Politics affect education, particularly in transitional societies. It is obvious that Taiwan's education reform and democratization share the same set of players. All major educational players played a role at different stages in the electoral process striving for popular support. This book applies game theoretic tools and proposes "dynamic positioning" as a new framework that regards Taiwan's education reform from 1994 to 2016 as the outcome of players' strategic interactions (instead of top-down or bottom-up). The complex interplay is characterized by the continual adjustment of one's preferences and strategies in response to other players' moves. This concept helps explain how and why Taiwan's education reform was once embraced by most players (cooperation), but became a battlefield between different camps (non-cooperation) soon after a change of the ruling party in 2000. It disputes various structural approaches on educational change, including functionalism, conflict theory, globalization, and theories of liberal democracy. It also contributes to the field of game theoretical studies in education and the specific literature of politics, social change, and education reform.
When Education Meets Politics in Taiwan
SPOTLIGHT ON CHINA

Volume 4

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When Education Meets Politics in Taiwan

A Game Theory Perspective (1994–2016)

Ka-ho Kwok

Sun Fong Chung College, Hong Kong
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In 2014, two university student-led movements of momentous importance took place: the Sunflower Movement in Taiwan which protested against a possible trade service agreement with China in March and the protest movement in Hong Kong demanding that China institute free elections in the territory (Dou & Hsu, 2014). University students from both societies impressed the world with their organized actions against their own political establishments and that of China, and observers have since made comparisons of the two events.

Although cross-Strait economic ties and cultural exchanges improved drastically between 2008 and 2016, both sides still remain deeply suspicious of each other politically. The Taiwanese general public continues to resist any proposals for Taiwan’s adoption of a “one country, two systems” framework like the one that was established between China and Hong Kong in 1997. Why do Taiwanese people, especially the younger generation, remain so suspicious of China? What kind of perception most Taiwanese people have about China despite their identity conflicts over the years? The constant dilemma in Taiwan over national identity continues today and has become heavily influenced by new forces: globalization, localization, and shifting cross-Strait relations (Chou, 2014). As a result, education has been vulnerable to political change over the last two decades and yet has also become even more crucial in shaping students’ self-concept and national identity in Taiwan.

This book fills the gap about how politics, not only in Taiwan but also in many parts of the world, have influenced educational change and how such political interactions impact educational policies and practices. Like many other countries, Taiwan’s education reform has interwoven with its process of political democratization over the last two decades. In this book, Kwok skillfully applies game theory in developing a new framework that regards education reform as the outcome of players’ strategic interactions rather than top-down or bottom-up approaches. The interplay among different political players is characterized by the continual adjustment of one’s preferences and strategies in response to other players’ moves and changes in voter preferences. Nevertheless, these players’ actions are also conditioned by the dual salient ideological cleavages regarding national identity conflict: democratization and Taiwanization. The author’s insight helps explain how and why Taiwan’s education reform was embraced by most players in the late 1990s but eventually became a battlefield between different political parties and social interest groups. Although game theory is a common approach in certain academic fields, it remains under-utilized in analyzing education policy. Its use in this book is a refreshing take on interpreting how political intervention in Taiwan has affected educational change in many ways.
FOREWORD

