of the training each school of thought goes through to arrive at their respective frameworks. Such an analysis is beyond the scope of this work and is not required to provide a useful comparison of frameworks. In fact, Kuhn claims that even practitioners themselves are not fully aware of the exemplars used in their education process (Kuhn, 1970a).

Normal science under an accepted paradigm consists of solving the puzzles defined by the current paradigm. By using an accepted paradigm, the lack of "constant reiteration of fundamentals" (Kuhn, 1970c, p. 396), and the confidence that the field is heading in the right direction, allow scientists

to be free to “undertake more precise, esoteric, and consuming sorts of work” (Kuhn, 1970c, p. 396). The result is an improvement in the accuracy of predictions and in the rate at which questions presented by the paradigm are answered. When a puzzle is not solved, it does not discredit the paradigm, but rather discredits the scientist who was unable to solve it. In addition, as scientists work on these puzzles they have specific expectations of what the results should be. When actual results are different from the expected ones, the anomalies are noted. However, the existence of anomalies does not necessarily cast doubt on the paradigm. Instead, scientists devise new ways of solving the puzzle to ensure that it is not the scientist’s lack of skill causing the result (Kuhn, 1970a). The puzzles pursued by scientists that use the ACF are enumerated in the eighteen hypotheses of the framework (see Sabatier & Jenkins-Smith, 1999b), as well as in several “emerging areas deserving theoretical and empirical attention... [such as] the role of institutions and resource dependence in the framework, subsystem interdependencies, and coordination within, and between, coalitions” (Sabatier, Weible, & McQueen, 2009, p. 134).

2.1.2 Crisis

The concept of crisis is narrowly defined as a time interval where multiple versions of a theory, each of which fundamentally alters the accepted paradigm, are vying for practitioners’ acceptance (Kuhn, 1970b). A paradigm is in crisis when practitioners in a particular community have accumulated a sufficient number of anomalies that lead some scientists to attempt to adjust the paradigm in order to resolve them. Since different practitioners focus on different anomalies, the adjustments proposed will be different – leading to several altered paradigms being tested at roughly the same time (Kuhn, 1970c). It must be noted that all the theories tested were designed to agree with the known facts. Therefore, the decision to support one theory over the other is not based on fact agreement, but on social, psychological, and aesthetic issues, as well as on each theory’s promise of future successes (Kuhn, 1970a). Neither of the frameworks evaluated in this document seem to be in a state of crisis. For the ACF, the works published have mainly focused on hypothesis testing, and on application of the framework outside of the policy subsystems where it was created (Sabatier, et al., 2009). The PEF appears to be an alternative theory to the Punctuated Evolution approach that intends to replace external shocks as causes of institutional change with actors’ agency (Hay, 1999).

2.1.3 Paradigm Shift

A paradigm shift occurs when the community of experts decides that the previous paradigm is no longer viable and one of the new paradigms being tested is accepted as its replacement (Kuhn, 1970a). The new paradigm must resolve some of the anomalies that led to the crisis, and must also explain most of what the previous paradigm had explained, but these explanations do not have to conform to previous ones since they are approached from a new perspective (Kuhn, 1970b). Changes in the paradigm require new definitions, values, and exemplars. Once a paradigm has shifted, “the profession will have changed its view of the field, its methods, and its goals” (Kuhn, 1970c, p. 1340). Because of the radical nature of the change, those who accept the new paradigm first are usually younger scientists who have not been immersed in the old paradigm for too long. Others are gradually persuaded in “an increasing shift in the distribution of professional allegiances” (Kuhn, 1970c, p. 2417). There has been a paradigm shift if the paradigm narrows the scope of the field, increases specialization, attenuates communication with other groups and the public, generates new meanings, new puzzles, and a new normal science (Kuhn, 1970b).

2.1.4 Implications of Kuhn’s SSR for a New Framework

As seen through the lens of Kuhn’s SSR, the introduction of a new framework follows an increase in the number of inconsistencies found in the old framework. From this perspective, neither of the frameworks used in this work have accumulated enough inconsistencies to be challenged. In fact, the frameworks are themselves an attempt to solve inconsistencies of previous theories. It could be argued that the predictive nature of the new framework is missing in both the ACF and the PEF, thus shifting the very focus of the research. This significant change in focus could then be interpreted as an attempt to change the existing paradigm from solving explanatory puzzles to solving predictive puzzles. However, this approach is akin to using the new framework’s strengths as the old ones’ weaknesses. This very approach was the one the author intended to avoid.

2.2 LAKATOS’ METHODOLOGY OF SCIENTIFIC RESEARCH PROGRAMS

Lakatos’ Methodology of Scientific Research Programs (MSRP) describes scientific progress as a succession of research programs, defined as theories with ever-increasing heuristic power built around a hard core made up of irrefutable facts. These research programs sometimes come into conflict with

other research programs attempting to explain and predict the same phenomena. The programs that cannot continue predicting new facts are (eventually) discarded and the scientists who adhered to them embrace the successful programs or develop new programs to pit against the existing ones once again (Lakatos, 1970). The description and application of the MSRP to the frameworks is divided into three sections: the logic behind MSRP, the definition of a scientific research program, and the description of the ACF as a research program.

2.2.1 The Logic Behind MSRP: Sophisticated Methodological Falsificationism

Lakatos uses sophisticated methodological falsificationism as the internal logic of MSRP. This logic is used to provide definitions of what constitutes a scientific theory, what constitutes a falsification, and what is the role of experimentation in the falsification and/or corroboration process. He argues that – among other things – “no experimental result can ever kill a theory,” (Lakatos, 1970, p. 116) because theoreticians “frequently challenge experimental verdicts and have them reversed” (Lakatos, 1970, p. 114). In many other cases, theoreticians save a theory through the use of *auxiliary hypotheses* that explain away the inconsistencies created or highlighted by experimental results (Lakatos, 1963). At the same time, scientific progress requires theories to be abandoned at some point in order to improve upon the existing knowledge base. Lakatos’ approach is to “impose certain standards on the theoretical adjustments by which one is allowed to save a theory,” (Lakatos, 1970, p. 117) thus preserving the importance of empirical coherence with theory while providing a mechanism for falsifying theories that does not rely solely on experimental results.

The approach proposed by Lakatos relies on a unique definition of what constitutes a scientific theory. Instead of defining a scientific theory by whether it can be experimentally falsifiable, Lakatos defines a scientific theory by its heuristic power when compared to another theory. That is, “only if it has corroborated excess empirical content over its predecessor (or rival)... only if it leads to the discovery of novel facts” (Lakatos, 1970, p. 116) will a theory be considered scientific. Therefore, empirical generalizations are not considered scientific without the prediction of new facts. Not only is “a given fact... explained scientifically only if a new fact is also explained with it,” (Lakatos, 1970, p. 118) the new fact must be improbable or even impossible when viewed from the perspective of the previous

theory. As a result of this definition, a theory cannot be analyzed in isolation. Instead, it must be part of “a series of theories... where each subsequent theory results from adding auxiliary clauses to the previous theory in order to accommodate some anomaly, each theory having at least as much content as the unrefuted content of its predecessor” (Lakatos, 1970, p. 118). This progression of content from one theory to the next is referred to as a *problem shift*, and is used to define whether a set of theories is advancing or regressing (Lakatos, 1963).

Not all theories in a problem shift may meet the requirements to be considered scientific. In fact, meeting those requirements is one of the two tests applied to problem shifts to decide whether they are advancing – that is, they are a *progressive problem shift* – and should be pursued further, or they are regressing – they are a *degenerating problem shift* – and should be abandoned (Lakatos, 1970). A problem shift is said to be *theoretically progressive* if each new theory developed within that problem shift predicts some new, unexpected fact. In addition, a theoretically progressive problem shift is also said to be *empirically progressive* if some of the excess content – the new or unexpected facts predicted by the new theories – are empirically corroborated (Lakatos, 1968). In other words, a theory that explains the facts contained in another theory and predicts new facts is considered a theoretically progressive theory, and if some of the new content can be corroborated empirically, it is considered empirically progressive. Problem shifts are considered scientific “only if they are at least theoretically progressive” (Lakatos, 1970, p. 118). Furthermore, they are considered progressive problem shifts if they are both theoretically and empirically progressive (Lakatos, 1970). Scientific progress is then measured by the degree to which each problem shift is progressive. Series of theories that continually predict novel facts and sporadically corroborate some of those facts empirically are considered the golden standard of scientific progress. Series of theories that continually predict novel facts but do not corroborate them are considered scientific puzzles worth pursuing. In contrast, series of theories that re-interpret known facts without predicting new ones are considered degenerating auxiliary hypotheses that should be abandoned even if the new interpretation resolves a known anomaly. Armed with these definitions, it is now possible to describe the process that must be followed to falsify a theory.

The falsification of a theory in MSRP is not a straightforward matter. Lakatos argues extensively against the use of empirical counterevidence as means to falsify a theory claiming that experimentalists base their results on an *interpretative theory*, and that the refuted theoretician may replace it “by a better one in the light of which his originally ‘refuted’ theory may receive a positive appraisal” (Lakatos, 1970, p. 130). In other words, the empirical refutation of a particular version of a theory is meaningless if the subsequent progression of that theory agrees with the experimental results or places in question the accuracy of such results. Instead of relying solely on empirical results, Lakatos proposes that a theory is falsified only when three conditions are met: First, there is a new theory that predicts novel facts that are improbable or forbidden by the earlier one. Second, the new theory explains the unrefuted content of the older theory. And third, some of the excess content of the new theory can be corroborated empirically (Lakatos, 1970). That is, a scientific theory can be refuted only by the emergence of an empirically progressive problem shift. However, the refutation of a theory does not necessarily invalidate its assumptions or results. In fact, one of the most common paths to refute a theory is to build upon it – leaving most of its explanations and basic assumptions intact. This progression of content-increasing theories with a common core of assumptions is what Lakatos calls a *Scientific Research Program*. The process through which a scientific research program is refuted will be taken up once a more precise definition of a scientific research program is presented.

2.2.2 The Scientific Research Program Defined

A scientific research program is a set of methodological rules that define the research paths that should be avoided (the program’s *hard core* or *negative heuristic*), the ones that should be pursued (the program’s *positive heuristic*), and a model that defines a set of testable hypotheses (the program’s *protective belt*) in order to maintain a progressive problem shift (Lakatos, 1968). The program’s hard core is a set of assumptions that are “irrefutable by the methodological decision of its protagonists” (Lakatos, 1970, p. 133). The hard core is never directly tested or evaluated. Instead, scientists must “articulate or even invent ‘auxiliary hypotheses,’ which form a *protective belt* around this core... It is this protective belt of auxiliary hypotheses which has to bear the brunt of tests and get adjusted and re-adjusted, and even completely replaced, to defend the thus-hardened core” (Lakatos, 1970, p. 133). The

hard core can be thought of as the equivalent of Kuhn's paradigms, with the important difference that Kuhn's paradigms are partially chosen unbeknownst to the scientists in the form of preconceived ideas learned during their training, while Lakatos' hard core assumptions are explicitly chosen and identified within the theory.

The positive heuristic of a scientific research program "consists of a partially articulated set of suggestions or hints on how to change, develop the 'refutable' variants of the research programme [*sic*], how to modify, sophisticate, the 'refutable' protective belt"(Lakatos, 1970, p. 135). This content usually includes an initial model, together with a set of initial conditions and observational theories that are expected to be replaced during theoretical development, as well as a general direction in which the authors expect the theory to evolve (Lakatos, 1968). Scientists working on the research program choose the problems to solve guided by the positive heuristic "rather than by psychologically worrying (or technologically urgent) anomalies" (Lakatos, 1970, p. 137). Finally, the protective belt of a scientific research program consists of all *observational hypotheses* – empirically verifiable statements – and initial conditions derived from the program's hard core following the positive heuristic that are theoretically progressive (Lakatos, 1968). The protective belt, in effect, is a set of scientific theories that are based on the program's hard core and are expected to change in a consistently theoretical and intermittently empirical progressive shift.

A scientific research program is considered successful when the protective belt changes in such a way that novel facts are continuously predicted and some of those facts are corroborated. Instead of refuting an existing theory, scientists work on developing a new version of that theory in which new facts are predicted. When some of the new facts are corroborated, the new version of the theory is considered verified while the earlier version is seen as refuted (Lakatos, 1963). In some instances, the newly developed theory reaches beyond the protective belt, changing one or more of the concepts within the hard core. When such a *creative shift* occurs, a new research program is grafted onto the old one. This can happen even if they are "blatantly inconsistent" with each other (Lakatos, 1970, p. 142). Scientists working on these programs then begin to compete, with one group attempting to replace the old program and the other working to strengthen it. This rivalry continues for as long as both programs

can produce progressive shifts. Eventually, one of the programs is no longer able to predict new facts and begins its *degenerative phase* – accumulating ad hoc hypotheses and unexplained inconsistencies until its hard core is abandoned by its defenders (Lakatos, 1970). Whereas a theory is considered refuted by the development of an empirically progressive substitute, a scientific research program does not suffer the same fate with the development of a new empirically progressive research program. The program’s proponents must reach a point where they are unable to develop new theoretically progressive theories before the program begins its degenerative phase. Only when the program’s proponents abandon their efforts to generate progressive problem shifts is a program considered refuted, making it “very difficult to defeat a research programme [*sic*] supported by talented, imaginative scientists” (Lakatos, 1970, p. 158).

2.2.3 The Advocacy Coalition Framework as a Scientific Research Program

The Advocacy Coalition Framework fits well as an example of a scientific research program. The framework began with a set of assumptions that have remained intact through its evolution – what Lakatos would call its negative heuristic. In addition, clear steps for the evolution of the framework were specified since its first version (providing a positive heuristic), and adjustments have been made to explain new phenomena in subsequent versions – which accounts for Lakatos’ protective belt (see for example Sabatier, 1980, 1993; Sabatier & Jenkins-Smith, 1999b; Sabatier & Weible, 2007; Sabatier, et al., 2009). Specific examples of ACF’s negative heuristic include the assumptions that policy making is mostly the product of specialists whose behavior is affected by the political and socioeconomic system (Sabatier & Jenkins-Smith, 1999b), the assumption that actors experience the above effects through perceptual filters constructed from preexisting beliefs that are difficult to change (Sabatier & Weible, 2007), and that actors perceive opponents as less trustworthy, more evil, and more powerful than they really are (Sabatier, Hunter, & McLaughlin, 1987). The authors of ACF provide a number of suggestions on the direction of future research – the equivalent of a positive heuristic. Some of these suggestions include research into the extent of policy participants’ framing events to support their coalition goals (Sabatier & Weible, 2009), research on the degree of coordination required to define a coalition (Sabatier & Weible, 2007), and research on the processes used by coalitions to turn an event

into a policy change (Sabatier, et al., 2009). Finally, adjustments to the framework have allowed its proponents to adjust their testable hypotheses in order to accommodate conditions and phenomena that were not originally included in the framework. For example, the ACF authors have adjusted their framework to allow for negotiated agreements between opposing coalitions when locked in a hurting stalemate (Sabatier & Weible, 2009), have added internal disasters as a trigger of policy change (Sabatier, et al., 2009), and have adjusted the framework's long-term coalition opportunity structures and relatively stable parameters to allow for political systems that are different from those found in American-style democracies (Sabatier, et al., 2009).

2.2.4 Implications of Lakatos' MSRP for a New Framework

As seen through the lens of Lakatos' MSRP, the introduction of a new framework is restricted only by the need to account for the successes of previous frameworks and by the need to generate novel facts. From this perspective, the introduction of a new framework that meets the afore-mentioned requirements does not depend on the success or failure of the existing frameworks, and therefore can be introduced at any time. The new framework presented in this document will be shown to comply with all the requirements set forth by this theory-evaluation framework in order to justify its addition as a tool to be used in educational policy analysis.

Chapter 3: Theoretical Context of the Punctuated Evolution Framework

The Punctuated Evolution Framework (PEF) blends historical and discursive versions of institutionalism to explain policy development as a process that may follow one of two paths – an *evolutionary path* or a *revolutionary path*. The former produces “iterative yet cumulative change” (Hay, 2001, p. 193) in the means of achieving policy, while the latter changes the goals of the policies themselves (Hay, 1999). The assumptions on which the PEF is based can be divided into three major components: assumptions about the policy context, assumptions about the actors involved in the policy process, and assumptions about the policy process.

3.1 THE PEF’S ASSUMPTIONS ABOUT THE POLICY CONTEXT

The author of the PEF introduces his framework as “an attempted synthesis of historical and more discursive strands of neo-institutionalism” (Hay, 2001, p. 193). The framework assumes a policy context where constraints and expectations are taken for granted as described in institutional theory, where policy options are constrained by historical choices as predicated in historical institutionalism, and where institutional feedback plays a role in the policy-making process. Because of the many definitions and theoretical approaches to institutionalism, more must be said about the institutional approach of the PEF (for a review of the different theoretical approaches of institutionalism see Scott, 1987). Hay’s framework is unconcerned with the process of institutional creation or replication (DiMaggio & Powell, 1983; Meyer & Rowan, 1977), nor is it concerned with the process of instilling value to structures and processes (Selznick, 1957). Rather, the PEF uses the idea of institutional constraints as socially-created “reciprocal typification of habitualized actions by types of actors” (Berger & Luckmann, 1967, p. 54). That is, the PEF is institutional in nature, because it assumes that individuals conceptualize the way things are or should be through a shared definition of social reality that is taken for granted.

The PEF explicitly adopts historical institutionalism to explain institutional rigidity and inertia in the policy making process. Hay uses historical institutionalism’s theory of constraint to explain “how ideas and institutions limit the range of possible solutions that policy makers are likely to consider when

trying to resolve policy problems” (Campbell, 1998, p. 378). Historical institutionalists disagree on the constraints placed by the path-dependent institution on the actors bringing about change. Those who support the *calculus approach* assume that “individuals seek to maximize the attainment of a set of goals... and, in doing so... canvass all possible options to select those conferring maximum benefit” (Hall & Taylor, 1996, p. 939). As a result, the institution constrains actors by limiting information regarding costs and benefits of actions, as well as other actors’ behaviors (Hall & Taylor, 1996). Those who support the *cultural approach* assume that individuals attempt to reach their goals by using routines or behavioral patterns that depend more on a person’s interpretation of the situation than on a purely rational calculation. In this approach, institutions constrain actors by defining moral and cognitive templates – symbols, scripts, and routines – that filter the individual’s interpretation of a situation (Hall & Taylor, 1996). Hay rejects outright the calculus approach because “rational choice strips away all distinctive features of individuality, replacing political subjects with calculating automatons” (1998, p. 952), and because it assumes all actors in a similar social environment have an identical set of preferences, which makes rational choice theory incompatible with historical institutionalism (Hay, 2005). However, he also finds the cultural approach “equally at odds with the formulation” (1998, p. 954) he advocates because the cultural approach underplays the role of agency in the processes being studied (2009). Instead of choosing one of the approaches, Hay provides an alternate explanation of how institutions constrain actors. In his view, actors are strategic and attempt to realize complex, changing goals. However, these actors must rely on incomplete – and sometimes incorrect – perceptions of the context surrounding them. Institutions constrain actors through “structures whose functionality or dysfunctionality” (p. 954) create a context that favors some strategies over others (Hay & Wincott, 1998).

In addition to the differences in explanations of how institutions constrain actors, historical institutionalists disagree as to how to explain change while remaining true to the concepts of path dependence (Schneiberg, 2007). Two schools of thought have evolved when attempting to explain changes in path dependent institutions. The first approach contends that changes in path-dependent institutions are the product of small, incremental transformations not unlike the ones presented by

evolutionary theories in the natural sciences. From this point of view, large changes – when studied across long-enough time spans – are explained by a series of small adjustments to the organization’s historical path (see for example Campbell, 1997; Dobbin, 1994; Pierson, 2000; Western, 1995). The second approach contends that changes in a path-dependent institution are caused by external shocks which disrupt the state of equilibrium in which the institution exists and thrusts it into a state of crisis (see for example Dobbin & Dowd, 2000; Fligstein, 1990; Piore & Sabel, 1984; Thornton & Ocasio, 1999; Tushman & Anderson, 1986). Instead of choosing one school of thought, Hay contends that each provides an explanation for different types of change and that a better approach is to view policies both as in flux within a historical context and as subject to major changes when the underlying context shifts (Hay, 2001). He uses two concepts as a basis for this approach: institutional feedback, and paradigm shifts. The latter will be addressed in the discussion about the PEF’s assumptions about the policy process. The former is used to explain small, iterative changes in policy instruments and their settings without changing policy goals (Hay, 2001).