REFERENCES


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I am greatly indebted to Dr. Law Wing-Wah who supported and enlightened my research career in education in many ways. I first met him some fifteen years ago when I was among a class of green teachers pursuing the Postgraduate Certificate in Education at the University of Hong Kong. Without the enduring encouragement and guidance from Dr. Law through all these years, this book would not have been possible.
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<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>CER</td>
<td>Commission of Education Reform</td>
</tr>
<tr>
<td>DPP</td>
<td>Democratic Progressive Party</td>
</tr>
<tr>
<td>ERAT</td>
<td>Educational Reform Association of Taiwan (of the ROC)</td>
</tr>
<tr>
<td>HEF</td>
<td>Humanistic Education Foundation</td>
</tr>
<tr>
<td>KMT</td>
<td>Kuomintang (The China Nationalist Party)</td>
</tr>
<tr>
<td>MOE</td>
<td>Ministry of Education</td>
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<tr>
<td>NAER</td>
<td>National Academy of Educational Research</td>
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<tr>
<td>NICT</td>
<td>National Institution of Compilation and Translation</td>
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<tr>
<td>NP</td>
<td>The New Party</td>
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<td>NPP</td>
<td>The New Power Party</td>
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<td>NTNU</td>
<td>National Taiwan Normal University</td>
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<td>NTU</td>
<td>National Taiwan University</td>
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<td>PFP</td>
<td>People First Party</td>
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<tr>
<td>ROC</td>
<td>The Republic of China</td>
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<tr>
<td>SMD</td>
<td>Single-Member Districts (Voting System)</td>
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<tr>
<td>SNTV</td>
<td>Single Non-Transferable Vote</td>
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<tr>
<td>SUER</td>
<td>Society for University Education Reform</td>
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<td>TAIP</td>
<td>Taiwan Independence Party</td>
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<td>TAUP</td>
<td>Taiwan Association for University Professors</td>
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CHAPTER 1

INTRODUCTION

Education may become a major arena for political competition in transitional societies, as the case of Taiwan has revealed. Education reform has become a politically and electorally salient issue in the new-born democracy ever since 1994, and the reform process has reflected the dominant political controversies on the island – the pursuit of democratization and Taiwanization (national identity cleavage). Taiwan’s education reform and electoral politics largely share the same set of players, while all educational players have played a role at different stages of the electoral process, by striving for popular support.

This book, through an examination of Taiwan, delves into the relationship between education reform and politics in a period of rapid social change. Players’ interactions have been the key factor shaping Taiwan’s education reform between 1994 and 2016. Game theoretic analysis of data enables the researcher to identify patterns in players’ interactions in the Taiwanese context, which this book conceptualizes as “dynamic positioning”.

The research problem stems from the decades-long political controversy related to education reform in Taiwan. The Democratic Progressive Party (DPP), which was the island’s ruling party from 2000 to 2008, was continuously criticized by the then-opposition Kuomintang (KMT) for its unsatisfactory performance in terms of economics, cross-Strait relations, education, and other arenas (Chen, 2008). The DPP and its allies – Nobel laureate Li Yuanzhe and the reformists – have been criticized by the pan-KMT for flaws in their education reform initiatives. For their part, the DPP (2002) and the reformists (Huang, 2005) have argued that most of the reform measures in question were not initiated by the DPP, but were the outcome of cooperation between various players, following the April Tenth March initiated by social groups in 1994:

Some people say: the education reform is in a mess, the DPP has to bear full responsibility. Substantially speaking (shizai hua): the education reform originated from the consensus of the society...The shortcomings of the education reform are inherited from the KMT era, not set out by the DPP (2002).

Although the statement reads somewhat like propaganda, an attempt to shift the blame for a troubled program, it does correctly point out four traits in Taiwan’s education reform. First, social groups initially suggested the reform initiatives (the reformists). Second, major reform policies (textbook reform, curriculum reform, etc.) were not interrupted by the change in regime; the reformists initially
cooperated with the then-KMT government, and later won the support of the new DPP government. Third, education reform was an outgrowth of the democratization that has been ongoing since 1988, has opened political debate, and has legitimized public participation and political demonstrations. Fourth, partisan relations have worsened dramatically since 2000.

The democratization process is the single greatest social change to have occurred on Taiwan in the past three decades. The KMT’s long-standing one-party rule was challenged, and the party was eventually replaced by the opposition DPP. However, the pursuit of democratic values was accompanied by the pan-DPP’s pursuit of Taiwan independence, which was strongly opposed by KMT followers. The electorate was thus split into pro- and anti-independence blocs, more recently called pan-Green and pan-Blue, respectively. This protracted electoral schism means island-wide consensuses are rare, making the above-mentioned bipartisan consensus over education reform even more remarkable. It is worth asking why such staunch political rivals cooperated on education reform, for such a long period.