The concept of institutional feedback is not only based on the idea that past policies help shape new policies, but that previous policies impact several aspects of the policy-making process that may be taken for granted by policy makers. One of the central points of historical institutionalism is that “even the most innovative creations are decisively shaped by the content of previous policy” (Hecklo, 1974, p. 5). Explanations as to how these past policies determine the options of policy makers vary, from shaping policy makers’ cognitive perceptions of their surroundings (Putnam, 1976), to focusing policy makers’ attention on the problems created by past policies (Hecklo, 1974), to providing the symbols used by policy makers when defining new policies (Campbell, 1998), to establishing structural constraints in the policy making process itself (DiMaggio & Powell, 1983). These explanations are not mutually exclusive and have been used together to create a more detailed definition of institutional feedback (Pierson, 1993). It is this last definition that Hay uses in his PEF to incorporate feedback processes in policy changes (Hay, 1999). Hay contends that past policies affect the policy making process in several areas including the structural constraints placed on actors, the nature and amount of information

available to actors, the way actors perceive the available information, and the effect of the information on the actors themselves (for a detailed description see Pierson, 1993).

The PEF assumes a policy context defined by a version of historical institutionalism that is an amalgamation of different schools of thought. By defining the context this way, Hay blends deterministic and agency-centered theories to allow both evolutionary and revolutionary changes to occur in an institution. In addition, Hay moves away from focusing on the institution as the protagonist of policy change – or policy stability – and focuses instead on the actors embedded within the institutional context. The institution continues to be of great importance for the policy process but in an indirect way. It provides actors a context that constrains access to the resources, options, narratives, and symbols needed to engage in the policy making process.

3.2 THE PEF'S ASSUMPTIONS ABOUT THE ACTORS INVOLVED IN THE POLICY PROCESS

Hay's PEF places actor agency at the center of the policy making process while describing actors as constrained in their perceptions of what is possible and desirable by *policy paradigms*, as being reflexive and strategic, and as being engaged in “a constant process of... social learning” (Hay, 1999, p. 198). The concept of policy paradigm is derived from an analogy of Thomas Kuhn's scientific paradigms (Kuhn, 1970c) and is defined as “a framework of ideas and standards that specifies not only the goals of policy and the kind of instruments that can be used to attain them, but also the very nature of the problems they are meant to be addressing” (Hall, 1993, p. 279). As mentioned earlier, institutions provide a context where important aspects of the policy making process are constrained by the institution's history and feedback processes. This institutional context is also considered part of the policy paradigm since it defines, among other aspects, “the very terminology through which policymakers communicate about their work” (Hall, 1993, p. 279). More detail on the concept of policy paradigm will be presented during the discussion on the assumptions about the policy process.

Hay contends that, in addition to being influenced by the dominant policy paradigm, actors' choices and decisions are also influenced “by the lessons they draw from other contexts... and their assessment of previous policy successes and failures” (1999, p. 199). That is, actors are seen as reflexive and strategic. No matter under what policy paradigm the policy context is perceived, actors use their

perceptions to interpret the outcomes of their actions. The PEF assumes that actors try to understand the relationships between past policies and their outcomes (Hay, 2001). Actors interpret past policy failures – or what they perceive as failures – and engage in “collective puzzlement on society’s behalf” (Hecló, 1974, p. 305) in order to find solutions to those failures. This *puzzlement*, however, is not random. Actors selectively look for solutions that will reduce the unpopularity of their preferred policy choices (Hecló, 1974) or that will help them improve their chances to implement their preferred policy choices (Dolowitz & Marsh, 1996). From this perspective, actors reflect upon what they perceive to be the outcomes of past policies and the current institutional context, reflect on what those outcomes and that context means to them, and choose certain strategies over others with the goal of implementing their intentions.

Finally, the PEF assumes actors are constantly immersed in a process of social learning (Hay, 1999). The concept of social learning as used by Hay is based on Hecló’s definition of social learning and augmented by Hall’s disaggregation of social learning into different levels. Hecló builds his definition of social learning from the concept that individual “learning can be taken to mean a relatively enduring alteration in behavior that results from experience” (p. 306). Social learning is then defined as “changed patterns of collective action” (p. 306) acquired and produced by the interaction of learning individuals so that even if individual actors do not change their views, the collective actions expressed through public policy change (Hecló, 1974). Hecló’s emphasis is on the effect of changing circumstances on the collective decision-making choices of policy makers rather than on the process experienced by the individual actors:

A better image for social learning than the individual is a maze where the outlet is shifting and the walls are being constantly repatterned; where the subject is not one individual but a group bound together; where this group disagrees not only on how to get out but on whether getting out constitutes a satisfactory solution; where, finally, there is not one but a large number of such groups which keep getting in each other’s way. Such is the setting for social learning. (Hecló, 1974, p. 308)

The concept of social learning is further developed by Hall, who defines social learning as a “deliberate attempt to adjust the goals or techniques of policy in response to past experience and new information” (1993, p. 278). Although Hall’s definition focuses on the *attempt to adjust* policies rather than on Heclo’s *changed pattern* of policies to define learning, Hall measures learning in the same way as Heclo – by measuring the actual changes to policy (Hall, 1993). In order to measure the extent to which actors have learned, Hall introduces three levels of policy change that correspond to three levels of learning based on three variables of policy making: goals, instruments, and settings (Hall, 1993). *First-order learning* refers to a situation where policy goals and instruments are left unchanged and only the settings are modified (Hall, 1993). Examples of first-order learning include the annual adjustments to performance requirements for public schools under the Texas state accountability system. The goals of public education accountability and the tools used to measure it remain unchanged, and only specific performance targets are adjusted to encourage improvement in school performance. *Second-order learning* is experienced when both the policy instruments and their settings change, leaving the policy goals untouched (Hall, 1993). Provisions in House Bill 3 requiring a new state accountability system for public education in Texas are an example of second-order learning. In this case, both the tools and the target measures with which public institutions are accredited in Texas change, but the goals of public education accountability remain unchanged. *Third-order learning* is experienced when the policy goals themselves change (Hall, 1993). An example of third-order learning is the transition from process-based evaluation to outcomes-based accountability in public education. Policy priorities in this case changed, and with them the policy tools and settings used to pursue the policy priorities. In addition to the three types of learning described above, Hall allows for the possibility of *fourth-order learning* – defined as actors “learning about learning” (footnote 21, p. 293) – but the implications of this type of learning are not explored. Finally, Hall warns that the fact that learning takes place does not necessarily imply that policies improve, because “just as a child can learn bad habits, governments, too, may learn the ‘wrong’ lessons from a given experience” (footnote 20, p. 293).

Actors – not institutions or ideas – are the protagonists in the policy making process described in the PEF. As such, they are assumed to be complex individuals that perceive the institutional context in

which they are submerged and the outcomes of past policy decisions according to policy paradigms. They engage in reflexive action to try to understand the relationship between past policies, the institutional context, and their personal goals. The information acquired from these reflexive actions is then assimilated and applied in different degrees to subsequent actions in order to pursue their policy goals.

3.3 THE PEF'S ASSUMPTIONS ABOUT THE POLICY PROCESS

The policy process described in the PEF is taken directly from Hall's adaptation of Kuhn's Structure of Scientific Revolutions. The PEF assumes the policy making process to be a cycle where incremental change is the norm while there is a dominant policy paradigm, and where major change is only possible through the adoption of a new policy paradigm (Hay, 2001). This policy paradigm life cycle closely follows Kuhn's Structure of Scientific Revolutions. Kuhn describes periods of normal science that lead to an increase of results that are inconsistent with the existing paradigm. The increase in inconsistencies leads scientists to question the existing paradigm and propose new ones – at which point the scientific field is said to be in a moment of crisis. This moment of crisis ends when a new paradigm is adopted by the practitioners, thus cementing a new normal science and beginning the cycle all over again (Kuhn, 1970c). Hall adopts Kuhn's concepts of paradigms and paradigm shifts in order to explain the connections between social learning and policy changes (Hall, 1993). As described earlier, a policy paradigm is an “interpretative schema” (Hay, 1999, p. 197) that defines a set of “legitimate policy techniques, mechanisms, and instruments... delimiting the very targets and goals of policy itself”(p. 197), thus defining what is politically feasible, practical, and desirable. An example of two paradigms that define different feasible and desirable outcomes are those present before and after the Brown vs. Board of Education ruling. In the former, policies that produced segregated schools were the norm. In the latter, policies that produced segregated schools are considered undesirable.

Hall identifies first- and second-order changes – changes to policy tools and their settings that keep policy goals unchanged – with adjustments made to reconcile the dominant policy paradigm with the unintended consequences of past policies created under that same policy paradigm. This process “is likely to display the features of incrementalism, satisficing, and routinized decision making that we

normally associate with the policy process” (Hall, 1993, p. 280). Even if the creation of new policy instruments may be seen as a step closer “in the direction of strategic action” (p. 280), the goals and measures used to evaluate success remain unchanged, and thus are defined by the existing paradigm. The first six re-authorizations of the Elementary and Secondary Education Act of 1965 (ESEA), from 1968 to 1994, are examples of policy changes made under a dominant policy paradigm. Even though the changes in the policy included program revisions in addition to funding changes, the goal of the ESEA – “to provide widespread help to... educationally deprived children” (McAndrews, 2006, p. 9) – remained unchanged.

In contrast, third-order change – one that changes policy goals themselves – is identified with a change in policy paradigms. Such a change would depend on three factors: the sociological merit of each paradigm, the degree to which paradigm proponents are seen as the authority on the subject, and the number of experiments and failures that can be attributed to each paradigm (Hall, 1993). Since each paradigm is designed to fit the policy context in which it was created, it is not possible to use only “a technical judgment in favor of one paradigm over another” (Hall, 1993, p. 280). Each paradigm, Hall contends, would have experts making use of technical data to argue in favor of their paradigm. Therefore, the decision to change paradigms would not rely on expert opinion alone and would be affected by the political tone, the institutional framework and its unequal distribution of resources, as well as “exogenous factors affecting the power of one set of actors to impose its paradigm over others” (Hall, 1993, p. 280). Since each paradigm is defended by technical experts and experts from different paradigms are very likely to disagree on their conclusions, policy makers must also decide which group’s technical data they should believe. The group that is perceived to have greater authority on the subject will be able to frame the data according to their paradigm – and help make their paradigm the dominant one (Hall, 1993). Finally, Hall describes the need to have experimentation and failure as part of the paradigm shift process:

Like scientific paradigms, a policy paradigm can be threatened by the appearance of anomalies, namely by developments that are not fully comprehensible, even as puzzles, within the terms of the paradigm. As these accumulate, ad hoc attempts are generally

made to stretch the terms of the paradigm to cover them, but this gradually undermines the intellectual coherence and precision of the original paradigm. Efforts to deal with such anomalies may also entail experiments to adjust existing lines of policy, but if the paradigm is genuinely incapable of dealing with anomalous developments, these experiments will result in policy failures that gradually undermine the authority of the existing paradigm and its advocates even further. (Hall, 1993, p. 280)

When these factors are put together, third-order change is clearly the result of a different process from the one responsible for first and second-order change. The gradual accumulation of anomalies – negative unintended consequences of the policy – leads policy makers to experiment with new forms of policy. The more experiments fail to reconcile the anomalies with the existing paradigm, the less authority those who espouse the paradigm have. The loss of authority of the dominant paradigm leads to the emergence of alternative paradigms that compete for dominance. The contest ends when a new paradigm acquires enough authority and institutional resources to change policy objectives and institutionalize its approach (Hall, 1993).

In the PEF, Hay uses the concept of paradigm changes from Kuhn's *Structure of Scientific Revolutions* – as adapted to the policy process by Hall – to differentiate between degrees of policy change. First-order changes, where the settings of policy tools are changed but the tools and policy goals remain the same, are seen as the most common attempt to reconcile negative consequences of past policies with the dominant policy paradigm. Second-order changes, where policy tools are replaced but policy goals are unchanged, are described as more strategic experiments that attempt to reconcile more serious anomalies with the dominant policy paradigm. Finally, third-order changes, where policy goals are redefined, are seen as a product of a change in the dominant policy paradigm.

The assumptions in which the PEF is based – about the policy context, about the actors involved in the policy process, and about the policy process itself – paint a picture of policy making where reflexive, strategic, actors that learn are central to the process. For these actors, policy paradigms – shaped by personal and institutional historical paths – provide a context that defines the goals, expected outcomes, desirability, feasibility, and tools available for a given policy. Immersed in this context, actors

are involved in a cyclical process of continuous policy adjustments with occasional changes in policy paradigms that re-define the goals of policy themselves. Once these assumptions have been presented, a full description of the PEF and a discussion of its advantages and disadvantages is possible.

3.4 THE PUNCTUATED EVOLUTION FRAMEWORK

The Punctuated Evolution Framework (PEF) is a “synthesis of historical and more discursive strands of neo-institutionalism” (Hay, 2001, p. 193), where the principal engine of policy development is a gradual evolution heavily dependent on the historical context that takes “the form of iterative yet cumulative change within the context of an ascendant paradigm” (p. 193). However, during times of crisis – or perceived crisis – greater alterations in the trajectory of the policy-making process are possible if a paradigm shift occurs. The path dependency of the institutions constrains policy changes to a narrow band of adjustments meant to reconcile unintended policy consequences with the dominant paradigm. The framework at the same time allows for a revolutionary change in policy direction through a paradigm shift. These shifts are possible only after the appearance of a moment of crisis – defined as “a context in which policy failures are widely identified, experienced, and associated with the dominant paradigm” (p. 193). When this context of crisis is present, “a diversity of competing narratives proffering alternative new paradigms (and premised upon often incommensurate conceptions of the possible and the desirable) may emerge” (p. 193). The result of a paradigm shift is not the resolution of the contradictions of the policy and its effects, but rather a redefinition “of the very problems that need addressing” (Hay, 2001, p. 193).

In this mixture of historical and ideational institutionalism, policy-making is in constant flux within the constraints of the accepted paradigm. The dominant paradigm through which the problem is defined creates boundaries in the set of possible approaches to solving problems in such a way that solutions outside these ideological borders are seen as either politically unfeasible, or non-existent. As decisions are made, intended and unintended consequences of the policies arise. The actors involved in the policy-making process, identified by Hay as *the elite*, perceive the policy failures, contradictions, and implementation problems from the point of view of the existing paradigm. They use that existing definition of the problem to evaluate, plan, and decide on further changes to the policies. Since policy

shortcomings are seen through the lens of the existing paradigm, any changes to it are also made from within that framework. As a result, the changes are gradual, more like *tinkering around the edges* of the policies, while keeping the major aspects – those defined as crucial by the existing paradigm – untouched.

At the same time the cycle above is happening, the public experiences the intended and unintended consequences of the policies as well. If the experienced failures, contradictions, and implementation problems are not perceived as a crisis (that is, failures are not seen as a direct consequence of the existing paradigm), there is no paradigm shift and the cycle above continues unimpaired. However, even when the public and the elites interpret the failures as evidence of a crisis, change is still not certain. If the public and the elites perceive a crisis but no legitimate alternative to the dominant paradigm, there will be no paradigm shift. Only if the public and the elites perceive the failures as evidence of a crisis, and there exists an alternative paradigm that is seen as legitimate by both the public and the elites, can a paradigm shift occur. With a paradigm shift, the policy problems are redefined and the solution boundaries for the problems are redrawn. Elites make changes to the policy according to these newly defined constraints of the ascendant paradigm and the cycle is repeated once again. See Figure 1 for a graphic representation of the framework. The process described “is one not of ‘punctuated equilibrium’ [where policies remain unchanged for periods of time and are then forced out of their stasis by an uncommon event], but of ‘punctuated evolution’ – of policy evolving through the iterative unfolding and adaptation of a paradigm to changing circumstances, punctuated periodically by crisis and paradigm shift” (Hay, 2001, p. 200).

3.5 ADVANTAGES OF THE PUNCTUATED EVOLUTION FRAMEWORK

This framework has several useful features for the study of educational policies. The inclusion of historical institutionalism seems particularly appropriate for education because of the heavy influence of the past on today’s system. Because of the uncertainty and complexity of the causal chains between education policy and its outcomes (for example the link between education policy and economic competitiveness), the inclusion of ideational institutionalism is also necessary (for further discussion on the link between ideational institutionalism and policy complexity see Campbell, 2001; Hall, 1993;

Pierson, 1993). Furthermore, this framework allows for perceptions to influence the advent of a crisis which becomes the catalyst for a paradigm shift, a situation which has arisen in educational policy in the past and that should be taken into account when attempting to explain changes in educational policy in the future. Finally, this framework allows for the differentiation of periods of gradual change and periods of exceptional change. It is well documented that educational policies are slow to change, and even then, the changes are gradual and mostly to the fringes of the system (see for example Cuban, 1984; Goodlad, 1984; McAndrews, 2006; Meyer & Rowan, 1977; Tyack & Cuban, 1995; Urban & Wagoner, 1996; Vinovskis, 1999). There are, however, instances when changes have been dramatic – such as the policies derived from the Brown vs. Board of Education ruling, or the passage of the No Child Left Behind Act of 2001 – and this framework allows for the explanation of both types of changes.

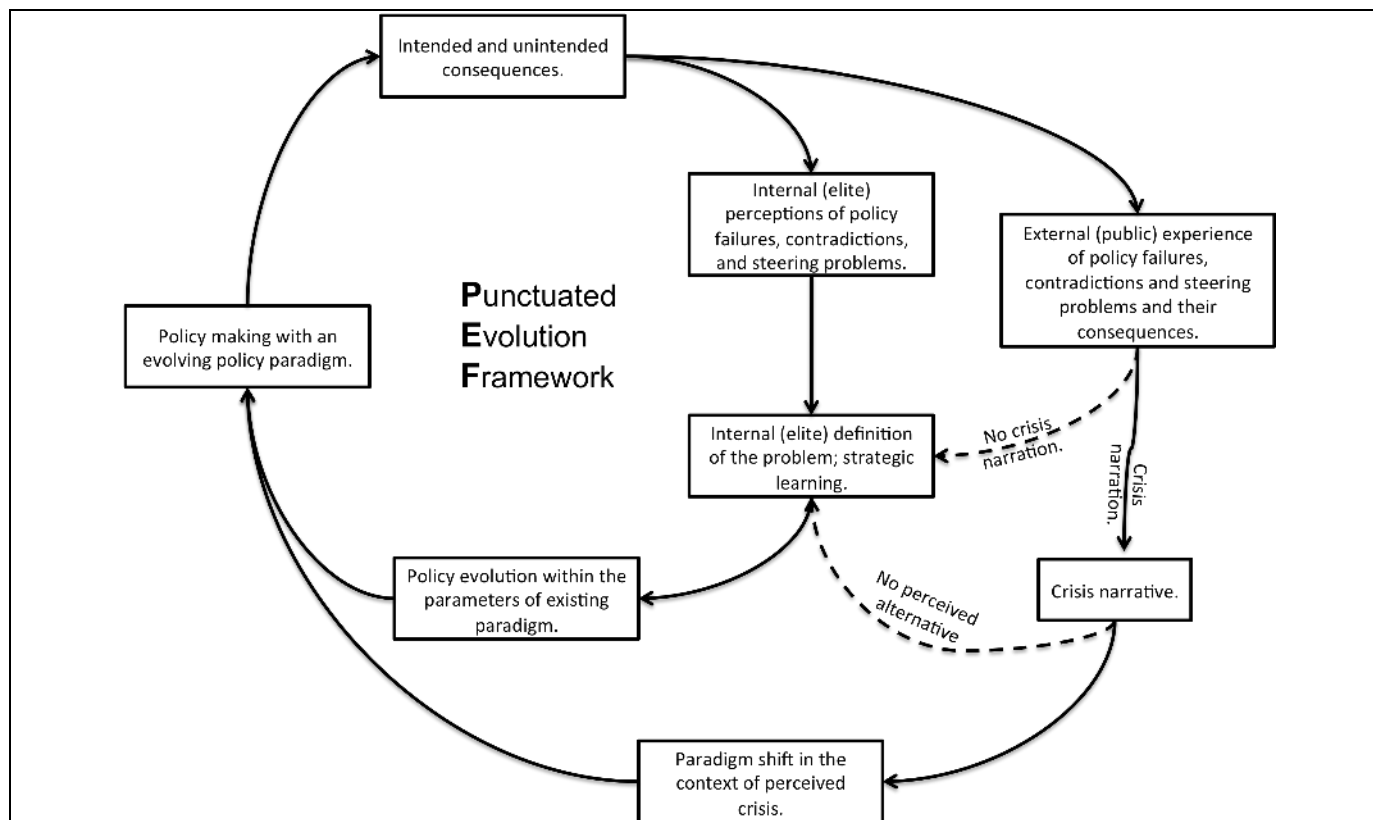


Figure 1: The Punctuated Evolution Framework (Hay, 2001)

The debates in educational policy date back decades, their roots going back to the mid-nineteenth century (Cuban, 1984; Tyack & Cuban, 1995). Historical institutionalism looks at education as organizations embedded in a chronological framework whose past defines most of its present. Past policies, once adopted, become part of the organizational fabric and define not only their intended and unintended consequences, but also the very way in which problems are approached. From this point of view, the future is constrained by the state of the present, which itself is constrained by the past. The slow change of education in the last century has been well documented using historical institutionalism (see for example Cuban, 1984; Goodlad, 1984; Labaree, 2007; McAndrews, 2006; Meyer & Rowan, 1978; Tyack, 1974; Tyack & Cuban, 1995; Urban & Wagoner, 1996; Vinovskis, 1999; Weick, 1976), which paints a clear picture of why schooling has changed only slightly, and would be still recognizable to someone who had experienced it a century ago (Cuban, 1984; Tyack & Cuban, 1995).

Even though Hay acknowledges the advantages of historical institutionalism, he also points out that this approach runs the risk of treating the point of institutional formation as the key to the derivation of “institutional constraints, opportunities, and capacities” (Hay, 2001, p. 195) while implying “that the subsequent evolution... of those institutions over time is insignificant” (p. 195). As a way to correct this perceived weakness of historical institutionalism, he includes in the PEF the idea that intermittent moments of crisis allow for paradigms to shift, reducing the constraints and inertia that resist institutional change. Under the assumption that ideas have a key role in the determination of institutional outcomes, and that policy makers are “engaged in a constant process of evaluation and assessment of the consequences of prior policy choices” (Hay, 2001, p. 195), he introduces the idea that policy changes follow a path of *punctuated evolution* – with constant adjustments to policy punctuated by intermittent shifts in policy goals. Policy makers must formulate policy “favoring certain strategies over others as means to realize intentions” (Hay, 2001, p. 195) which are constrained by their perception of what is feasible, possible, and desirable, as well as by their cognitive frames, their perceptions of institutional capacity, what they know from other concepts (policy transfer), and from their interpretation of the effects of previous policies. In other words, their worldview defines and constrains their decisions. Once decisions are made, the actors monitor the consequences of previous actions, and adjust their strategies

accordingly. Therefore, the policy-making process is characterized “by successive stages or iterations of strategic learning within the broad parameters of an evolving paradigm” (Hay, 2001, p. 199). Thus, the formulation, application, and evaluation of ideas is what drives the policy-making process under this framework.

Only during moments of “widely perceived institutional and state crisis” (Hay, 2001, p. 200), are policy-makers forced to contend with paradigms and political goals that are significantly different from the ones they hold. It is important to point out that, unlike Hall’s requirements for a paradigm shift, it is sufficient in this framework to have a widespread perception of a crisis to trigger a paradigm shift even when there is little real evidence of such crisis. The perception and the experiences of policy consequences are the factors that provide fuel for a paradigm shift.

3.6 DISADVANTAGES OF THE PUNCTUATED EVOLUTION FRAMEWORK

Despite all its advantages, the PEF fails to capture a number of essential elements in the unique policy-making process of education. It does not allow external eventualities to directly affect the process. Moreover, it does not account for the process through which inconsistencies become crises, crises redefine problems, and paradigms change. It does not include, for instance, an explanation of how policy is made, and whether this process is different when the system is in an evolutionary track from when it is a revolutionary change. The major intent of Hay’s framework is to “ask under what conditions paradigms are consolidated, challenged, and replaced...” thus emphasizing “...the importance of the moment of crisis itself” (Hay, 2001, p. 198).

Within this system composed of iterations and feedback, there are two points where Hay provides opportunities for external events to impact the policy-making process. First, he defines policy makers as strategic and reflexive, aware of some of their limitations, and influenced by their cognitive frames. Policy makers, he contends, are aware of past implementations, their consequences and the current political environment, and they are able to apply this information in future decisions – in other words, they learn. Part of that learning process includes the concept of policy transfer, where they draw lessons from other contexts and apply those lessons to their own policy environment (Dolowitz & Marsh, 1996). Policy transfer, then, becomes a vehicle for external eventualities to make their way into

the policy environment – filtered by the policy maker’s cognitive frame and existing policy paradigm. As such, external events do not affect the policy context directly, but through the buffer of the policy maker’s perceptions. Second, external eventualities may also affect the policy context through the public’s experience of policy consequences. Again, in this view, external actions are perceived by the public, interpreted through their cognitive frame and existing paradigm, and then incorporated into the policy environment as part of an accumulation of ideas and perceptions. In both cases, external eventualities are buffered and considered only through the perception of actors and not as agents of change by themselves. There are, however, instances in educational policy history where events unrelated to education have had a major impact on the system and its composition. One example of such an event is the launch of Sputnik by the Soviet Union in the 1950’s. This event was perceived as a failure of national security and technology policies and had a major effect on the public’s perception of American technological and educational supremacy. However, this event had no direct relationship to outcomes from previous education policies. Hay’s model would not be able to account for the great impact this unrelated event had in changing the direction of educational policy.

As a framework that is deeply rooted in historical institutionalism, Hay’s model focuses on moments of crisis – defined by others as *critical junctures* (Schneiberg, 2007) – along the institution’s path and provides a detailed explanation of how those junctures were built. Although he describes why paradigms change, he does not go into detail as to how they change. The focus of this framework is to provide the larger picture of how, across time, perception of crises allows paradigms to change within a policy environment. It would be very useful, however, to be able to look into the black box and describe in detail how narratives compete, how they are transformed and are perceived as crises, and how the new paradigm is then defined and adopted. Without this knowledge of the internal process of a paradigm shift, it is not possible to analyze a policy environment in the present and predict whether a critical juncture is close. Without exploring how narratives become – or create – crises, the only way to detect crises is by looking at the past and identifying them then by their consequences. Understanding the past is very useful, but actors currently involved in policy making processes might find the analysis of

present situations more useful in advocating, or at the very least understanding, the direction of current policy.

Finally, Hay's framework does not emphasize the process through which actual policy is made, and whether the process is the same for periods of evolution – where the existing paradigm rules – as for periods of revolution, when a new paradigm is adopted. The inclusion of the policy-making process would allow for the process itself to have an effect on the internal and external perceptions of crisis. In an era where policy makers and stakeholders can go through the policy-making process live on cable television or online, the narrative created within that process can be used to affect the outcome of the process itself, change the public's perception of the situation, or define a narrative of business as usual.

Chapter 4: Theoretical Context of the Advocacy Coalition Framework

The Advocacy Coalition Framework (ACF) places information at the center of policy making which is used by coalitions of like-minded actors who are constrained by structural arrangements in an attempt to “alter the behavior of governmental institutions in order to achieve [their] policy goals over time” (Sabatier & Jenkins-Smith, 1993, p. 41). Policy change can happen through four different paths, with the scope and degree of change depending on which path is taken. External Perturbations and Internal Shocks are necessary precursors of major policy change, while Hurting Stalemates and Policy-Oriented Learning provide opportunities for gradual change (Sabatier & Weible, 2007). The assumptions on which the ACF is based can be divided into three major components: assumptions about the policy context, assumptions about the actors involved in the policy process, and assumptions about the policy process.

4.1 THE ACF’S ASSUMPTIONS ABOUT THE POLICY CONTEXT

The author of the ACF uses concepts from systems theory, historical institutionalism, and belief systems theories to describe the policy context. From systems theory, Sabatier takes the general concept of system, system boundaries, and subsystems to construct policy arenas that can be studied as relatively independent entities that span all levels of government. Historical institutionalism is used to define structures within the constructed policy arena that are responsible for the inequitable distribution of resources, for the determination of acceptable paths to policy change, and for the definition of how to go about changing policy. Finally, policies are analyzed using the constructs available to belief systems in order to analyze the use of information in policy making and its impact on changing policy preferences.

The ACF uses systems theory to delineate the overall shape of the policy context by assuming political systems can be treated “as a dynamic interplay between inputs (demands and supports) from the environment, which are transformed by political processes into some kind of outputs (policies, symbols, and services), which themselves have subsequent consequences (feedback) for inputs and the political process” (Hofferbert, 1974, p. 142). The policy context then, is assumed to be non-linear (Dawson & Robinson, 1963; Easton, 1965; Lasswell, 1951), where previous policy decisions, situations outside of

the control of policy makers, and the policy process itself interact before, during, and after the policy making process to affect policy outcomes (Sabatier & Jenkins-Smith, 1993). The division between the policy system and its environment is not defined by specific structures or general rules. Instead, the ACF makes use of Ostrom's concept of *institutional arrangements* to empirically delineate what and who is part of a particular policy system. Each policy system is bounded by "a complex composition of rules, all of which exist in a language shared by some community of individuals rather than as the physical parts of some external environment" (Kiser & Ostrom, 1982, p. 179). In this sense, Sabatier's policy systems exist because a group of individuals have, over time, created a set of rules to determine "who and what are [*sic*] included in a decision situation, how information is structured, what actions can be taken and in what sequence, and how individual actions will be aggregated into collective decisions" (Kiser & Ostrom, 1982, p. 179). By defining the boundaries of a policy system in this manner, policy systems are not confined to a handful of institutions. Instead, this definition allows the ACF to include, in addition to the usual set of institutions like legislative bodies, interest groups and even individuals who are involved in the policy making process without being part of a formal policy-making organization.

While the use of institutional arrangements allows more actors to be included in a policy system, its broad definition makes these same systems large, unwieldy, and ultimately too broad for a detailed analysis. The ACF, instead of attempting to explain the policy system as a whole, focuses the analysis on *policy subsystems*. The authors of this framework use Pluralist Theory to justify the existence of policy subsystems. In modern states, "policy activity is in response to a fairly open, competitive bargaining process" where "small numbers of people still do most of the governing" but where "there is considerable function specialization by issue areas" (Hofferbert, 1974, p. 83). Those who specialize in particular issue areas, become part of a "structure dependent upon a larger political entity" that "functions with a high degree of autonomy" (Hofferbert, 1974, p. 120). Sabatier uses Hofferbert's justification for the existence of policy subsystems, but rejects the idea of a subsystem as a structure (Sabatier & Jenkins-Smith, 1993). Instead, the author of the ACF defines policy subsystems as "the group of people and/or organizations interacting regularly over periods of a decade or more to influence

policy formulation and implementation within a given policy area/domain” (Sabatier & Jenkins-Smith, 1999a, p. 135). By defining subsystems in this way, policy subsystems cannot be described a priori, and must be delineated empirically. This definition is based on Heclo’s concept of *issue networks*, which defines participants by their “degree of mutual commitment or of dependence on others” (Heclo, 1978, p. 102), and on Fritschler’s inclusion of all groups and individuals who are making or influencing government decisions regarding a specific issue (Fritschler, 1969). In addition to the definition of who is part of a policy subsystem, the ACF sets conditions on how those actors interact with their surroundings in order to be considered a subsystem. Using Hamm’s characteristics of functional subsystems (Hamm, 1983), the ACF identifies actors as part of a mature policy subsystem when:

- 1) Participants regard themselves as a semi autonomous community who share a domain of expertise.
- 2) They have sought to influence public policy within the domain over a fairly long period of time (7–10 years)...
- 3) There are specialized subunits within agencies at all relevant levels of government to deal with the topic...
- 4) There are interest groups, or specialized subunits within interest groups, that regard this as a major policy topic. (Sabatier & Jenkins-Smith, 1999b)

Groups of actors attempting to solve a policy problem that do not meet the characteristics of a mature policy subsystem are considered a *nascent policy subsystem* which is expected to, in time, evolve into a *mature policy subsystem* and acquire the characteristics of one (Sabatier & Jenkins-Smith, 1993).

Since policy subsystems are not defined by institutional structures but by groups of actors involved in formulation and implementation of policies, the scope of these subsystems tends to reach beyond a single level of government. From a functional perspective, policy formulation and implementation must include actors whose roles are the generation, dissemination, and evaluation of policy ideas (Sabatier & Jenkins-Smith, 1993), actors with proximity to points of decision (Hofferbert, 1974), and actors who cooperate in the implementation of the policies in order to meet their objectives (Hjern & Porter, 1981). These actors do not share mechanisms of investiture (Hofferbert, 1974), and may not necessarily share membership in administrative agencies or legislative committees (Sabatier &

Jenkins-Smith, 1993). Therefore, government actors tend to come from all relevant levels of government.

Within the structure delineated by systems theory, the authors of the ACF use a multi-level version of historical institutionalism that constrains and partially guides the policy-making process. This use of historical institutionalism is found by differing degrees at different levels – at an actor-specific level, at an organizational level, and at a supra-organizational level. The influence of historical institutionalism increases with the scope of the level studied, so that historical institutionalist factors are seldom mentioned at the actor-specific level, while they define much of the rules and constraints at the supra-organizational level.

Although the ACF approaches actors' behavior from a rational choice perspective (Sabatier, 1993), its author acknowledges that “policy making in any political system or policy subsystem is constrained by a variety of social, legal, and resource features of the society of which it is part” (Sabatier, 1993, p. 20). In this sense, actors in the ACF follow in part “a rationale which is sanctioned, but not determined, by the organizations of which they are members as well as by their more general environment” (Hjern & Porter, 1981, p. 221). In addition, Sabatier assumes actors in the ACF are affected by past policies, which subsequently affect their choices in future policies (Sabatier, 1993). Like Hofferbert, he contends that “history and geography are intricately woven into the actions of contemporary policy-makers” (Hofferbert, 1974, p. 228) so that “even the most innovative creations are decisively shaped by the content of previous policy” (Hecló, 1974, p. 5). It is important to note that institutions and past policies are not the only factors taken into account by the ACF in explaining individual behavior. The specific mechanisms explaining how institutions and history interact with other factors to affect individual behavior are explained later in the ACF's assumptions about the actors involved in the policy process.

The effect of historical institutionalism at the organizational level is not defined with much detail by the ACF. It is acknowledged as a partial source of individual actors' social, legal, and resource status, but it is also an unexplained feature of the framework that requires further research (Sabatier & Jenkins-Smith, 1993).

At the supra-organizational level, the author of the ACF makes use of the concepts of historical institutionalism in conjunction with Ostrom's concept of Institutional Arrangements (Sabatier & Jenkins-Smith, 1999a). In addition, subsystem participants are also affected by sets of *exogenous factors* that are divided into three categories: relatively stable parameters, coalition opportunity structures, and dynamic external factors (Sabatier & Weible, 2007).

Relatively stable parameters are derived from Ostrom's *collective choice* and *constitutional choice* institutional arrangements. These are the "rules used by individuals for determining who and what are included in decision situations, how information is structured, what actions can be taken and in what sequence, and how individual actions will be aggregated into collective decisions" (Kiser & Ostrom, 1982, p. 179). These factors rarely change within periods of a decade and are considered essential in "establishing the resources and constraints within which subsystem actors must operate" (Sabatier & Weible, 2007, p. 193). They include the basic constitutional structure of the system, fundamental socio-cultural values, basic distribution of natural resources, and the basic attributes of the problem (Sabatier & Jenkins-Smith, 1999b; Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007). Examples of relatively stable parameters include a balanced-budget constitutional requirement, right-to-work legislation, and the common expectation that public education be held accountable for its outcomes.

Opportunity structures are a recent addition to the ACF in order to better accommodate political systems that are different from those found in American-style democracies (Sabatier & Weible, 2009). These structures "refer to relatively enduring features of a polity that affect the resources and constraints of subsystem actors" (Sabatier & Weible, 2007, p. 200), such as the degree of consensus needed for policy change and the openness of the political system. The degree of consensus required for policy change affects how rival groups share information and seek compromise, while the openness of the political system refers to the number of veto points that any major policy proposal must go through as well as the rules delineating who can access these points and how easily they can be accessed (Sabatier & Weible, 2007). The American political system, for example, has several *veto points* that are easily accessible to subsystem actors – the House of Representatives, the Senate, the presidency, the courts –

so that a supermajority is always needed for major or controversial policy changes. In contrast, authoritative regimes, such as Iran's, need only the cooperation of the ruling minority to push policy changes through.

Finally, dynamic external factors are consequences of decisions and situations outside the policy subsystem that affect the behavior of its actors (Sabatier & Jenkins-Smith, 1993). These factors include major socio economic changes, the rise of social movements, changes in technology, changes in the systemic governing coalition, and policy decisions and impacts from other subsystems (Sabatier & Jenkins-Smith, 1999a). These factors are considered critical and are actually included as a necessary condition for major policy change in the ACF (Sabatier & Weible, 2007). The multi-billion dollar deficit in the 2010-2012 budget for the state of Texas is an example of a dynamic external factor impacting educational policy subsystem in that state.

Heeding Majone's warning that "concentration on choice behavior and optimal decision rules has tended to obscure the fact that, in most cases, the range of actual choice is severely limited by institutional and many other constraints" (Majone, 1975, p. 55), Sabatier has adapted a version of historical institutionalism to provide avenues for values, organizational goals, and past policies to affect the policy-making process. At the supra-organizational level, these effects are extremely important in defining who can participate in policy-making, how much information is shared, and how much consensus is required for major policy change.

One of the central tenets of the ACF is that public policies can be conceptualized as belief systems (Sabatier, 1993; Sabatier & Jenkins-Smith, 1999a; Sabatier & Weible, 2007). Sabatier argues that policies "incorporate implicit theories about how to achieve their objectives... they involve value priorities, perceptions of important causal relationships, perceptions of world states... perceptions of the efficacy of policy instruments, and so on" (Sabatier, 1993, p. 17). By mapping beliefs and policies "in the same canvas" (Sabatier & Jenkins-Smith, 1999a, p. 154), users of this framework are able to analyze the role of information, especially scientific information, in policy (Sabatier & Jenkins-Smith, 1999a).

The authors of the ACF base their conception of policies as beliefs on the works of Majone and of Pressman and Wildavsky, and expand those concepts into a detailed, three-tier hierarchical structure

that differentiates between ontological, policy-specific, and sub-policy-specific beliefs (Sabatier & Weible, 2007). While arguing in favor of including implementation into policy analysis, Pressman and Wildavsky describe policies as *hypotheses* “containing initial conditions and predicted consequences” (Pressman & Wildavsky, 1984, p. xxii). Policies, they argue, “point to a chain of causation between the initial conditions and future consequences” (Pressman & Wildavsky, 1984, p. xxiii), where programs are but “the first link in the causal chain” (Pressman & Wildavsky, 1984, p. xxiv) that connect, through the forging of new links by the act of implementation, to the desired results. Majone takes the idea of policies as hypotheses further. He contends that, because policies are crafted to respond to a certain view of “the nature of social processes and the working of social institutions” (Majone, 1975, p. 50), they imply the existence of an objective model of the world – a theory about the causes and effects of the social environment addressed by the policy. Policies, therefore, are not only hypotheses, but “theories or, at least, the *institutional analogues* of social theories” (Majone, 1975, p. 56 emphasis in the original). Taking policies as social theories, Sabatier uses Lakatos’ structure of a scientific program to conceptualize the objective models behind a policy as a nested set of assumptions – or beliefs – about the environment, the value priorities, important causal relationships, and the efficiency of policy instruments as well as the definition and magnitude of the problem (Sabatier, 1993). The structure defined by Lakatos consists of a set of statements assumed a priori to be true – the hard core of the program – upon which testable hypotheses are built – the protective belt. Sabatier’s belief structure uses this idea to define three levels of policy beliefs: the deep core, the policy core, and secondary beliefs. The analysis of these beliefs within the ACF is specific to how they come to be, how they can change, and how easy or difficult it is to change them.

Deep core beliefs are “very general normative and ontological assumptions about human nature, the relative priority of fundamental values,” (Sabatier & Weible, 2007, p. 194) and other assumptions that “define a person’s underlying personal philosophy” (Sabatier & Jenkins-Smith, 1993, p. 30). These beliefs are a product of socialization at an early age, and changing them is akin to a religious conversion (Sabatier & Jenkins-Smith, 1999a; Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007). Because

of their origin, deep core beliefs affect decisions beyond a single policy subsystem and tend to be applied without actors being necessarily aware that they are using them.