This book concerns the relationship between politics and education reform, and the ways in which decision makers (players) interact with one another. The argument I propose is that the player interactions, and that interaction’s role in shaping policy outcome, can best be explained through “dynamic positioning,” the concept that players continually adjust their preferences and strategies in response to other players’ moves and voter preferences. Players interact regarding the salient issues in political competitions; rather than cooperate with others, players might embrace their own support base, adjust their preferences to appeal to moderate voters, or cultivate new political issues to attract new supporters, without antagonizing their existing support base. This interplay of players’ preferences and strategies, or dynamic positioning, gives rise to either a cooperative outcome (equilibrium), a non-cooperative outcome (disequilibrium), or a mixed outcome. The concept of dynamic positioning helps to explain how players formulate and adjust their preferences and plans of actions in response to socio-political change, and how players’ interactions affect policy outcome.

Chapter Two presents a theoretical discussion of the relationship between social change and education reform. It examines five major theories of social change – structural-functionalism, conflict theory, globalization theory, democratization theory, and game theory – and then points out the weakness of each. Finally, it proposes a game theory-based framework to interpret Taiwan’s education reform.

Chapter Three reviews decades of change in Taiwan’s politics and education in the post-war period, providing the historical context against which Taiwan’s education reform was launched, in 1994. It reviews literature concerning the relationship between education and the state during various periods of social change in Taiwan since 1945. Education in Taiwan has long been closely related to politics, and the state’s ideologies and political preferences have long been imposed on various aspects of education, including curriculum, textbook compilation, and administrations, to meet the states’ political goals in different periods.
Chapters Four to Six deal with Taiwan’s education reform from 1994 to 2016. Working from the assumption that Taiwan’s education reform is closely related to politics, three stages are identified, based on relevant major political changes: The KMT governance period (1994–2000); the DPP governance period (2000–2008); and, the KMT re-governance (2008–2016). In these three stages, the salient issues in Taiwan’s electoral politics – democratization and Taiwanization – influenced education reforms, and the key issue informing players’ interactions was how to maximize one’s popular support in the democratization process, to gain political power.

Chapter Four analyzes Taiwan’s education reform from 1994 to 2000, under the rule of the KMT. Major decision makers (players) are identified, and their preferences and strategies noted. Two traits dominated players’ actions during this period. First, players preferred to appear more liberal on education issues, to attract supporters from outside of their normal pro-independence or -unification voter base. Second, players preferred to focus on more moderate voters to maximize their possible political gains and minimize their losses. Thus, all major players made a show of cooperating with Nobel Laureate Li Yuanzhe, who was well-regarded by middle-of-the-road voters. Li’s socio-political influence was thus amplified (termed the “halo effect” in this book), and he became the dominant player and “tone-setter” in Taiwan’s education reform. Various reform initiatives endorsed by Li, such as educational legislation, the Grade 1–9 Curriculum, and textbook reform, were absorbed into government policies and enjoyed bipartisan support. Overall, the interactions among players in education in this period were characterized by the prevalence of bipartisan cooperation.

Chapter Five concerns Taiwan’s education reform from 2000 to 2008, during the rule of the DPP and President Chen Shuibian. In this period, players preferred to embrace their support bases. The “defection” of Li Yuanzhe and other reformists to the pan-DPP coalition during the 2000 presidential campaign triggered retaliation from the pan-KMT and polarized voter preferences. Players sought to escalate partisan conflicts and heighten a sense of emergency to consolidate their support base. The player interactions in this period were characterized by the prevalence of strategic non-cooperation.