Policy core beliefs are the concrete applications of deep core beliefs to an entire policy subsystem (Sabatier & Weible, 2007). Policy core beliefs define “the priority of different policy related values, whose welfare counts, the relative authority of governments and markets, the proper roles of the general public, elected officials, civil servants, experts, and the relative seriousness and causes of policy problems in the entire policy subsystem” (Sabatier & Weible, 2007, p. 195). Since policy core beliefs tend to be concrete instead of abstract, they are differentiated from secondary beliefs by their scope and topic rather than by their level of abstraction (Sabatier & Jenkins-Smith, 1999b). That is, a policy core belief should apply to most, if not all, aspects of the policy subsystem, as well as concern itself with one of the topics specific to the concrete application of deep core beliefs. The topics identified as part of policy core beliefs are listed in Table 1. Since policy core beliefs are concrete applications of deep core beliefs, empirical content – prior practical experience and previous outcomes – is also partially responsible for the construction of these beliefs. Some policy core beliefs then, are based on empirical information to a greater degree than others, which allows the authors of the ACF to subdivide policy core beliefs by the degree to which they are based on empirical evidence. Beliefs identified as *fundamental normative components* are those beliefs based to a greater degree on deep core beliefs. They are “extremely difficult to change unless experience shows that actors or coalitions are holding incompatible values” (Sabatier & Jenkins-Smith, 1993, p. 220). On the other hand, beliefs identified as *precepts with a substantial empirical content*, even though they are still very difficult to change, can do so over time “through the accumulation of compelling evidence from a variety of sources” (Sabatier & Jenkins-Smith, 1993, p. 220). These two types of beliefs are the extremes of a continuum where individual policy core beliefs can be found. The ACF also identifies a special group of policy core beliefs designated as *policy core preferences*. Policy core preferences are beliefs that are highly prominent and have been a major source of division within the policy subsystem for some time. Policy core preferences help unite allies, divide opponents, and guide strategic behavior (Sabatier & Weible, 2007).

Table 1: Topics Normally Included in Policy Core Beliefs

Belief type	Topics
Fundamental normative precepts	<ul style="list-style-type: none"> • Orientation on basic value priorities • Identification of groups or other entities whose welfare is of greatest concern
Precepts with a substantial empirical component	<ul style="list-style-type: none"> • Overall seriousness of the problem • Basic causes of the problem • Proper distribution of authority between government and market • Proper distribution of authority among levels of government • Priority accorded various policy instruments (e.g., regulation, insurance, education, direct payments, tax credits) • Ability of society to solve the problem (e.g., zero-sum competition vs. potential for mutual accommodation; technological optimism vs. pessimism) • Participation of public vs. experts vs. elected officials • Policy core policy preferences

Note. Adapted from the ACF’s hierarchical belief structure (Sabatier & Jenkins-Smith, 1999a).

Secondary beliefs are the operationalization of policy core beliefs on specific topics that encompass less than the entire policy subsystem. These beliefs address issues like detailed rules, budgeting applications, etc. Because these precepts are deeply dependent on program-specific information, they are more likely to change with less empirical evidence and fewer arguments among subsystem actors than other beliefs (Sabatier & Weible, 2007).

While the division between Lakatos’ testable – and falsifiable – concepts and a priori assumptions that are never questioned is stark and deliberate, Sabatier’s conceptualization of beliefs presents a division that is more like a continuum between two extremes. In Lakatos’ model, a precept is either chosen a priori as true and unquestionable, or it is subject to empirical tests, and is therefore falsifiable. In Sabatier’s, precepts can be unquestionable beliefs that are deeply embedded and acted on without the actor being aware of them, or they can be applications of a social theory based mostly on past experience and empirical data that are changed when the data no longer supports them, or they can be based on varying degrees of both normative and empirical components.

The policy context as described by the ACF is an amalgamation of systems theory, historical institutionalism, and belief systems theories. Systems theory provides the definition of a policy arena as a semi autonomous group of actors who share a domain expertise, who attempt to influence public

policies within that domain over a decade or more, and who may be part of any level of government, interest group, other institution, or group of individuals who regard the domain as a major policy topic. Historical institutionalism, modified using Ostrom's concept of institutional arrangements, provides structure to the policy arena at the actor-specific, organizational, and supra-organizational levels – with the greatest emphasis placed on the supra-organizational structural definitions. Supra-organizational structural factors – the subsystem's relatively stable parameters, coalition opportunity structures, and dynamic external factors – play a particularly important role in precipitating or mitigating policy change. Finally, belief systems theories provide the construct with which to describe policies as beliefs made up of varying degrees of normative and empirical components, so that individual policy beliefs can be classified within a continuum spanning deep core beliefs, policy core beliefs, and secondary beliefs. These constructs provide a theoretical basis for identifying the origin, resilience, and direction of specific policies as well as for providing an opportunity to analyze the role of information in policy making.

4.2 THE ACF'S ASSUMPTIONS ABOUT THE ACTORS INVOLVED IN THE POLICY PROCESS

The authors of the ACF assume that actors perceive the world differently depending on their preexisting beliefs, that these perceptions and the beliefs on which they are based can change – that is, that actors learn – when enough empirical inconsistencies arise, that they act strategically to achieve complex goals that cannot be assumed a priori, and that they form advocacy coalitions in order to improve their chances to make policies reflect their beliefs more closely.

The ACF assumes that actors, when processing information, “suffer from a variety of cognitive biases and constraints” (Sabatier & Jenkins-Smith, 1999a, p. 131). The three main constraints are their limited capacity to process and analyze information, their tendency to selectively perceive information that agrees with their belief systems and filter out information that does not, and their tendency to view their opponents as less trustworthy, more powerful, and more evil than they probably are (Sabatier, 1993; Sabatier & Jenkins-Smith, 1999a; Sabatier & Weible, 2007). Due to the degree of complexity inherent in social systems, actors “must necessarily simplify and structure” this complexity “in order to cope with it” (Putnam, 1976, p. 80). In other words, people build *simplified frameworks* that help them

make sense of the information, problems, and possible solutions connected to a policy. Those who are involved in the policy-making process, the subsystem's actors, have a more structured framework than the public, with more "sophisticated concepts for interpreting, storing, and using" (Putnam, 1976, p. 87) the information related to their policy subsystem. Because frameworks are simplifications of the world, they must leave some precepts out – otherwise, the framework would be as complex as reality and would not be of any use. Which precepts are left out depend on the individual actor (Hofferbert, 1974), although a certain amount of agreement is necessary for policy making to function (Kiser & Ostrom, 1982). Individual actors build their policy frameworks based on both cognitive and normative precepts (Putnam, 1976), where incoming information is screened out or distorted to agree with their pre-conceived ideas by the individuals if its content does not agree with their beliefs and causes *cognitive dissonance* (Cobb, 1973). In other words, preexisting beliefs and experiences serve as both the foundation and as the filters upon which a simplified understanding of the policy subsystem is built. It is through these perceptual filters that actors interpret the world (Sabatier & Jenkins-Smith, 1999a). The result of this process is that, even within a particular "organizational unit, there can be substantial differences in outlook" (Pressman & Wildavsky, 1984, p. 98) so that preexisting beliefs can better explain the grouping of actors "into rough bodies of shared interpretation" (Hecl, 1974, p. 313). The ACF groups actors into *coalitions* based on the policy core beliefs they share (Sabatier & Jenkins-Smith, 1999a; Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007), so that members of a coalition perceive the world in similar ways, and so that members of different coalitions – by virtue of having different beliefs – "perceive the world through different lenses and thus interpret a given piece of evidence in different ways" (Sabatier & Jenkins-Smith, 1999a, p. 131). This "interplay among conflicting visions of the good society" (Putnam, 1976, p. 82) exacerbates differences between coalitions and encourages agreement within them. Because members within a coalition share their interpretations of external stimuli, it is easy to convince each other that challenges to their interpretations are either "based on invalid understandings of the world" (Sabatier & Jenkins-Smith, 1993, p. 48), or a plot to advance the other group's agenda. The distrust generated by this process is compounded by the proposition, borrowed from prospect theory, that actors remember losses more than gains, and defeats

more than victories (Sabatier & Jenkins-Smith, 1999a; Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007). The result is a tendency for actors “to view their opponents as less trustworthy, more evil, and more powerful than they probably are” (Sabatier & Weible, 2007, p. 194). Furthermore, different interpretations applied to the symbols of policy create situations where actors from different coalitions “show agreement on the value or potency of a symbol but no consensus on what the symbol means” (Cobb, 1973, p. 151), so that different coalitions “talk past each other” in “a dialogue of the deaf” (Sabatier & Jenkins-Smith, 1993, p. 48). Because the ACF’s actors simplify the world through cognitive and normative lenses based on preexisting beliefs in order to make sense of it, the same external stimuli and policy symbols are interpreted differently by actors with different policy core beliefs. In addition, these actors distrust the interpretation of others when they do not agree with their own. The combination of these factors make actors more “likely to engage in blatant advocacy analysis, to talk past each other, to view each other as unscrupulous rascals, and to build barricades around existing beliefs” (Sabatier & Jenkins-Smith, 1993, p. 55).

In addition to the assertion that beliefs held by actors are a combination of empirical and normative precepts that can change with varying degrees of difficulty, the authors of the ACF assume that the changes to these beliefs are brought about by *policy-oriented learning*. The ACF uses Heclo’s notion of learning and translates it “into a reasonably clear conceptual framework of policy change over time” (Sabatier & Jenkins-Smith, 1993, p. 16). Heclo introduces the political process of social learning as “a form of collective puzzlement on society’s behalf” (Heclo, 1974, p. 305) that “can be taken to mean a relatively enduring alteration in behavior that results from experience” (Heclo, 1974, p. 306). Although the definition of learning seems simple when dealing with a single individual, Heclo cautions that collective learning – by society or groups – should not be treated as “a discrete organic mind responding to a holistic stimuli” (Heclo, 1974, p. 306). Rather, learning at an organizational level is the result of individuals learning and interacting to change the patterns of collective action.

Heclo goes on to differentiate between two types of learning, classic conditioning and instrumental conditioning (Heclo, 1974). However, the authors of the ACF do not distinguish learning experiences in this way. They, instead, build upon Heclo’s idea that policies are products of both

learning and “nonlearning, that is, the unadaptability of policy makers” (Heclo, 1974, p. 312). In other words, learning is not a necessary prerequisite for policy change. More importantly, learning does not necessarily guarantee better policies (Hall, 1993; Heclo, 1974) because organizations can “learn the ‘wrong’ lessons from a given experience” (Hall, 1993, p. 293 footnote 220). It is the complexity of this type of organizational learning that the ACF makes use of to describe policy-oriented learning as “relatively enduring alterations of thought or behavioral intentions that result from experience and which are concerned with the attainment or revision of the precepts of the belief system of individuals or of collectives (such as advocacy coalitions)” (Sabatier & Jenkins-Smith, 1993, p. 42).

In addition, the ACF looks at the direction in which the learning occurs, distinguishing the learning that occurs *within coalitions* from the learning *across coalitions* (Sabatier & Jenkins-Smith, 1993). Learning within a coalition is considered common because it almost never involves a challenge to the group’s shared policy core beliefs. The speed with which the learning takes place depends “on the rate of turnover, the compatibility of the information with existing beliefs, the persuasiveness of the evidence, and the political pressures for change” (Sabatier & Jenkins-Smith, 1993, p. 42). In contrast, learning across coalitions – which by definition hold conflicting beliefs – is difficult even under the best conditions. Since policy-oriented learning happens “in the context of a political process where people compete over the authoritative allocation of values... and over the ability to use the instruments of government” (Sabatier & Jenkins-Smith, 1993, p. 45), it is not a disinterested search for *truth*. Information and analyses are used to justify the beliefs of those who produced – or subsidized the production of – the information in question. In this context, the ACF places as conditions for policy-oriented learning across coalitions “(1) a moderate level of conflict, (2) an issue that is analytically tractable (i.e. has widely accepted theories and quantitative indicators), and (3) the presence of a professionalized forum in which experts from competing coalitions must justify their claim before peers” (Sabatier & Jenkins-Smith, 1993, p. 55). Without these conditions, learning across coalitions is very unlikely.

Even when policy-oriented learning occurs, belief changes are normally “in the direction and in amounts involving the least total disruption to the set of beliefs” (Cobb, 1973, p. 140) of the advocacy

coalition. The learning process, started with individual learning, is normally resisted by group dynamics, then finally diffused through the group. Perceptual filters will tend to minimize the amount of changes to deeply held beliefs, unless the evidence is overwhelming, so that actors will be “loathe to reexamine core beliefs” (Sabatier & Jenkins-Smith, 1993, p. 43) until opponents’ activities and contradicting empirical evidence eventually forces them to do so. Even then, every effort will be made to restrict changes to secondary aspects in order to keep their policy core beliefs intact. For the ACF, individual alterations of thoughts and behavioral intentions brought about by experience are often diffused through the coalition to which the actors belong, and sometimes across coalitions with different policy core beliefs, so that secondary beliefs of the groups change. This policy-oriented learning can, under favorable circumstances, precipitate minor policy changes or even be an important but insufficient causal factor for major policy changes.

Not only do policy actors learn from experience, they also make use of the changes they perceive in order to improve their chances to change policy. The ACF “clearly assumes that actors are instrumentally rational – that is, that they seek to use information and other resources to achieve their goals” (Sabatier & Jenkins-Smith, 1999b, p. 130). However, unlike most rational models, the ACF “explicitly rejects the view that actors are primarily motivated by their short-term self-interest” (Sabatier & Jenkins-Smith, 1993, p. 27). Instead, it assumes that motivations are complex, can include altruistic goals, and must be empirically ascertained (Sabatier & Jenkins-Smith, 1999b; Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007). Regardless of their motivation, the main reason for actors to be part of a policy subsystem is to attempt to translate their beliefs into public policies (Sabatier & Jenkins-Smith, 1999b; Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007). In order to improve their chances of success, “policy participants will seek allies with people who hold similar policy core beliefs” (Sabatier & Weible, 2007, p. 196). When these actors coordinate strategies to achieve their goals, they form an *advocacy coalition* – the ACF’s unit of analysis of policy subsystem actors’ behavior (Sabatier & Jenkins-Smith, 1999b; Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007).

The concept of the advocacy coalition is built primarily from Hecló’s *issue networks*, defined as a “large number of participants with quite variable degrees of mutual commitment or of dependence to

others” that share knowledge about an aspect of public policy, and that “influence provoke and guide the exercise of power” (Hecló, 1978, p. 102). These policy activists need not agree with each other on policy issues. It is enough that they know – and care – about the policy in question (Hecló, 1978). Hecló places issue networks at the bottom of a three-tiered set of groups defined by the shared characteristics of their members. Issue networks are defined by a common knowledge base of the policy. Coalitions – the second tier – are defined by the degree of cooperation among members. Interest groups – the third and last tier – are defined by the degree to which actors’ beliefs are the same (Hecló, 1978). The ACF, however, does not distinguish between these groups. Instead, it combines certain aspects of each of these tiers to define advocacy coalitions. Advocacy coalitions, then, are defined as a group of actors who share most of their policy core beliefs that “engage in a nontrivial degree of coordination” (Sabatier & Weible, 2007, p. 196) in an attempt to use their combined information and resources to change existing policies so they better reflect the common set of policy core beliefs (Sabatier & Jenkins-Smith, 1999b; Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007). Just as actor’s goals and motivations must be ascertained empirically, so must coalition membership, cohesiveness, and stability be empirically measured (Sabatier & Jenkins-Smith, 1993). Actors, according to the ACF, are rational individuals with complex motivations that strategically adjust their behavior in order to improve their chances to translate their beliefs into policies. To this end, actors who share policy core beliefs maximize their information and resources by coordinating their strategies and aggregating themselves into advocacy coalitions.

The ACF assumes that actors perceive the world through cognitive lenses built from preexisting cognitive and normative concepts, so that new information is filtered and distorted to preserve those preexisting beliefs. Actors with different beliefs will have different interpretations of the same information, thus leading to distrust among actors of different beliefs. These lenses are not immutable, however, and given enough time and sufficient contradictory data, actors change some of their beliefs so they better fit empirical evidence. Changes in the environment and empirical data are used by actors, who are assumed to have complex motives for participating in the policy making process, in such a way as to improve their chances to translate their beliefs into policy. To this end, actors coordinate their actions within advocacy coalitions made up of other actors who share their beliefs.

4.3 THE ACF'S ASSUMPTIONS ABOUT THE POLICY PROCESS

The process of policy change as described by the ACF is a direct result of the framework's assumptions regarding policy actors and their belief systems. For the ACF, the policy-making process is centered on beliefs depicting existing policy decisions as instrumentations of the dominant coalition's belief system. In addition, assumptions about policy-oriented learning by actors lead to the requirement that analyses encompass a decade or more. Finally, the ACF assumes that there are four possible paths that lead to policy change: policy-oriented learning, hurting stalemates, external perturbations, and internal shocks. Each path allows for a different degree of change. The outcome of that path, however, depends heavily on the strategies used by the different coalitions to exploit each path.

The ACF assumes that the policy-making process is belief centered. That is, the direction of policy change is determined by the interplay of beliefs among policy participants. Policies are analyzed using the same constructs as belief systems so that both belief systems and public policies are seen "as sets of goals, perceptions of problems and their causes, and policy preferences that are organized in multiple tiers" (Sabatier & Jenkins-Smith, 1999a, p. 154). Because policies and belief systems are described using the same constructs, a change in policy is, in effect, a change in the belief system. From that perspective, actors who seek to change policies as an advocacy coalition are attempting to "translate their beliefs into public policies" (Sabatier & Jenkins-Smith, 1993, p. 28). Furthermore, the ACF states that challenges to a dominant coalition's belief system are a necessary condition to stimulate analysis and policy advocacy (Sabatier & Jenkins-Smith, 1993). Belief systems can be challenged from within the coalition and from without. Empirical information from the subsystem's previous policy decisions that contradicts secondary beliefs can make some members of the dominant coalition challenge the validity of those beliefs. With time and enough evidence, these secondary beliefs would be adjusted in the entire coalition. In other words, coalitions would have learned from previous policy decisions. Alternatively, the information that contradicts the coalition's beliefs could come from a rival advocacy coalition, in which case the dominant coalition would be forced to defend its position using their own analysis of the new information. This process could also result in learning, but as mentioned earlier, that outcome is not very common. In addition, internal shocks – large, public, unexpected failures of existing policies – cause members of the dominant coalition to question the effectiveness of their policies, and

increase doubts about their policy core beliefs. The same event confirms policy core beliefs of the minority coalition and galvanizes them into action to challenge the now-weakened dominant coalition (Sabatier & Weible, 2007). Finally, policy changes born from negotiation and compromise require that all major coalitions view the current situation of the policy as unacceptable as well as a distribution of resources that prevents any coalition from becoming dominant (Sabatier & Jenkins-Smith, 1999a; Sabatier & Weible, 2007). In these cases where coalitions are in a *hurting stalemate*, negotiations will center around finding beliefs that coalitions are willing to set aside in order to accommodate the beliefs of rival coalitions. This compromise, however, is limited to secondary aspects of their belief systems because coalitions will generally refuse to abandon their policy core beliefs (Sabatier & Weible, 2007).

Because policy changes are dependent upon changes in beliefs, and given that policy actors tend to filter out information that conflicts with their belief system, policy changes in a subsystem need to be studied for periods of a decade or longer (Sabatier & Jenkins-Smith, 1999a; Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007). The length of the analysis is required due to several factors. First, the policy subsystem must experience the entire policy cycle – formulation, implementation, and feedback – before providing enough information to policy makers for them to begin the process of policy-oriented learning. Actors rely on the information provided by the results of past policies to adjust their strategies. Therefore, policies must be in place long enough for information on consequences to become available before actors will be willing to consider a change. Furthermore, actors filter their perceptions according to their belief system, ignoring or justifying information that would challenge their beliefs. Only when there is overwhelming evidence against a belief will they be willing to change it, provided, of course, that the belief in question is not a core belief. However, the fact that a few actors learn does not necessarily mean that the entire coalition suddenly accepts the new information. Other members will oppose these changes at first and will need time to be convinced to change their beliefs, especially if the information comes from a rival coalition. Once the majority of the coalition has experienced policy-oriented learning, they are in a position to change their strategies – and if they are the dominant coalition, to change policy. A decade or more is needed to capture at least one entire cycle of policy making when viewed in this fashion.

The authors of the ACF stress how difficult it is for policy members to change their beliefs, and thus change policies. Nevertheless, they point out four different pathways that lead to different degrees of policy change: policy-oriented learning, hurting stalemates, external perturbations, and internal shocks (Sabatier & Jenkins-Smith, 1999a; Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007). Policy-oriented learning, whether within the dominant coalition or across advocacy coalitions, leads to modest changes in policy through the alteration of secondary beliefs espoused by the dominant coalition (Sabatier & Jenkins-Smith, 1999a; Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007). As explained earlier, policy-oriented learning generally does not affect policy core beliefs or the make-up of the dominant coalition, thus its impact on policy change is modest at best. Hurting stalemates are situations where two conditions are present in the policy subsystem. First, the status quo must be deemed unacceptable by all major policy coalitions. Second, no single advocacy coalition is powerful enough to force a change in the status quo (Sabatier & Weible, 2007). When these two conditions are met, actors are forced to negotiate with rival coalitions in order to change the status quo. The degree of policy change brought about by this process will be greater than the change achieved by policy-oriented learning alone because beliefs from different coalitions must be accepted as part of the negotiation in order to forge an alliance that will enable actors to change policy. However, actors tend to accept changes to secondary beliefs more readily than changes to policy core beliefs. In fact, the ACF posits that coalitions are willing to be removed from power rather than give up their policy core beliefs (Sabatier & Jenkins-Smith, 1999a). As a consequence, changes brought about by a hurting stalemate are unlikely to be radical. External perturbations are considered the most common path to major policy change. External perturbations are “system-wide events – changes in socioeconomic conditions, outputs from other subsystems, and changes in the system-wide governing coalition” that impact “the resources and constraints of subsystem actors” (Sabatier & Jenkins-Smith, 1993, p. 34). External perturbations cause a redistribution of the policy subsystem’s resources. This redistribution provides minority coalitions the opportunity to have greater influence in the policy-making process, and even to become the new dominant coalition. However, the authors of the ACF caution that a redistribution of resources alone is not necessarily sufficient to cause major policy change. The dominant coalition will be actively

trying to defend its position, so the minority coalition must make strategic use of the new situation in order to gain dominance. If the minority coalition is able to use the fall-out from the external perturbation effectively, the policy subsystem can experience a complete change in dominant coalition. As a result, external perturbations can lead to major policy changes. It is important to note that external perturbations do not necessarily cast doubt on the dominant coalition's belief system. Since these perturbations are largely outside the actors' control, blame for the situation cannot be easily placed on the policy choices of the dominant coalition. The concept of internal shocks – major policy failures or disasters strongly dependent on actors within the policy subsystem – is a recent addition to the possible paths to major policy change espoused by the ACF. Internal shocks are considered *focusing events* that “highlight policy vulnerabilities, failures, or neglect; and bring new information to the policy process” which, as a result, create “the potential to tip the balance of power among policy participants” (Sabatier & Weible, 2007, p. 204). Like external perturbations, internal shocks have the potential to redistribute the subsystem's resources, providing an opportunity for minority coalitions to become the dominant coalition if the dominant coalition is not able to hold off these efforts. Unlike external perturbations, internal shocks provide the opportunity to question the dominant coalition's policy core beliefs and the effectiveness of their policies, as well as the opportunity to confirm the beliefs of minority coalitions and energize them into further action (Sabatier & Weible, 2007). Because these situations are more easily attributed to past policy choices, the dominant coalition has more difficulty denying a causal link between their policies and the internal shock.

The ACF assumes that policies can change through four different paths, with each path providing opportunities for different degrees of change. Policy-oriented learning can lead to modest changes in secondary beliefs of the dominant coalition's belief system. Hurting stalemates may lead to greater changes in secondary aspects, but seldom affect policy core beliefs. External perturbations redistribute the subsystem's resources while leaving belief systems untouched. Finally, internal shocks cast doubt on a dominant coalition's belief system, bolster the credibility of minority coalitions, and redistribute the subsystem's resources. The consequences of both external perturbations and internal shocks are a necessary but insufficient requirement for major policy change. Actors must be able to skillfully use the

situation to gain, and neutralize the attempts of the dominant coalition to block, their ascent to dominance in the subsystem.

The ACF provides a picture of policy change as a long, slow process that stretches over a decade or more and that is heavily dependent on actors' strategies. Policy changes in the ACF are possible to various degrees that are correlated with how deep beliefs change, and on which advocacy coalition is able to capitalize on the effects of policy-oriented learning, hurting stalemates, internal shocks, and external perturbations. The assumptions on which the ACF is based – about the policy context, about the actors involved in the policy process, and about the policy process itself – paint a picture of policy making where actors, constrained by structural arrangements, organize themselves into advocacy coalitions based on common beliefs. These actors continually attempt to make use of the consequences of past policies, as well as changes in the distribution of resources within the policy subsystem, in order to change existing policies so that they better reflect actors' beliefs. The degree of policy change is directly related to the degree to which beliefs change. These changes may happen through four different paths. Policy-oriented learning and hurting stalemates may lead to gradual changes, while external perturbations and internal shocks can lead to major changes. In addition, actors must skillfully make use of the consequences of these situations in order to change policy.

4.4 THE ADVOCACY COALITION FRAMEWORK

The Advocacy Coalition Framework (ACF) is an amalgamation of institutional, rational choice, beliefs, and systems theories where the principal engine of policy development is the strategic use of available information and other resources by actors who are organized into advocacy coalitions of common beliefs. The ACF provides an institutional scaffolding that define the structural arrangements under which policy actors interact. It describes the structure in which policy making takes place as a subsystem defined by a group of actors that interact over periods of 10 or more years to change policy. This subsystem has a certain degree of autonomy from a larger political entity and a specialized focus on a particular set of policies. Within the subsystem, the ACF imposes structural arrangements in order to define the basic attributes of the problem, the basic distribution of resources, fundamental socio-cultural values, the basic constitutional structure – or rules – of the subsystem, the degree of consensus needed

for major policy change, and the openness of the political system (Sabatier & Weible, 2007). Because the subsystem is embedded within a larger entity, the characteristics of the system as a whole impact how policy is approached within the subsystem. Changes in the overall system affect the distribution of resources among subsystem actors (See Figure 2 for a graphic representation of the framework). Regarding the policy-making process, the ACF provides four different paths to policy change, which arise as consequences of the framework’s assumptions about policy participants, the institutional arrangements of the subsystem, and the consequences of previous policies.

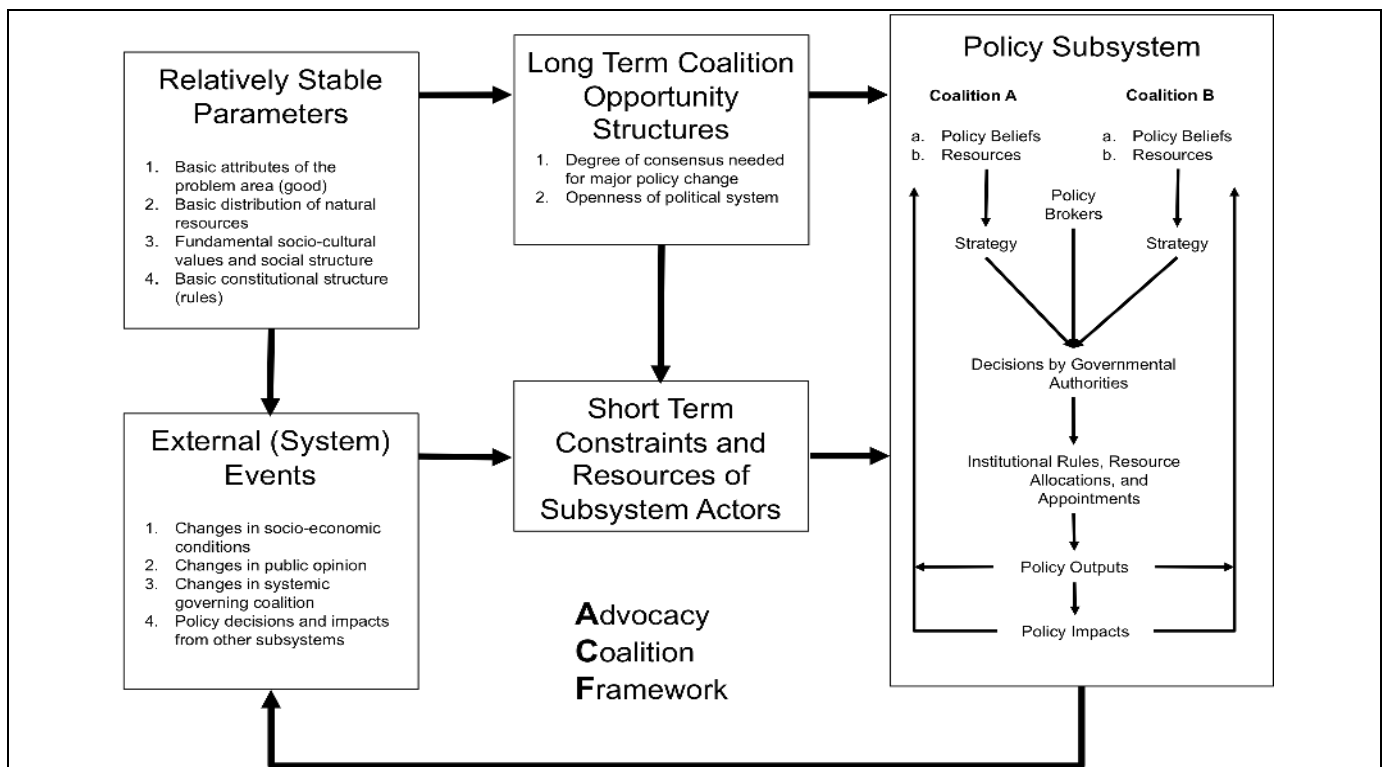


Figure 2: The Advocacy Coalition Framework (Sabatier & Weible, 2007)

The first path to policy change is through policy-oriented learning. As information about the expected and unexpected consequences of previous policies becomes available, actors make use of portions of that information to argue in favor of their beliefs. When the information contradicts one of their beliefs, actors will attempt to filter it out or to justify invalidating it in order to keep their beliefs intact. If the contradicting evidence is overwhelming, and the belief being challenged is not a core belief, the actors will alter their behavior and beliefs in order to accommodate the new information. This

is defined in the ACF as policy-oriented learning. Actors who have experienced policy-oriented learning will then attempt to convince others within and outside their coalition to adopt the new perspective. Members of other coalitions are unlikely to trust the argument of opposing coalitions, designing instead analyses of the new data that better fit their beliefs. Policy-oriented learning across coalitions is, therefore, very rare. With enough time and evidence, members of the same coalition as those who learned will eventually adopt these new beliefs. If this learning is experienced by a minority coalition, policy changes are unlikely because they do not have the necessary resources to change policy on their own. However, if the dominant coalition experiences policy-oriented learning, they are likely to use their resources to change policies so that they better reflect the coalition's new beliefs. Policy changes brought about by policy-oriented learning are minor in scope and depth because actors' deep core and policy core beliefs are almost never affected by policy-oriented learning. Only secondary beliefs are likely to change, and therefore, only secondary aspects of policy will change because of policy-oriented learning.

The second path to policy change is through a hurting stalemate. A hurting stalemate occurs when no single coalition is able to change policy on its own, and the status quo is considered unacceptable by all major coalitions. Hurting stalemates encourage negotiations among coalitions with different beliefs. If a resolution is to be reached, coalitions must be willing to accept secondary beliefs that are different from their own in order to forge an alliance that is powerful enough to change policy. Changes brought about by a hurting stalemate are greater in scope and depth than those brought about by policy-oriented learning because of the inclusion of secondary beliefs from rival coalitions. However, because coalitions would rather be removed from power than abandon their deep core and policy core beliefs, negotiations – and therefore changes to policy – will be constrained to secondary aspects and will not be likely to change policy core beliefs.

The third path to policy change is through an external perturbation. External perturbations are events that are largely outside the control of policy actors and that affect the resource distribution in the policy subsystem. As resources are re-distributed by these events, minority coalitions have the opportunity to exploit these changes to become the dominant coalition. An external perturbation does

not guarantee a change of dominant coalition. The dominant coalition will do whatever it can to remain in power. Therefore, the minority coalition, aside from having more resources than before, must also skillfully use these new resources in order to become the dominant coalition. A change of dominant coalition will bring about major policy change since the coalition will use its resources to change policies in a way that reflects their policy core beliefs. It is important to emphasize that external perturbations do not affect actors' belief systems. Policies change not because actors changed their beliefs, but because actors with different beliefs are making policy.

The fourth and final path to policy change is through internal shocks. Internal shocks are events that focus actors' attention on policy failures or vulnerabilities. These events are more easily connected to past policies enacted by the dominant coalition and, therefore, have the potential to cast doubt on that coalition's policy core beliefs. Minority coalitions' beliefs are confirmed by these internal shocks and members of these coalitions are energized into action by them. In addition, internal shocks may also redistribute resources, and thus create a double opportunity for minority coalitions to challenge the dominant coalition's belief system, and to have the resources necessary to become the dominant coalition. Just like in the case of external perturbations, an internal shock does not guarantee major policy change. Minority coalitions must be skillful enough to use the new information and resources to neutralize the attempts of the dominant coalition to remain in power, and to become the new dominant coalition. If successful, the new dominant coalition will be able to change existing policy so that it reflects their belief system.

4.5 ADVANTAGES OF THE ADVOCACY COALITION FRAMEWORK

The ACF provides a detailed description at a macro-level of the structure and processes that are part of a policy-making subsystem. Of particular interest is the ability of the ACF to include events external to the subsystem as catalysts for change, while describing the policy making itself as an ideational-structural hybrid. While past and present policies define existing structures such as resource distribution, beliefs are the principal units of operation as actors attempt to operationalize their beliefs into policies before other coalitions with different beliefs do so.

In direct contrast to Hay's Punctuated Evolution Framework, the ACF uses external eventualities and internal shocks as necessary but not sufficient conditions for major policy change. Because actors interpret information through perceptual lenses that favor their own belief system, and because they distrust their adversaries, policy-oriented learning does not significantly change deep core and policy core beliefs (Sabatier & Weible, 2007). It is only when external perturbations or internal shocks challenge these beliefs that the possibility of change appears, either through a change in the ruling coalition's normative beliefs, or through a redistribution of resources that allows a competing coalition to gain dominance over the system. Although external perturbations or internal shocks are essential for change, they are not sufficient in and of themselves. Coalitions must be able to use the changes in resources and beliefs to their advantage in order to successfully change a policy. The processes used by coalitions to turn an event into a policy change are not detailed in the framework, and are included in the topics for which the authors suggest further research is needed (Sabatier, et al., 2009).

Another strength of the ACF is the perspective through which the process is described. The ACF contends that belief negotiation among coalitions is the defining process, and policy enactment the tangible result of those negotiations (Sabatier & Jenkins-Smith, 1999b). In contrast to the Stages Heuristic and other rational choice models, the ACF does not set a linear progression on the creation of a policy. Instead, belief negotiations are described chronologically – allowing for several attempts at making policy (as well as attempts at blocking policy) to arise from the different negotiation stages. The description of how a particular coalition rises to dominance is augmented by the action that proves its dominant place: the enactment of policy that operationalizes the coalition's beliefs. In other words, the ACF does not describe the process of enacting a particular policy, but rather the process coalitions go through to become powerful enough to enact policies.

The focus on coalitions allows a non-linear approach to policy-making, which closely resembles policy-making reality. In addition, it requires that greater attention be placed on the actors involved in the subsystem, as well as their strategies, values, and beliefs. As a result, the ACF analyzes and describes people and their beliefs instead of abstract policies.

4.6 DISADVANTAGES OF THE ADVOCACY COALITION FRAMEWORK

A major shortcoming of the ACF is that the public – those who are not considered active actors within the policy subsystem – is relegated to the periphery of the policy-making process. Public opinion is regarded as a resource that can be distributed among the different coalitions. When public opinion is defined as a resource, the ACF places it largely out of actors' control and turns it into a consequence of external perturbations. That is, only external perturbations can convince the public to support a different coalition. It is clear, however, that policy makers expend considerable effort defining what they see as a public narrative according to their own beliefs. Recent updates to the ACF have identified the importance of the public as one of the “unanswered and unexplored questions” (Sabatier & Weible, 2007, p. 209) within the framework. The extent of policy participant's framing of events, specifically of external perturbations and internal shocks, to support coalition goals is considered an important question for future research (Sabatier, et al., 2009).

The ACF takes into account policy impacts, but only as they affect actors within the policy subsystem, their resources, or their beliefs (Sabatier & Jenkins-Smith, 1999b; Sabatier & Weible, 2007; Sabatier, et al., 2009). This introspective view is not applicable to educational policy because education policies affect the great majority of the population at some point in their lives. Most of the consequences from this policy subsystem are experienced by the general public, thus a more direct connection between the policies and the public's experience with them should be made evident. Where Hay's Punctuated Evolution Framework makes public experiences with a set of policies the only trigger for policy change, Sabatier's Advocacy Coalition Framework excludes them entirely.

Chapter 5: Compatibility Between the Punctuated Evolution and the Advocacy Coalition Frameworks

Although the PEF and ACF are based on very different theoretical foundations – the latter originating from systems theory and rational choice, and the former from neo-institutionalism and discourse theory – the authors of both frameworks departed from the theories that originated them in order to better explain policy making. The effect of these departures was a set of changes in assumptions that have brought two seemingly disparate theories so close that they can be combined into a single congruent model. In the text that follows, similarities between both theoretical contexts will be highlighted, followed by the identification of major differences between theoretical assumptions.

5.1 COMPARISON OF THE POLICY CONTEXTS OF THE PEF AND THE ACF

Both frameworks treat policy making as a non-linear, iterative process occurring within a set of delineated boundaries in which policy choices are constrained by a historical context, and in which ideas, beliefs, and information play a central role. No major differences in assumptions are present in the policy contexts of these frameworks.

Feedback mechanisms are an essential part of the policy process for the PEF and the ACF. In the PEF, policy makers continually evaluate the intended and unintended consequences of enacted policies against their perception of what the results of those policies should be and adjust future policies according to those evaluations. In addition, the accumulation of dissonant consequences – real or perceived – give rise to moments of crisis that can eventually lead to major policy change. In the ACF, the same evaluation process is used by different advocacy coalitions to improve their standing within the policy subsystem so that they may gain enough support to change – or maintain if they enacted them – the current policies. Both frameworks conceive policy making as a cyclical process in which current attempts at policy making are heavily influenced by past policies and their intended and unintended consequences. Policy making in the ACF and the PEF is restricted to a specific group of actors that attempt to solve problems related to particular policies. In other words, both frameworks delineate boundaries in order to define who is part of the policy process and what policies are the focus of the

process. The ACF requires the identification of a specific policy subsystem, its actors, and related policies. The PEF does not define the boundaries in such detail, yet it assumes that a set of actors separate from the general public who experiences the consequences of policy – the elite – is responsible for most policy decisions. In both cases, a delimitation of what policies are at play, and of the actors that attempt to change those policies, are necessary to effectively use the frameworks to explain policy processes.

Historical institutionalism provides the mechanisms to explain current policy structures and to constrain policy processes in both frameworks. While the ACF originated with rational choice and systems theories, it has been modified to take into account structures developed by past policies. These so-called long-term opportunity structures and relatively stable parameters have the function of constraining future decisions through decisions made in the past. It is by using these mechanisms that the ACF has incorporated historical institutionalism's concept of path dependence, which is the baseline in the PEF for its description of policy evolution. Within the PEF, policies are in flux within constraints put in place by paradigms – a product of past experiences themselves. Although path dependence is expressed by different mechanisms in each framework – through ingrained ideas in the PEF and through structural constraints in the ACF – both acknowledge, and use, path dependence as their starting point for policy development. Both frameworks constrain policy options, providing a limited context within which existing problems can be defined, approached, and solved.

Finally, the PEF and the ACF share the assumption that ideas – in the form of beliefs/paradigms and information – are an essential part of the policy making process. A central theoretical foundation of the PEF is that paradigms define the range of mechanisms and instruments of policy, and that major change can happen only as a result of a paradigm shift. The ACF contends that belief negotiations through exchange of ideas within the policy subsystem are the actual policy process, and policy enactments are the tangible results of those negotiations. In both cases, the policy process is built upon, and constrained by, ideas.

5.2 COMPARISON OF THE ASSUMPTIONS ABOUT THE ACTORS INVOLVED IN THE POLICY PROCESS OF THE PEF AND THE ACF

The PEF and the ACF agree in the assumption that actors are reflexive, strategic, instrumentally rational people with constrained perceptions of what is possible and desirable who are able to change their perceptions and patterns of action based on their past experiences. And although they agree that actors can learn and use what they learn to further their intentions, they disagree on the definition of learning itself, on what actors' intentions are, on how actors organize themselves to pursue those intentions, and on how they see other actors who do not share their intentions.