Chapter Six concerns Taiwan’s education reform from 2008 to 2016, under the rule of the KMT. After Taiwan’s second party alternation in 2008, major players adopted a common strategy of repositioning themselves with median voters, which deemphasized direct involvement in identity conflicts. Benefitting from this de-escalation of conflict, a bi-partisan consensus was formed turning the reformist agenda of “12-year Public Education” into governmental policy. The year 2014 witnessed heightened public queries about the KMT’s “cross-Straitizatation” strategy, as well as a rise in social activism. The “fine-tuning” of high school curriculum guidelines (propelled by Blue activists) re-ignited a tide of identity conflicts and triggered civil protests that were characterized by the prominent participation of high school students. However, Cai Yingwen, the island’s first female leader, continued
to prioritize “maintaining the status quo,” before and after the 2016 presidential campaign.

Chapter Seven conceptualizes the game theoretical analysis of the research data. I suggest that the concept of “dynamic positioning” provides a specific framework to explain the relationship between politics and education reform in transitional societies such as Taiwan. Three patterns of dynamic positioning can be identified in Taiwan’s education reform game – to gain new supporters without one’s antagonizing existing support base, to attract median voters, and for choosing sides – with the key issue for players being to find an optimal strategy for maximizing their popular support. Players’ actions are contingent on multiple factors. On the one hand, players can adjust their preferences and strategies in response to other players’ moves and voter preferences; on the other, both players’ and voters’ preferences in political competitions are constrained by salient issues. Dynamic positioning explains how particular players formulate and adjust their preferences and strategies in periods of social change, and how players’ interactions influence policy outcomes.
CHAPTER 2

SOCIAL CHANGE AND EDUCATIONAL CHANGE

Toward an Interactive Approach

THEORIES OF SOCIAL CHANGE AND EDUCATIONAL CHANGE

Education, often seen as a means of ideological control and economic development, gains socio-political importance in transitional societies. This chapter reviews the literature on planned education reform and transitional societies, before introducing five major theories of social change – structural-functionalism, conflict theory, globalization, democratization, and game theory – to help explain the impact of changing social structures, technology, economics, and international factors on education reform. Nonetheless, they are not specific enough to explain the relationship between politics and education reform in terms of the interactions between players in the decision-making process in an electoral setting. After reviewing the strengths and limitations of these theories, I propose a game theoretical framework to interpret the relations between education reform, politics and social change.

Theories of Education Reform

Three major theories of education reform are highlighted below to facilitate a discussion of how education reforms are initiated and planned: Disjointed incrementalism; staged theory; and, “punctuated equilibrium”.

The theory of disjointed incrementalism is a revision of the assumption that decision makers engage in rational planning. It maintains that, due to constraints, the complexity of problems, and limited available choices, decision makers can usually make only “small policy steps” (Lindblom, 1959, p. 79); the term “disjointed incrementalism” typifies the uncoordinated outcome of “a series of such decisions” (Parsons & Fidler, 2005, p. 449). Scholars have criticized the theory, arguing that it “finds radical change hard to encompass” (Parsons & Fidler, 2005, p. 449). It cannot envisage and explain instances of education reform that have been endorsed by a wide social consensus or social movement, or that result in a grand coalition of players and a hastened pace of change, as in the case of Taiwan.

In contrast, staged theory (also called “incremental theory”) assumes that a series of incremental changes could lead to significant and transformational change (Parsons & Fidler, 2005; Gold, 1999). It is exemplified by Fullan’s three-stage (or “triple I”) theory, which divides the progress of education reform into the stages of “initiation, implementation and institutionalization” (Fullan, 2001; Polyzoi,
Fullan, & Anchan, 2003). Earlier works were limited in scope to “innovations that occur in a relatively short time,” and held that “planned, controlled, incremental change results in significant change that emerges between phase 2 and 3 in approximately 3 years” (Gold, 1999). More recently, scholars have used staged theories to explain wider social and education reforms caused by world-wide democratic transitions in late twentieth century. For instance, Fullan and his colleagues used the “triple I” theory to examine education reforms in post-Communist Eastern Europe’s democratization process (Polyzoi, Fullan, & Anchan, 2003). Also focusing on post-Communist Eastern Europe, Birzea (1994) and McLeish (1998) designed more specific, five-staged theories to explain education reform.