According to the PEF, actors continually reflect on what they perceive around them and attempt to understand the relationship between these perceptions and past policies. They then use their understanding to pursue actions that will bolster their preferred policies. In the same manner, actors in the ACF make use of information and resources available to them to improve their chances to make policies reflect their beliefs more closely. In both cases, actors make use of the information gleaned from the intended and unintended consequences of past policies to pursue their goals. In addition, actors from both frameworks more closely resemble actors from bounded rationality theory rather than *Homo Economicus*. That is, actors are seen as having a limited capacity to process and analyze information. Because of their limited capacity, actors in both the PEF and the ACF make use of simplified frameworks to make sense of complex social issues. These simplified worldviews constrain their perception of what is possible and desirable. The mechanisms responsible for the structure of these simplified worldviews are different, but the end result – the fact that actors' perceptions are constrained – is the same. Just as both frameworks agree on the fact that actors' perceptions are constrained, they also agree that these constraints can change. Changes in constraints come about through different mechanisms – through a paradigm shift in the PEF and through changes in the belief system for the ACF. Yet, both frameworks agree that, although difficult to change, perceptual filters are not immutable. Finally, the PEF and the ACF assume that past experience can make actors change their patterns of action. Because actors are reflexive and rational, inconsistencies between actual policy outcomes and expected outcomes do not go unnoticed. When there is enough evidence to link certain actions to

specific outcomes, actors in both frameworks are forced to acknowledge that link (through different mechanisms) and adjust their behavior accordingly to fit with the new information.

Although both frameworks assume actors can learn and use Hecló's definition of learning as their starting point, they diverge in their approach to operationalize the concept of learning and end up with significantly different definitions. In the PEF, the degree of learning is measured by the degree a particular policy has changed, so that it is possible to have three different orders of learning based on whether policy settings, policy tools, or policy goals change. In contrast, the ACF measures learning by the changes in thought and behavioral intentions – changes in beliefs and strategies – that can happen within a single advocacy coalition or across different coalitions. Where learning in the PEF is the evidence of policy change, learning in the ACF is a cause – and a minor one at that – of policy change. In addition to the differences in the definition of learning, the ACF and PEF diverge in their assumptions about actors' intentions, how they pursue these intentions, and how they perceive those with different intentions. The intent of the PEF is to focus attention on the evolutionary nature of the policy making process and the moment of crisis as a trigger of revolutionary policy change, and does not attempt to explain in great detail the policy making process itself. For this reason, the issues of actors' intentions and their relationship with other actors are not explored as extensively as they are in the ACF. The PEF states that actors pursue their intentions, but does not elaborate what those intentions are or how they came to be. The ACF, in contrast, explicitly states that actor intentions cannot be assumed a priori and thus must be empirically ascertained. The PEF mentions actors changing during a paradigm shift, but does not elaborate on the process they go through during that change or how policy making occurs during periods of small-scale change. How policy making occurs is the principal focus of study for the ACF, and therefore how actors interact to change – or oppose changes to – policies is extensively covered. The ACF uses the assumption that actors form advocacy coalitions in order to change policy, together with the assumption that actors from different coalitions mistrust each other, as principal building blocks of the framework.

Assumptions about actors are remarkably similar between the ACF and the PEF. Both assume actors act strategically to pursue their goals making use of information gleaned from their environment,

and that the information is constrained by perceptual filters that are difficult to change, but not immutable. One assumption about actors, however, is very different. The PEF uses learning as the metric for policy change, while the ACF uses learning as a minor cause of policy change. Finally, some aspects are not covered equally by both frameworks. The PEF does not elaborate on aspects that are extensively covered in the ACF, namely actor's intentions, how actors organize to pursue their intentions, and how they see other actors with different intentions.

5.3 COMPARISON OF THE ASSUMPTIONS ABOUT THE POLICY PROCESS OF THE PEF AND THE ACF

The policy making process is described differently in the PEF and the ACF, but the fundamental definitions of what drives policy change, the expectation that policy can change based on a change in the basic definitions, and the types of policy change allowed are the same. In addition, the differences between the policy making processes are not mutually exclusive, but rather they complement each other so that both processes can be used to analyze different aspects of policy making.

The PEF assumes that the policy making process is paradigm driven. That is, policy content and policy adjustments are based on – and constrained by – a set of ideas that define the problems and acceptable solutions to those problems. The ACF assumes that the policy making process is belief driven. In other words, policy content and policy adjustments are based on – and constrained by – a set of ideas that define the problems and acceptable solutions to those problems. In essence, the PEF and the ACF both assume that the driving force behind policy making is the set of ideas that define the problem and acceptable solutions to the problem. Both frameworks share the same fundamental definitions of what drives policy, even if the origins and evolution of those ideas are treated differently. In addition, both frameworks require changes in the fundamental definitions of what drives policy in order to produce major policy changes. For the PEF, major policy change comes about only if the dominant paradigm changes. For the ACF, major policy change is possible only if there is a change in the dominant advocacy coalition, and since coalitions are defined by their beliefs, a change in dominant coalition necessarily implies a change in dominant beliefs. For both frameworks then, major policy change can be achieved only if the fundamental definitions that give policies their character change. Finally, the PEF allows for two types of changes, evolutionary and revolutionary. First and second order

changes – changes to the targets and tools of a policy – are considered evolutionary because they are adjustments to existing policy based on the dominant paradigm. Third order changes – changes to the goals of a policy – are considered revolutionary because the very definition of the problem is changed. Likewise, the ACF allows for the same two types of changes. Policy-oriented learning and hurting stalemates primarily affect secondary beliefs, which tend to generate small policy adjustments. External perturbations and internal disasters provide the opportunity to catapult a minority coalition into the dominant role, thus generating policy changes that reflect a different set of beliefs. Both frameworks describe the policy making process as a series of continuous evolutionary changes and occasional revolutionary changes.

The approaches to describing the policy process in the ACF and the PEF are different but not contradictory, providing an opportunity to use them as complementary parts of an encompassing model that provides solutions to each of the frameworks' disadvantages. There are four framework weaknesses that are readily surmounted by using both frameworks. First, the PEF only allows external eventualities to affect the policy making process in an indirect way, as explained before. In contrast, the ACF provides a structure within the policy subsystem that allows for multiple paths through which external eventualities can affect the outcome of the policy making process. Second, the PEF provides little explanation as to how policy inconsistencies become crises, and how these crises bring about policy change. On the other hand, the ACF's structure was specifically designed to track how intended and unintended consequences of past policies provide information and resources to advocacy coalitions, who in turn use them to advance their policy positions. Third, the PEF lacks detail regarding how policies are made either during times of evolutionary change, or in times of revolutionary change. Alternatively, the ACF was built specifically to describe the policy-making process, whether this process led to minor or major policy changes. Fourth, the ACF relegates the public to a resource status. This view may be appropriate where relatively few members of the public are directly affected by a policy. However, as discussed earlier, this assumption does not reflect the reality of policy making in education and other areas where the public has a large stake in the process such as healthcare and public safety. The relationship between actors, policies, and the public are better explained in this case by the PEF's

assumption that the public has a pivotal role in deciding when current policy is no longer capable of solving the existing problems. By including the public's experiences with consequences of policies and the interaction of actors with the public – or, more precisely, the part of the public primarily affected by the policies – a more accurate description of what happens in educational policy making can be achieved.

While the approaches to explain policy change are different in the PEF and the ACF, the fundamental definitions of what drives policy change, the assumptions that policy changes due to a change in the basic definitions, and the types of policy change allowed are the same. Furthermore, the differences in assumptions are complementary rather than contradictory, providing the opportunity to use these differences to overcome some of the greater weaknesses of using each framework by itself.

SECTION 2: THE CONTESTED NARRATIVES FORECAST MODEL

Section 2 introduces the Contested Narratives Forecast (CNF) Model using Lakatos' Methodology of Scientific Research Programs. That is, the model will be described in the three sections that define a scientific theory according to MSRP. Chapter 6 will introduce the model's negative heuristic, the core assumptions of the CNF model. These assumptions are presented in the same manner as the PEF and ACF were analyzed – dividing assumptions about the policy context, the actors involved in the policy process, and the policy process itself – in order to make clear the connections between them. Chapter 7 describes the model's protective belt – the description, hypotheses, and empirical application of the CNF. Finally, chapter 8 will illustrate the model's positive heuristic, the expected direction of future research that would make use of this model.

Chapter 6: The Negative Heuristic of the CNF Model

6.1 THE CNF'S ASSUMPTIONS ABOUT THE POLICY CONTEXT

Because structure alone does not fully describe the policy context assumed by the CNF, the assumptions about the policy context will be described along two separate strains: the structural assumptions, and the procedural assumptions. First, the CNF assumes that the structure of a particular policy arena can be described as a subsystem, which is defined by a set of rules – relatively stable parameters, opportunity structures, and dynamic external factors – set in a shared language by a community of individuals and/or organizations that interact regularly over a period of a decade or more to influence policy formulation and implementation. Second, the CNF assumes that policy making happens as a non-linear, iterative process where previous policy decisions, situations outside the policy subsystem, and the policy process itself interact to affect the outcome of a belief and narrative contestation process intended to operationalize beliefs into policies.

The structure of the policy context is taken directly from Sabatier's ACF, where the policy system is defined as a set of rules made in a shared language by a community of individuals (Sabatier & Jenkins-Smith, 1999a). This definition allows the inclusion of actors and institutions who are not part of a formal policy-making organization, together with the institutions more commonly included in the policy process. As discussed earlier, such a broad definition makes the analysis of an entire system impractical. Therefore, the focus of analysis will be directed at a *policy subsystem*, defined as a group of people and organizations who are regularly involved, over a period of a decade or more, in attempts to influence policy formulation and implementation within a specific policy area (Sabatier & Jenkins-Smith, 1999a). Like the subsystems in the ACF, a policy subsystem in the CNF must be delineated empirically, can be nascent or mature, and usually contains members belonging to all levels of government relevant to the policy area. The members of a policy subsystem are assumed to make decisions that are influenced, but not determined, by the organizations to which they belong and by the environment in which they are immersed. This influence is spelled out in the structural constraints

embedded in the policy subsystem, namely the relatively stable parameters, opportunity structures, and dynamic external factors.

First, relatively stable parameters are the institutional arrangements responsible for establishing the fundamental constraints and resources of the subsystem such as its basic constitutional structure, the initial distribution of existing resources, and the socio-cultural values shared by all actors within the subsystem. Relatively stable parameters do not change significantly over the course of several decades, and although they are extremely difficult to change they are not necessarily immutable. In the arena of Texas public education accountability, for example, the constitutional requirement of an efficient public education system can be considered a relatively stable parameter that sets the general direction toward which outcomes are aimed. Had the Texas constitution required an equitable public education system instead of an efficient one, accountability efforts would be more likely to measure equity rather than efficiency. The bi-annual schedule of Texas legislators is another relatively stable parameter that constrains policy making, but it does so in a different manner: instead of constraining the direction of policy, it constrains the timing of policy formulation.

Next, opportunity structures can be thought of as qualifiers of the relatively stable parameters that allow for variation in the systems of government within which the policy subsystem resides. These qualifiers delineate the requirements for policy formulation and implementation within the policy subsystem, who is able to participate in the policy making process, and the possible options available to stop the formulation or implementation of policy. An example of an opportunity structure in Texas public education – aside from the obvious ones inherited from the legislative system of checks and balances – is the existence of an elected State Board of Education that shares responsibility for policy-making in certain areas of education with an autonomous state education agency led by a Commissioner of Education appointed by the governor.

Finally, dynamic external factors are situations originating from outside the policy subsystem that affect resources, constraints, and behaviors. The definition of these external factors is intentionally left vague in order to accommodate the many possible factors outside a policy subsystem that can affect it. In addition to factors that have a direct impact, like the example of a budget shortfall directly

affecting public education funding mentioned earlier, other factors can have more subtle effects on the policy making process. A recent violent incident at an elementary school in a different state, for example, has provided less tangible – but still very powerful – momentum in favor of gun-rights policies for Texas schools. For the CNF, dynamic external factors of a policy subsystem are an important venue for policy change. It is through these external factors that actors and the public experience changes from outside the policy subsystem, which are then combined with the consequences of previous policies to evaluate the effectiveness of existing policy. In contrast with the ACF, a change in dynamic external factors is not necessary for major policy change, but it continues to be a major source of possible disruption in the system. Greater detail on the role of dynamic external factors in the policy-making process will be covered in the assumptions about the policy process, and in the general description of the CNF.

Procedural assumptions provide important information about the policy process that the structure alone is unable to supply. When analyzing how an underground subway station works, for example, a description of the structure could show that there are four escalators, but would not be able to provide information as to how many of these go down (into the station) and how many go up (out of the station). Analyzing the flow of people in and out of the station would show that, while people enter a subway station in small groups randomly distributed across time, they leave the station in large groups at precise intervals (a short time after each subway train arrives). With this information at hand, it would be reasonable to assume that an efficient subway station with four escalators would have one escalator going down and three going up. This flow analysis does not explain the process people must go through to use the subway station. It only describes the interactions between the structure (the escalators) and the process (the people entering and exiting the station). The procedural assumptions of the CNF describe the expected flow of events within the structural context of a policy arena. These assumptions do not describe the policy process itself. Like in the subway example, they provide greater detail as to how the policy context is expected to interact with the policy-making process. The CNF assumes that the policy-making process is non-linear and iterative, and that previous policy decisions, dynamic external factors, and the policy process itself interact in all stages of the policy process, affecting its outcome.

Furthermore, the CNF assumes that policy is a result of a belief and narrative contestation process where actors attempt to operationalize their beliefs and block others with different beliefs from doing the same.

As defined by systems theory, a policy subsystem must include at least one feedback process and is therefore, non-linear. However, there are different degrees of non-linearity depending on where the feedback occurs or how many feedback loops there are (Sterman, 2000). Because the CNF uses narratives as the unit of analysis, and because every stage in the policy-making process provides an opportunity to defend – or attack – a narrative, it assumes that the policy-making process has multiple feedback loops spread through all stages of the process, from formulation and enactment to implementation and evaluation. In addition, dynamic external factors and the consequences of previous policy decisions find their way into the different contesting narratives so that, aside from affecting the structure of the policy context, they also generate feedback loops and affect the flow of the process. An example of a policy process interacting with itself is the near derailment of the Affordable Care Act by the town hall meetings held in the Summer of 2011. The reduction in the number of End of Course assessments required for graduation in Texas is an example of a policy change driven by the negative feedback generated by previous legislation even before any consequences of that policy were evident.

The CNF assumes that the policy making process is narrative-centered, where actual policies are the product of a contest between differing beliefs as defined by their public narratives. Like the ACF, the CNF assumes that policies can be analyzed as belief systems and therefore a change in policy is equivalent to a change in beliefs. Unlike the ACF, the CNF does not attempt to identify the beliefs from different actors. Instead, it assumes that public narratives created by those actors are accurate indicators of their beliefs, and thus a change in narrative content indicates a change in beliefs. Because belief systems cannot be measured directly, researchers using the ACF already make use of the content of surveys and public documents to infer the beliefs of their authors (See for example Beverwijk, Goedegebuure, & Huisman, 2008; Cobb, 1973; Dziengel; Jenkins-Smith & Herron, 2005; Jones, M., D & Jenkins-Smith, 2009; Nohrstedt, 2005; Sabatier & Jenkins-Smith, 1999a; Sabatier & Schlager, 2000; Sabatier & Weible, 2009; Shakespeare, 2008). In effect, researchers use public narratives to glimpse actors' beliefs. The CNF merely removes the interpretation of narratives and uses them directly to

analyze the policy process. In addition, all policies enacted – even those enacted in the most authoritarian regimes – are accompanied by a narrative that justifies them, and is sometimes used to hold actors accountable for the results of such policies. An example of how these narratives interact with policy is the recent media frenzy over the Affordable Care Act’s apparent inability to live up to the president’s remark that if people liked their insurance plan, they would be able to keep it. In this case, it is clear that the contents of the narrative generated certain expectations of the policy. When these expectations were not met, policy makers were compelled to adjust the policy so that it would match the narrative. The CNF assumes, therefore, that there is a strong relationship between policy content and the narrative that was dominant during the time the policy was enacted. Finally, the CNF assumes that the policy process is narrative-centered, with policies being the outcome of the narrative contestation process and a product of the operationalization of the belief system from which the dominant narrative originated.

Regarding the policy context, the CNF assumes that the policy process occurs within a subsystem, defined by relatively stable parameters, opportunity structures, and dynamic external factors where a community of individuals and/or organizations interact regularly over a period of a decade or more. The policy making process in these subsystems is non-linear and iterative, with multiple feedback loops, where policy decisions, situations outside the policy subsystem, and every stage of the policy process itself interact to affect the outcome of a belief and narrative contestation process intended to operationalize beliefs into policies.

6.2 THE CNF’S ASSUMPTIONS ABOUT THE ACTORS INVOLVED IN THE POLICY PROCESS

Actors in the CNF are assumed to follow the principles of bounded rationality, where they learn from past actions, strategically pursue interests related to their beliefs, and experience the world around them through perceptual lenses. In addition, the CNF assumes that actors strategically use their resources and constraints to define a narrative of events in order to change policy so that it more closely follows their beliefs, while attempting to stop actors with different beliefs from doing the same. They do this by working together with other actors who share their beliefs to create advocacy coalitions.

Because of the complexity of reality, actors must simplify and structure their surroundings in order to understand them. They build these simplifications based on cognitive and normative processes, where existing beliefs and experiences serve as both foundation and filters upon which their understanding is built and updated. Just like in the ACF, the CNF assumes that actors coalesce around their belief systems into advocacy coalitions, so that members of different coalitions espouse different beliefs. As explained earlier, members of different coalitions often interpret the same information in different ways, and therefore – using the ACF’s assumptions – experience a *devil shift*. That is, actors remember losses more than gains, and see their opponents as less trustworthy, more evil, and more powerful than they are. In other words, actors not only perceive their surroundings according to their beliefs, they also perceive their opponents’ motives and actions using the same filters. These perceptual filters, however, are not immutable. Changes to actors’ beliefs are brought about by *policy-oriented learning*, which – following the ACF’s definition of learning – is considered a change in beliefs or strategies experienced by individuals or coalitions that result from experience.

Actors’ beliefs are conceptualized in three hierarchical structures identical to the ACF’s. The first tier includes deep core beliefs, which are normative assumptions about fundamental values obtained through socialization. The second tier includes policy core beliefs, which are applications of deep core beliefs that span an entire policy subsystem and may include varying degrees of empirical and normative assumptions. The last tier includes secondary beliefs, which are narrower in scope than policy core beliefs and pertain to a particular situation within the policy subsystem. Deep core and policy core beliefs are very difficult to change due to their normative nature. The belief structure used in the CNF is detailed in Table 2.

Because of the complexity of the policy subsystem, the distrust between actors with different beliefs, and the perception that their rivals are more powerful, actors conclude that their best chance to make a difference is by working together with others who share their beliefs, forming advocacy coalitions. These coalitions need not be formal or absolute, they require only that actors engage in coordination of narrative creation in order to advance policies aligned to their common core beliefs. Advocacy coalitions are identified empirically within each policy subsystem through a content analysis

of the narratives used by each actor. Narratives within a coalition must reflect similar beliefs and be sufficiently close to each other to suggest purposeful coordination. The goal of these coalitions is assumed to be to change the dominant narrative so that it better reflects their core beliefs while working to stop other coalitions from doing the same.

The public is considered to be one of the actors in the CNF. Although this group does not directly contribute to the policy-making process, it affects policy makers' behavior and choices. It also reflects the content of the dominant narrative, thus providing a justification for policies enacted under that narrative. The CNF assumes that the public experiences the intended and unintended consequences of a policy decision through perceptual filters based on their deep core beliefs. At the same time, advocacy coalitions use their resources to attempt to present a narrative of the same policy consequences that best fits their belief system in order to preserve (if they are the dominant coalition) or change (if they are not the dominant coalition) the public's prevailing narrative. Feedback from the public during narrative negotiations may strengthen or weaken different narratives, and in turn pressure public officials to reject or champion the prevailing narrative.

The CNF assumes that actors learn from past experience, strategically pursue interests related to their beliefs, and perceive the world around them – including their opponents – through perceptual lenses. They organize themselves into advocacy coalitions with other actors who share their beliefs in order to strategically use their resources and constraints to define a narrative of events and change policy so that it more closely follows their beliefs, while attempting to stop actors with different beliefs from doing the same.

Table 2: Actors' Hierarchical Belief Structure

Attribute	Hierarchical beliefs		
	Deep core	Policy core	Secondary
Defining characteristics	Fundamental normative and ontological axioms	Positions concerning the basic strategies for achieving core values within the subsystem	Instrumental decisions necessary to implement policy core beliefs
Scope	Across all policy subsystems	Subsystemwide	Usually only part of subsystem
Susceptibility to change	Very difficult; akin to a religious conversion	Difficult, but can occur if experience reveals serious anomalies	Moderately easy; this is the topic of most policy-oriented learning
Illustrative components	<ol style="list-style-type: none"> 1. Human nature: Inherently evil vs. socially redeemable, part of nature vs. dominion over nature, etc. 2. Relative priority of values: freedom, security, power, knowledge, health, etc. 3. Basic criteria of distributive justice: relative importance of self, specific groups, all people, future generations, nonhuman beings, etc. 4. Sociocultural identity (e.g., ethnicity, religion, gender, profession) 	<ol style="list-style-type: none"> 1. Identification of groups whose welfare is of greatest concern 2. Overall seriousness of the problem 3. Basic causes of the problem 4. Ability of society to solve the problem 5. Participation of public vs. experts vs. elected officials 	<ol style="list-style-type: none"> 1. Seriousness of specific aspects of the problem 2. Importance and strength of causal linkages in different places and different times 3. Most decisions concerning administrative rules, budgetary allocations, disposition of cases, etc. 4. Information regarding performance of specific programs or groups

Note. Adapted from the ACF's Hierarchical Belief Structure (Sabatier & Jenkins-Smith, 1999a)

6.3 THE CNF'S ASSUMPTIONS ABOUT THE POLICY PROCESS

The CNF assumes that policy making is a cyclical process where incremental change is the norm, but major changes can come about whenever the dominant narrative changes substantially regardless of the reason that led to the narrative change. Small policy changes are triggered by changes in the dominant coalition's perceptions due to policy-oriented learning. More substantial policy changes can occur when there exists a hurting stalemate that forces coalitions to negotiate. Major policy changes can happen through three paths: when an external perturbation redistributes the available resources and constraints, allowing coalitions to strategically use this new distribution to shift the dominant narrative to fit their own beliefs; when an internal disaster casts doubt on the dominant narrative; or when a coalition's narrative that interprets the public's experience of policy consequences as a crisis becomes the dominant narrative.

Since actors are reflective and strategic, they are able to adjust their secondary beliefs, and thus their narrative, when information from within the same coalition does not agree with that belief. Due to their perceptual filters and the distrust felt against actors in opposing coalitions, information external to actors' own coalition is filtered through their perceptual lenses – accepting the information that confirms their existing narrative, and rejecting dissonant information. As a result, learning across coalitions is rare and policy changes that result from such policy-oriented learning tend to be minor adjustments to existing policies so that they better reflect the newly-learned information. Deep core and policy core beliefs remain intact, however; thus the policy's intent and the narrative behind it remain largely unchanged.

When the distribution of resources and constraints do not give a particular coalition enough power to change the dominant narrative on their own, they must negotiate with opposing coalitions in order to change it. Because of the distrust between coalitions, actors will not willingly engage with other coalitions unless the current situation is perceived to be worse than the alternative of a negotiated agreement. In essence, all important actors must see the status quo as unacceptable – a hurting stalemate – before they will be willing to negotiate with opposing coalitions. Narrative changes triggered by a hurting stalemate may be more substantial than those triggered by policy-oriented learning because actors are forced to negotiate with coalitions espousing different beliefs. However, it is unlikely that the stronger coalitions will be willing to give up their deep core beliefs, restricting changes to secondary beliefs and, in rare occasions, some policy core beliefs.

The CNF assumes that major policy changes are possible only when there is a shift in the dominant narrative. The dominant narrative provides the accepted definition of the problems within the policy subsystem, assigns blame for the shortcomings of previous policies, and provides feasible solutions, strategies, and instruments to deal with those shortcomings. In contrast to the PEF, where the dominant paradigm is eventually accepted by all actors, the CNF allows coalitions to espouse different beliefs and present different narratives at all times. The dominant narrative does not silence these other narratives. Rather, it is the narrative considered as *mainstream*, accepted as valid by the public and a

large-enough number of actors to enable policy making based on its principles. There are three possible paths to a narrative shift: an external perturbation, an internal disaster, and a narrative of crisis.

The CNF allows for the possibility that changes outside of the policy subsystem – situations largely out of the control of actors within the policy subsystem – can impact both the intended and unintended consequences of existing policies within the subsystem. External impacts are experienced by policy makers and the public, interpreted according to their perceptual lenses, and included in the different narratives. These external perturbations may also directly affect the distribution of resources and constraints among opposing coalitions, which may provide opportunities for minority coalitions to strategically use the redistribution to shift the dominant narrative closer to their own beliefs. It is important to note that the existence of an external perturbation in and of itself does not guarantee a narrative shift. A minority coalition must take advantage of the new distribution of resources and constraints – as well as of the additions to their narrative from the event – to catapult their narrative to dominance. If minority coalitions do not take advantage of the redistribution of resources and constraints, or the redistribution is not significant enough to provide minority coalitions the opportunity to shift the dominant narrative, or the dominant coalition successfully fends off the attempts of minority coalitions, then the external perturbation may create a hurting stalemate, provide opportunities for policy-oriented learning, or leave the dominant narrative unchanged.

An internal disaster may have the same effects as an external perturbation. The difference between them is that the internal disaster is an event over which actors within the policy subsystem have some degree of control. In addition to the effects described above, an internal disaster may also provide minority coalitions the opportunity to cast doubt on the viability of the dominant narrative, improving their chances of shifting the dominant narrative closer to their own beliefs. As with external perturbations, an internal disaster does not guarantee a narrative shift. In order to achieve change, minority coalitions must act strategically to take advantage of the situation, and outmaneuver the dominant coalition in its attempts to frame the occurrence in a way that strengthens – or at least protects – its own narrative.

So far, the triggers of major policy change have been actual events with tangible and intangible consequences for the distribution of resources and constraints, for the actors themselves, and for the public. However, the CNF requires only a narrative shift for major policy change to occur. Thus, if the dominant narrative shifts without the help of an actual event, major policy changes may still be possible. A narrative that portrays as a crisis the public's experiences with the intended and unintended consequences of a policy, may gain enough acceptance to become the dominant narrative even in the absence of external events, internal disasters, or resource and constraint redistributions. Following the PEF's assumptions about narratives, a crisis narrative does not rely on its ability to fully explain how the policy produced disparate effects, but on its ability to provide a simplified account that attributes causality and responsibility to the dominant narrative. A simplified narrative that encompasses most negatively-perceived policy consequences and that is able to attribute them to the dominant narrative, provides minority coalitions with an excuse for challenging the dominant narrative and presenting their own as a sensible alternative to diffuse the crisis. As with other major policy change triggers, minority coalitions must actively pursue a narrative shift and fend off the majority coalition's attempts at maintaining dominance.

The policy process according to the CNF can experience both incremental and revolutionary changes depending on the degree of change in the dominant narrative. The greater the change in the dominant narrative, the greater the policy change. It is assumed that narratives – and therefore policies – can change through five paths. Two of those paths – policy-oriented learning and hurting stalemates – are responsible for small, incremental changes, while the other three – external perturbations, internal disasters, and crisis narratives – bring about major policy changes.

Chapter 7: The Protective Belt of the CNF Model

7.1 DESCRIPTION OF THE CNF MODEL

The CNF conceptualizes policy making as a continuous cycle of narrative contestation, where actual policies are the product and proof of the ascendance of a particular narrative and the advocacy coalition that sustains it. This process happens within a policy subsystem delineated by the actors involved in a particular policy area for a period of a decade or longer. Although the subsystem is defined by the actors, once immersed in the subsystem they experience structural conditions that guide, but do not determine, their actions. The system constrains actors through institutional arrangements that are a product of past policy decisions as well as of factors outside the policy subsystem. First, relatively stable parameters are the institutional arrangements responsible for establishing the fundamental constraints and resources of the subsystem. Second, long-term opportunity structures act as qualifiers of the relatively stable parameters that allow for variation in the systems of government within which the policy subsystem resides. Third, dynamic external factors are situations originating from outside the policy subsystem that affect resources, constraints, and behaviors. Actors involved in the process simplify the world around them – in accordance to bounded rationality – and have diverse motivations. They perceive their surroundings and their rivals through perceptual lenses, which are constructed according to the actors' individual beliefs. These beliefs include deeply ingrained ideas acquired at an early age through socialization (deep core beliefs), a mixed set of precepts specific to the policy subsystem that depend on varying degrees of normative and cognitive constructs (policy core beliefs), and empirically ascertained precepts about specific areas of a policy (secondary beliefs). These actors organize themselves into groups who share the same policy core beliefs – advocacy coalitions – and generate a narrative that attempts to bring policy content closer to their beliefs.

Narrative contestation is non-linear and partially independent from the actual process of policy enactment, allowing multiple narrative streams to be vying for acceptance at the same time and at every point of the policy making process. A narrative shift, or a change in secondary or policy core beliefs, does not have to be concluded in order for the policy enactment process to begin. In fact, narrative

contestation may go through several cycles before the policy enactment process itself runs its course. Likewise, narrative contestation does not stop because a policy has been enacted or because the enacted policy has not generated outputs. In essence, the narrative contestation process happens parallel to the policy making process, speeding it along, slowing it down, or switching the direction of policy according to the iterative outcomes of the narrative contest. The paths leading to different narrative changes are described below (see Figure 3).

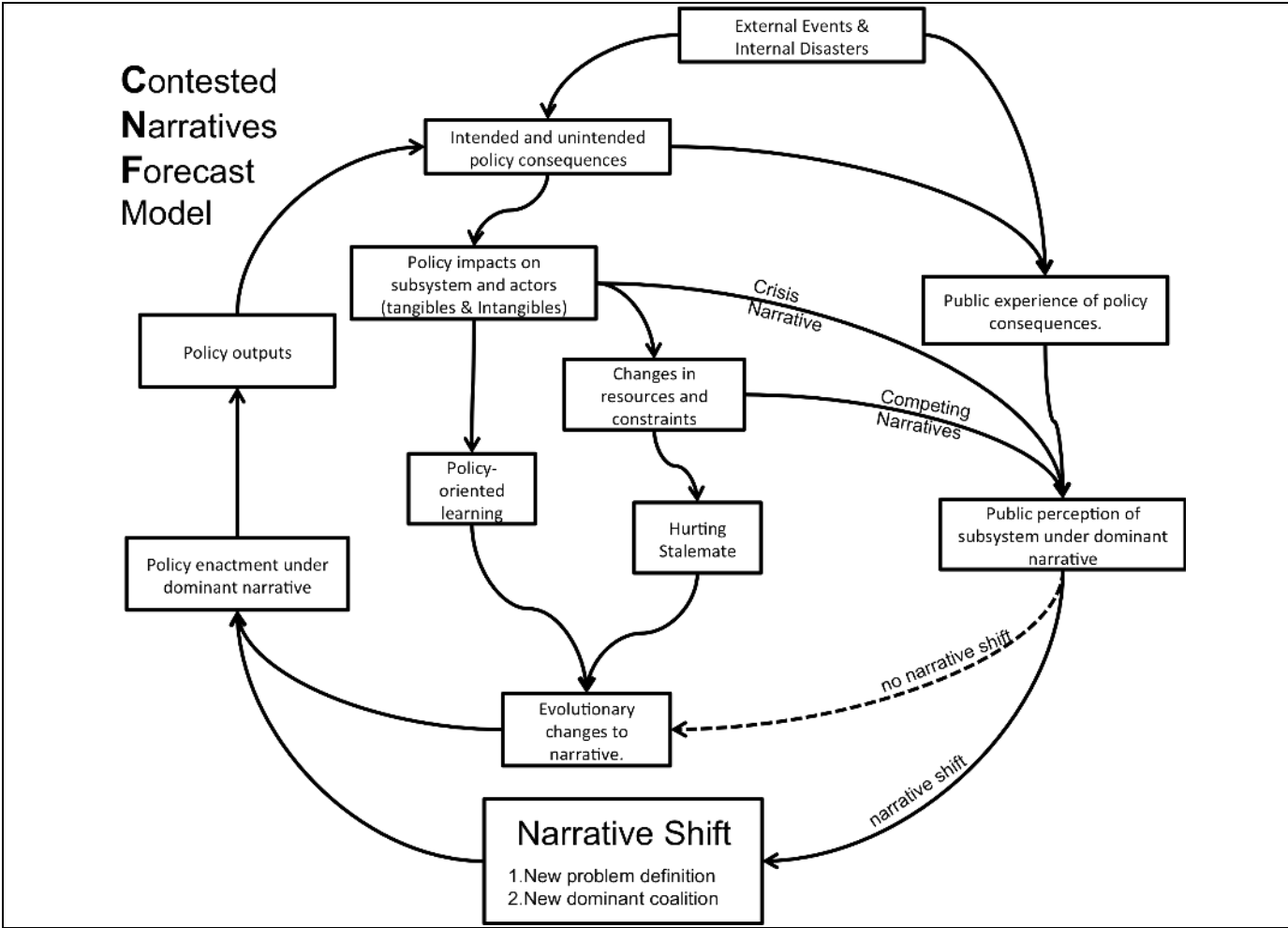


Figure 3: The CNF Model’s Paths to Narrative Changes

Previously-enacted policies produce outputs, which generate intended and unintended consequences within the policy subsystem. These policy consequences may impact the subsystem’s coalitions in several ways. They may provide new information that allows actors to experience policy-

oriented learning changing their secondary beliefs – and sometimes even some policy core beliefs. These changes do not produce a shift in the dominant narrative, leading instead to the dominant coalition making minor adjustments to their narrative and subsequent policies in order to better align them with their beliefs. Policy impacts may also redistribute resources and constraints within the subsystem's coalitions. Should the redistribution generate a situation where no single coalition dominates the subsystem, coalitions may find themselves in a hurting stalemate – provided the status quo is seen as unacceptable to all major coalitions – and may be forced to negotiate with opposing actors. These negotiations may produce changes at the secondary beliefs level and on some policy core beliefs, generating narrative changes larger in scope than those from policy-oriented learning. However, these changes are not likely to compromise deep core beliefs of the most powerful coalitions or the main ideas of the dominant narrative. In case there is no hurting stalemate, coalitions will make strategic use of the redistribution of resources and constraints in an attempt to turn their narrative into the dominant one. If policy impacts do not change the distribution of resources and constraints, coalitions can still improve their chances of shifting the dominant narrative by presenting a narrative of crisis – whether tangible evidence of a crisis exists or not. At the same time narratives are competing for dominance, the public experiences existing policy consequences and interprets them according to diverse deep core beliefs using the dominant narrative. If the dominant coalition preserves its dominance of the narrative, no major policy changes occur. However, if a new narrative becomes dominant, problems within the policy subsystem are re-defined, and a new coalition – the one responsible for the new narrative – becomes dominant over the others. Because the new dominant coalition defines problems and solutions differently from the previous one, major policy change is likely to occur. Aside from impacts of the intended and unintended consequences of previous policies' outputs, the policy subsystem can be impacted by external events or internal disasters that redistribute resources and constraints, provide new information for policy-oriented learning, cast doubt on the dominant narrative, or impact the public's experience with the subsystem's policies.

7.2 THE CNF MODEL'S HYPOTHESES

The CNF as described above reinterprets the reasons behind policy change. In Lakatos' approach to theory building, however, a reinterpretation of known facts is not enough to qualify for a progressive problem shift. In order for this model to qualify as a valid new theory, it also must predict new phenomena that are not present – or even possible – in the frameworks on which it is based. The use of public narratives for the analysis of policy change provides an opportunity to extend the model beyond the capabilities of both the PEF and the ACF from a descriptive tool of past policies, into a predictive model of future policies. The forecast model of the CNF is based on four hypotheses that spell out the relationship between narratives, policies, and triggers of change.

7.2.1 Hypothesis 1: A narrative change can only be attributed to a narrative contest.

The CNF is based on the idea that the content of the dominant narrative is the product of a process of narrative contestation, where groups espousing different beliefs put forward narratives that describe the problems, causes of the problems, and solutions to the problems in a way that reflect their beliefs. Actors use their resources and constraints in a strategic manner in order to bring the content of their particular narrative into the mainstream – the dominant narrative. In essence, hypothesis 1 states that narrative contests are the only mechanism that produces changes in the dominant narrative. This one-on-one relationship between a narrative contest and changes in the dominant narrative is vital to the CNF's predictive ability. It is important to note that this hypothesis does not require that a dominant narrative change every time there is narrative contestation. It only requires that if the dominant narrative changes, that change can be traced back to a contest between narratives.

7.2.2 Hypothesis 2: Policy content is directly related to the content of the narrative dominant at the time of policy enactment.

The CNF assumes that the policy process is narrative-driven. That is, the contest between actors with different beliefs takes part during the attempts to define the narrative that describes the problems, their causes, and the acceptable solutions to the problems. Once the dominant narrative is defined, policy content would be expected to enact solutions that address the problems as delineated by the dominant

narrative. The greater the correlation between the dominant narrative's content at the time the policy is enacted and the policy's enacted content, the stronger the predictive capacity of the model will be.

7.2.3 Hypothesis 3: A change in narrative precedes a change in policy content.

This hypothesis deals specifically with the timing among events that are analyzed in the CNF. The model posits that narratives are the product of the contestation process, and that policies are the operationalization of the dominant narrative. For this to be true, the narrative defining the goals and tools of policy has to exist before the policy itself. This hypothesis does not rule out the possibility of an enacted policy influencing the dominant narrative, because the CNF allows for multiple feedback loops at any stage of the policy making process. How policy is interpreted can, and often does, change certain aspects of the narrative as well as the perceptions of actors regarding such policy. However, such changes would be due to a new cycle of narrative contestation and could be easily distinguished from the content in the original policy at the time of enactment. In essence, hypothesis 3 posits that changes are justified publicly, through the content of the dominant narrative, before they are included in a policy.

7.2.4 Hypothesis 4: A policy change can be predicted from the narrative contestation process before changes to the dominant narrative are evident.

A correlation between narrative content and policy content is not enough to imply that changes in narratives cause a change in policy. For causation to be implied between two variables – variable A and variable B, for example – three requirements must be met. First, there must exist a strong correlation between variable A and variable B. Second, a change in variable A must precede a change in variable B. Third, no other factors should directly affect variable B. Hypotheses one through three set the foundations to expect a causal relationship between narrative contestation and policy change. A narrative contest is the only path through which narrative changes can occur (hypothesis 1). These narrative changes occur prior to policy changes (hypothesis 3), and mirror the content of the enacted policy (hypothesis 2). Therefore, it can be concluded that narrative contests, when they yield changes in the dominant narrative, cause policy changes in the same content for which the dominant narrative changed. Because of this causal relationship, it is possible to analyze the narrative contestation process and predict the changes in content that are most likely to be transferred into the policy. As the narrative

contest progresses, certain content will be adopted by a growing number of actors. At some point, a critical mass of actors will be reached, where the content will be all but guaranteed to become part of the dominant narrative. This, in turn, will cause that the content be included in a policy change. By analyzing the rates at which different contents gain followers, it will be possible to project whether certain content is likely to achieve a critical mass of followers and thus become part of the policy content.

7.3 EMPIRICAL APPLICATION OF THE CNF MODEL

The application of the CNF model to a particular policy process requires the delineation of the policy subsystem in which such policy process resides, the identification of actors involved in the subsystem, and the definition of a set of indicators that uniquely describes the different narratives within the subsystem. Suppose, for example, that the CNF model is to be used to analyze charter school policies in the state of Texas. In order to have an appropriate context for the analysis, it is important to identify the structural constraints of the subsystem, namely its relatively stable parameters (constitutional requirements of education, previous court decisions, etc.), opportunity structures (appeals process, veto points, etc.), and external dynamic factors (the effect of NCLB and other federal programs, for example). These structural constraints and resources can then be used to generate a map of resources and constraints that will serve as the initial landscape of the policy subsystem in which actors will have to maneuver to pursue their interests.

Once the context is delineated, a time frame of analysis must be chosen and actors must be identified. These actors must be actively pursuing policy changes – as evidenced by their public statements – in the subsystem for most of the analysis time frame in order to be included. The CNF assumes that actors with common policy core beliefs coordinate narratives forming advocacy coalitions. The number and characteristics of those coalitions, however, must be determined empirically. Therefore, coalitions must be identified by measuring how similar actors' narratives are to one another. In order to do so, each actor's narrative should be analyzed at the beginning of the analysis time frame for three essential aspects: problem identification and definition, adjudication of causes for the problem as defined, and identification and definition of acceptable solutions to the problem. Actors who identify

and define the problem in a similar manner, agree on what causes the problem, and concur on a range of acceptable solutions are considered to have similar narratives. Each of these three aspects should be quantified through a set of indicators that define an *orthogonal narrative space*. That is, when taken together, these indicators provide a unique definition for each narrative. The indicators used are listed in Table 3, and can be changed if important aspects of the narratives are not captured. Narratives would be mapped using cluster analysis (Elliott & Schlaepfer, 2001; Fenger & Klok, 2001; Higgins, 2004; Jenkins-Smith & Herron, 2005) into a multi-dimensional narrative space defined by the variance in each of the indicators that define the three aspects mentioned above. This map would provide a measure of how many distinct narratives are in play and how well aligned individual actors' narratives are to each conglomerate. In addition, the map would identify the dominant narrative at the beginning of the analysis time frame. The dominant narrative may have the largest number of actors, or the most powerful actors, and should include the narrative espoused by most of the public. Narratives should then be analyzed at different points along the analysis time frame in the same manner as the narratives at the beginning of the time frame. The result would be a set of measurements that describe the evolution of narratives across time. Changes in the dominant narrative should be identified and analyzed to determine whether there was a narrative contest at some point in time before the change. If the change is not preceded by a narrative contest, hypothesis 1 would be proven false and the model would not have any predictive power.

Table 3: Indicators Used to Define the Narrative Space

Aspect	Indicator	Min value	Middle value	Max value
Problem identification	Existence	Denial	Neutral	Self-evident
	Severity	None	Average	Crisis
Problem definition	Organizational	Not organizational	Partially organizational	Completely organizational
	Growth	Not related	Stagnant	Regressing
	Resources	Adequate	Some deficiencies	Insufficient
	Efficiency	Efficient		Inefficient
	Effectiveness	Effective		Ineffective
	Service providers	Competent		Incompetent
Problem cause / origin	Influence / origin	Internal		External
	Persons responsible	Public		Providers
	Perspective	Social		Economic
Solution identification	Available options	No options	One option	Many options
Solution definition	Choice	Mandated		Voluntary
	Persons involved	Public		Providers
	Change magnitude	Programmatic		Systemic
	Goal	Maintain current	Improve current	Create new
	Level	Individual		Institutional
	Focus	Social		Economic

The time frame following a change in the dominant narrative should be analyzed to identify any changes in policy content. If such a change is found, hypothesis 2 can be tested. The content of the enacted changes to policy should be analyzed in the same manner as narratives were analyzed in order to map both contents within the same narrative space. A comparison between the dominant narrative and the content of enacted policy can then be made. Significant differences in the mapping of the dominant narrative and the enacted policy would prove hypothesis 2 false. In addition, if enacted policies are justified through narratives that are significantly different from the dominant narrative, an argument can be made that the dominant narrative did not influence the changes and therefore hypothesis 2 would again be proven false. Hypothesis 3 is implicitly tested in this analysis by the fact that the policy content compared to the dominant narrative is chosen from a point in time after the dominant narrative has changed. Should further confirmation of the veracity of hypothesis 3 be sought, a comparison between the changed dominant narrative and a policy enacted before that narrative changed should be made. Changes in the content of the dominant narrative should not be present in a policy enacted before the narrative contest that produced such changes if hypothesis 3 is to be true.

Finally, hypothesis 4 can be tested by analyzing the evolution of the different narratives across the analysis time frame. The content of the policy as it stands at the end of the analysis time frame should be measured using the same indicators used for narrative analysis, thus mapping the content of the resulting policy in narrative space. The data available for analysis at this point, when placed in chronological order, would provide a starting point in the narrative space (the dominant narrative at the beginning of the analysis time frame), a final placement in the narrative space (the content of policy at the end of the analysis time frame), and a set of intermediate points provided by the location in narrative space of the different narratives within the subsystem across the analysis time frame. These multidimensional points can be analyzed using non-linear regression methods to determine whether there was enough information at some point in the past to accurately predict the outcomes of the narrative contestation process. If the only time where the outcome can be predicted is after the dominant narrative has changed, then hypothesis 4 would be proven false.

In addition to predicting phenomena not included in previous theories, a progressive problem shift requires that the new theory also explain much of what the old theory had already successfully explained. The triggers of change included in the CNF (policy-oriented learning, hurting stalemates, external perturbations, internal disasters, and crisis narratives) are assumed to cause specific degrees of change, just as they were in the frameworks used to build the CNF. In order to test that these mechanisms continue to explain the policy process, an analysis of the dominant narrative at the beginning and at the end of the analysis time frame should be made. The measurement of the result of a decade or more of narrative contestation can then be performed by comparing the contents from the narrative that was dominant at the beginning of the analysis time frame with the contents of the narrative that is dominant at the end of the analysis time frame. The differences between the initial and final narratives can be catalogued according to the degree to which the problem definition, the causal adjudication of the problem, and the acceptability of the proposed solutions changed. The different levels of narrative change would be measured as follows:

1. A narrative shift would be identified through a change in problem definition, which would also precipitate a change in acceptable solutions to the problem and a different causal attribution to the problem.
2. Policy-oriented learning would demonstrate fairly superficial changes in the narrative of those coalitions that experienced learning, but little change across coalitions.
3. A hurting stalemate would be recognized by the inclusion of some aspects of opposing narratives within the dominant narrative. These aspects may vary in depth, but would not change the fundamental definition of the problem.
4. A crisis narrative would be expected to be a simple account that attributed failure to the dominant narrative and provided simplified solutions to the problem.

Once it has been established that a change in narrative occurred during the analysis time frame, it would be necessary to look with greater detail at the events within the analysis time frame in order to match the events to the types of change they precipitated. External perturbations and internal disasters occurring during the analysis time frame would be documented, as well as any attempts by coalitions to frame the consequences of those events so that they strengthen their narrative. In addition, policy impacts from the intended and unintended consequences of policy enactment – as well as consequences from external perturbations and internal disasters – would be described and linked to any changes in resources and constraints of existing coalitions, as well as their impact on the public experience of policy outputs. This information would provide a forecast of the degree of change expected in the dominant narrative. The predicted change could then be compared to the actual change observed at the end of the analysis time frame to evaluate how well the model predicts the degree of narrative changes.

Chapter 8: The Positive Heuristic of the CNF Model

8.1 HYPOTHESES VALIDATION

Even though a theoretical problem shift – the prediction of phenomena not previously included in theory – is enough to justify the introduction of a new theory, the empirical confirmation of the existence of such phenomena provides a stronger argument than the theory alone. It makes sense then, that the next step after the introduction of a new theory, would be to empirically test the validity of its hypotheses. Validation of the CNF Model’s hypotheses can be accomplished by analyzing policies that have been in flux long enough to cover an entire cycle of policy change. Analyzing charter school policies in Texas, for example, would provide the opportunity to model the policy making process from the time before charter school policy was enacted, through the enactment itself, as well as through several years of implementation and feedback. However, as with any predictive model, the validation of the CNF’s hypotheses for one instance of policy change is not enough to validate its predictive capacity. The model will have to be tested on several policies across multiple political systems. Only then can the accuracy of the model’s predictions can be evaluated.

8.2 THE NARRATIVE SPACE AND ITS INDICATORS

The narrative space is the canvas onto which policy and narrative content are painted, and that allows for the inclusion and analysis of how contents relate to each other, compete, and eventually make their way into enacted policy. Because the content will be analyzed based on how the narrative space is defined, it is important to ensure that the foundations of the narrative space are theoretically and logically consistent. Three fundamental concerns must be addressed about the narrative space: the adequacy of the indicators that define the narrative space, the degree to which indicators can be generalized across policy areas, and the degree to which indicators can be generalized across political system structures.

8.2.1 Are the Indicators that Define the Narrative Space Adequate?

The predictive power of the CNF Model will depend in large part on how accurately it can distinguish between similar and different narratives and policy content. The indicators used to map

narratives and policy content into the narrative space must capture all essential elements of the narratives present in the subsystem. The indicators included in this work represent an initial attempt to describe narratives. Once the model is applied to different policy subsystems, other indicators may need to be added to ensure an accurate description of all essential elements of such subsystems.

8.2.2 Are the Indicators that Define the Narrative Policy Specific?

The indicators used to map narratives and policies into a narrative space presented here were selected to describe educational policies. The CNF Model, however, can be used to analyze policies in other areas, and care should be taken to ensure that the existing indicators accurately describe the narratives outside education. Policy areas that share indicators could be mapped together to analyze the potential impact of narrative contest in one area on the narratives of the other. For example, if education and healthcare share narrative indicators, could a narrative contest on healthcare affect the narratives in education? The dynamics of cross-policy narrative effects may provide an insight into the transfer of ideas across policy areas. For example, could the adoption of business management practices like strategic planning by government entities like public schools be explained by cross-policy narrative effects? Conversely, the absence of specific indicators may also provide information on how certain ideas seen as important in one policy area are not addressed at all in the policy area where the indicator that best represents that idea is missing.

8.2.3 Are the Indicators that Define the Narrative Space Dependent on Location or Political System Structures?

Just as indicators could vary among policy areas, so could they vary when comparing the same policy area across different locations or political system structures. An analysis of narratives in the area of educational policies from Texas and California, for example, may reveal whether there are fundamental aspects of education that are viewed, or at least debated, in different ways based on the different locations. Likewise, a study of how different political systems deal with the same policy area may provide insights into how people deal with education when immersed in different political systems.

8.3 NARRATIVE DYNAMICS

The predictive power of the CNF Model depends on the analysis of the dynamics in the narrative contests. The more information contained in the narrative dynamics that can be analyzed, the greater the accuracy of the model. Areas where further analysis may provide interesting insights include the relative impact of influential actors on the narrative dynamics, the characteristics of the mathematical models that describe narrative dynamics, and the connections between triggers of change and narrative dynamics. Finally, the connections between actors and narrative dynamics should be further explored, especially the effect of a low number of actors, of incidental actors (those who are involved only for short periods of time), and of the public in the narrative dynamics.

8.3.1 Do All Actors Have Equal Impact on Narrative Dynamics?

As presented, the model assigns equal weight to all narratives in the policy subsystem. There may be instances, however, where narratives from certain actors may exert a greater influence in the narrative contestation process than others. Influential narratives may hasten a narrative shift, act as bell weathers, or stop a shift from happening. Care should be taken when looking for influential narratives that their influence can be attributed to the actors and not the content. The content of narratives is the engine that drives the CNF Model. It is expected that some content will be adopted over others in order to build a dominant narrative. In this sense, some narratives must be more influential than others. The origin of these influential narratives is expected to be equally distributed among the major actors in the policy subsystem. Influential actors, on the other hand, would see their narratives adopted at a greater rate than other actors in the subsystem. Influential actors would introduce an extra level of complexity to the process of forecasting policy content. These actors would not only have to be identified, their degree of influence would also have to be quantified and included in the forecast model.

8.3.2 Do Inflection Points Exist in Some Narrative Dynamics?

Inflection points are points on a curve where the curvature sign (its concavity) changes (Weisstein, 2013). That is, an inflection point marks the spot where rates of change switch direction – the point where an object stops accelerating and begins decelerating, for example. Inflection points are located at a curve's maximum rate of change, which is normally far from where the curve changes

direction but is the earliest predictor of such a change. An inflection point in a narrative non-linear regression, if present, can forecast a narrative shift long before the narratives begin to coalesce. Also, a pattern of multiple inflection points across the analysis time frame would indicate that a narrative shift is not likely to occur as rival narratives take turns at shifting momentum away from one another. Not all narrative analyses will be able to make use of these early predictors because inflection points can exist only if the curve's second derivative is zero in some, but not all, points. Where they exist, their use will significantly improve the model's predictive capabilities.

8.3.3 Are Narrative Dynamics for Evolutionary Change Different From Those for Revolutionary Change?

The CNF Model posits that policy change is a product of narrative change, and that the degree of change in policy content depends on the degree of change in the content of the dominant narrative. In addition, the model suggests that different paths are responsible for different degrees of change. However, the model does not prescribe different dynamics for different degrees of change. In essence, the model treats narrative contests for small changes as indistinguishable from narrative contests for large changes. Whether they are indistinguishable or not will have to be empirically ascertained. Having different narrative dynamics for different degrees of change could lead to the analysis of these differences in order to better predict the possible scope of policy change, and to better understand the connections between the events and narratives that can trigger different policy changes. In the same manner, having narrative dynamics that are indistinguishable would provide information on what aspects of a narrative contest are present regardless of the scope or the circumstances surrounding the change.

8.3.4 Can the Paths to Change Be Identified by Narrative Dynamics?

As mentioned above, the CNF Model does not make a priori distinctions between narrative contests triggered by different paths to change. Yet, the dynamics of these narrative contests may be different depending on the event that triggered them. If that is the case, it might be possible to identify the path that triggered the narrative contest by analyzing the narrative dynamics. A one-to-one correspondence between triggers of change and narrative dynamics would narrow the possible outcomes

of narrative contests and improve the model's predictive power. It is important to note that policy subsystems may experience more than one trigger within the analysis time frame, and that these triggers may combine in complex ways that give rise to entirely different dynamics. The hybridization of narrative dynamics resulting from multiple triggers will likely make the connection between narrative dynamics and specific triggers difficult to establish.

8.3.5 Does the Model Work for Subsystems with Small Numbers of Actors?

The explanatory power of the CNF Model does not depend on the number of actors in a policy subsystem. In fact, most policy subsystems are expected to have only two or three advocacy coalitions. On the other hand, the predictive power of the model relies on statistical analyses of narratives that individual actors pursue. Statistical accuracy is reduced as the number of narratives drops. It will be important for future empirical studies to ensure that the number of actors involved in the policy subsystem is sufficient to provide an accurate statistical analysis of the narrative dynamics. For policy subsystems where the number of actors is too small to use statistical analyses accurately, predictive modeling may not be possible unless the narrative dynamics can be described by a different mathematical tool. This dependence on a large number of narratives may prove to be the greatest weakness of the CNF Model.

8.3.6 What Is the Effect of Incidental Actors on the Model?

Actors are defined as people or organizations that have been actively involved in attempting to influence a policy area for a period of a decade or longer. In some instances, people or groups may get involved in a particular policy area for shorter periods of time. These actors are not included in the CNF Model, and their effect on narrative dynamics should be examined to determine whether they should be taken into account. Should incidental actors have a significant effect on narrative dynamics, a decision will have to be made as to whether they should be added as a separate entity to the model, or if the definition of actors should be modified to include incidental actors so that they are indistinguishable from long-term actors.

8.3.7 How Does the Role of the Public Change in Different Policy Subsystems?

The CNF Model differentiates between actors – who are actively trying to change policy – and the public – who is not actively involved in changing policy, but is largely responsible for determining what is the dominant narrative at any particular point in time. This arrangement is expected to work well in policy subsystems, like public education funding, where a large portion of the population is directly affected by policy outcomes. The public in other policy subsystems where the population is not directly affected by the policies, like school accountability, may not have as large a role, or may even be only marginally involved in the policy process. In these cases, it will be important to ascertain with whom the dominant narrative resides, and what is the role of the public, if any, in the narrative dynamics.

Chapter 9: Conclusion

This work introduces a model where policy making can be analyzed as an iterative process of narrative contestation, from which policy content can be forecasted based on the public narratives of different actors. Using Lakatos' Methodology of Scientific Research Programs (MSRP), a theoretical foundation for the validity of introducing a new model is established. Lakatos' MSRP provides an avenue to introduce new theories regardless of the status of the existing ones, as long as the new theory can be shown to be a theoretically progressive problem shift. The new theory must predict phenomena that is not explained – or that it is assumed to be impossible to occur – in previous theories while explaining most of the phenomena already explained by them. The prediction of new phenomena alone does not invalidate older theories until empirical evidence supporting the newly predicted phenomena confirms the new theory. By providing information on how the new model meets both requirements of the MSRP, an argument can be made that it constitutes a progressive problem shift and a valid addition to the body of knowledge of policy analysis.

Once the theoretical foundation for the validity of introducing a new model was established, an argument was made on the ontological compatibility between the Punctuated Evolution Framework (PEF) and the Advocacy Coalition Framework (ACF). Both models were described in detail, placing special emphasis on the analysis and description of their basic assumptions about the policy context, the actors involved in the policy process, and the policy process itself. The assumptions were compared to each other, highlighting both the similarities and differences between frameworks. These comparisons provided the evidence necessary to conclude that, not only are these frameworks compatible, they also complement each other so that their individual weaknesses are balanced by the other framework's strengths. Where assumptions differ significantly between the ACF and the PEF – in the way that learning is defined, for example – a choice was made between the assumptions for inclusion in the new model. The result was a new model that contains all the assumptions shared by the ACF and the PEF, while making a specific choice concerning assumptions not shared by these frameworks. The

frameworks were then merged into a model that uses the shared assumptions and a new focus on narrative contestation as a tool for explanation and prediction of policy outcomes.

The Contested Narratives Forecast (CNF) Model is described according to Lakatos' MSRP by presenting the negative heuristic, the protective belt, and the positive heuristic. First, the negative heuristic – the assumptions about the policy context, the actors involved in the policy process, and the policy process – was postulated. Second, the protective belt – the description of the model and its hypotheses – was presented. Finally, the positive heuristic – the possible future additions to the model – was discussed. In the CNF, policy making is described as a continuous cycle of narrative contestation, where policies are the product of the dominant narrative. This contest occurs within a policy subsystem defined by the actors who have been involved in attempts to change policy in that particular policy area for a decade or more. Actors immersed in the subsystem experience structural conditions that guide, but do not determine, their actions. The system constrains actors through institutional arrangements that are a product of past policy decisions as well as of factors outside the policy subsystem. Actors involved in the process simplify the world around them – a process known as bounded rationality – and have diverse motivations, unlike actors in rational choice models. They perceive their surroundings and their rivals through perceptual lenses, formed out of actors' individual beliefs. These beliefs include deep core beliefs (deeply ingrained ideas acquired at an early age through socialization), policy core beliefs (a mixed set of ideas specific to the policy subsystem that depend on varying degrees of normative and cognitive constructs), and secondary beliefs (ideas built primarily from empirical results within specific areas of a policy). These actors organize themselves into groups who share the same policy core beliefs – advocacy coalitions – and produce a narrative in an attempt to have it become dominant in the subsystem so that it can bring about policy content that is closer to their beliefs. Narrative changes, and therefore policy changes, are the result of several narratives vying for dominance. These narrative contests can be triggered in five different ways – through policy-oriented learning, hurting stalemates, external perturbations, internal disasters, and a narrative of crisis. The degree of change possible is dependent upon the event that triggered the narrative contest. Two triggers – policy-oriented learning and hurting stalemates – are responsible for small, evolutionary changes to policies that are most

common in policy making. Major policy change requires a narrative shift, which can be achieved when an external perturbation, internal disaster, or a narrative of crisis leads to a situation where a different narrative becomes dominant. In addition to explaining past policy changes, the CNF model is built to predict future policy content based on the process of narrative contestation. By mapping narratives and policy content into a narrative space, non-linear regression techniques can be used to predict the rate at which actors are coalescing around a particular narrative, and therefore predict the content most likely to be enacted into policy. Finally, three aspects of the model were mentioned for future analysis and improvement of the model. The empirical validation of the model's hypotheses is the obvious next step. By analyzing policies that have been in flux long enough to cover an entire cycle of policy change, a model can be built and tested against policy content that is already available to ascertain the accuracy of the predictions. Second, future work should ensure the logical and theoretical consistency of the narrative space used to analyze narrative and policy content. Third, the characteristics of the narrative dynamics resulting from narrative contestations should be further explored to improve the model's predictive power.

The introduction of a hybrid model where institutionalized policies and practices, competing narratives defining the role and methods of achieving policy goals, different actors actively promoting competing narratives, and the public's role in the policy making process can be analyzed as interdependent parts of a single, complex system, and where policy content can be forecasted based on the public narratives of different actors, marks the first step into a theoretically consistent new way of explaining and predicting the policy making process. The CNF Model provides the opportunity to explore the connections between policy content and the narratives wielded by actors who wish to shape the content of such policies so it better fits their beliefs. By using public narratives, analysis of policy making dynamics will be more timely, providing the opportunity to understand not only policies enacted in the past, but also the processes that are shaping the policies of the future.

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Vita

Raul Medellin was born in Mexico City. He graduated from Colegio Latino Americano High School in Ciudad Juarez, Chihuahua, in 1991 and attended The University of Texas at El Paso. While pursuing his Bachelor's degree in Physics and Mathematics, he worked in the university's physics department on theoretical nuclear physics research under the supervision of Dr. Jorge Lopez. After graduating in 1996 as the College of Science Student Marshall for the Fall Commencement, he worked at the Universidad Autonoma de Ciudad Juarez in Ciudad Juarez, Chihuahua, Mexico as the head of the Academic Exchange and International Affairs Department, during which time he received the Outstanding International Alumni Award from The University of Texas at El Paso. In 2000, he was granted tenure as an associate professor of physics at the same institution. In 2001, he received a Master's of Science degree in Educational Management and Development from New Mexico State University. He was then named full professor of management at the Universidad Autonoma de Ciudad Juarez, where he specialized in business simulations, organizational development, and higher education policy analysis. He immigrated to the United States in 2005, and received a secondary mathematics education certification from the state of Texas. He worked at Riverside High School as a mathematics teacher, math center coordinator, and later as a campus testing coordinator. In 2008, he worked at the El Paso Independent School District as a benchmark specialist, and returned to the Ysleta Independent School District (YISD) in early 2009 as the Academic Language Programs Evaluator. He currently works at YISD as Coordinator of Accountability.

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