Staged theory has been criticized for its basic assumption that “change is always possible” (Parsons & Fidler, 2005, p. 449); many changes are ineffective and never reach the final or institutionalization stage. Meanwhile, staged theory’s “primary explanation for change failure is individual or group resistance to new ideas and practices,” which obscures assessment of “the initial condition” and “feasibility by the scale and extent” of the planned change, and thus it is “difficult to distinguish which attempted changes may be successful from those that are less likely to be so” (Parsons & Fidler, 2005, p. 449). The dramatic shift in partisan preferences on education reform and the change in Taiwan’s partisan relationship from cooperation to non-cooperation could hardly fit the incremental or staged change metaphor. To supplement staged theory’s failure to adequately explain “the issues of readiness for change, transformational change and the failure of change strategies,” scholars propose an alternative theory – punctuated equilibrium (Gold, 1999; Parsons & Fidler, 2005, McLendon & Cohen-Vogel, 2008).

The theory of punctuated equilibrium “envisages long-term change as being made up of a succession of long periods of relative stability, interspersed by brief periods of rapid profound change” (Parsons & Fidler, 2005, p. 447). It has three implications. First, that many changes fail because “at times of incremental change only proposed changes which do not affect the deep structure are likely to be successful”; second, that unsuccessful changes are advance warnings of the possible need for revolutionary change; and, third, that change, whether punctuated or revolutionary, may result “in a crisis when the future of the organization is under threat” by external influence or internal mechanisms, such as the actions of “a new chief executive,” when “too many warning signs are ignored” (Parsons & Fidler, 2005, p. 462).

The theory of punctuated equilibrium helps to explain the relationship between education reform and the wider social context over an extended period. However, it does not specifically focus on transitional societies experiencing profound socio-political change, in which uncertainty and instability are either the norm or long-term phenomena. Neither is it specific enough to explain the alternation between stable long-term equilibrium and unstable long-term disequilibrium in Taiwan’s education reform.

Education reform is often related to wider social change. Throughout history, schools and educational practices have interacted with such powerful social forces
as industrialization, urbanization, and the advance of technology, to name but three. In the late twentieth century, education scholars inquired into the relationship between education reform and social change in different settings, including the post-Cold War transition toward democracy in Eastern Europe (Birzea, 1994; McLeish & Phillips, 1998; Polyzoi, Fullan, & Anchan, 2003), South Africa’s departure from apartheid, and the rise of socialism in the third world before the 1990s (Carnoy & Samoff, 1990). Education scholars and decision makers acknowledge a two-way relationship between social change and education reform. As Rury (2005, p. 4) wrote, education “has been on either side of social change: Both as a causal agent and as an aspect of life that has shifted because of other social forces”. As Taiwan’s Ministry of Education (MOE) (1995, p. 20) acknowledged, “education is a subsystem of the society. Social change will affect education, and progress in education will also lead to social change”.

To better understand the relationship between education reform and social change, more specific theories of social change are reviewed, below. The discussion begins with two classic approaches: structural-functionalism, and conflict theory.

**Structural-Functionalism and Conflict Theory**

Two classical theories dominate the study of social change: structural-functionalism, and conflict theory. As Ballantine (1997, p. 367) stated:

> Structural-functional theory sees change as a gradual adjustment of a system to stresses and strains. Conflict theory sees change as occurring through conflict or more dramatic revolution.

Functionalism focuses on the state of “equilibrium” or “consensus” that keeps a society working, and assumes different people and social institutions are tools for fulfilling social needs. Social classes have a shared set of values, or a “consensus on what is good and just,” enabling all society members to work together in a “win-win situation” (Appelbaum & Chambliss, 1997, p. 17).

Functionalism is exemplified by modernization theory, which was prominent in the 1960s and 1970s among sociologists who posited a dichotomy between traditional and industrialized society, and which assumes that all societies would follow roughly the same progressive paradigm as had the West. Social change is measured using indicators based on the developed West, in particular “various indices of economic development – wealth, industrialization, urbanization, and education” (Lipset, 1960, p. 50). From a modernization theory perspective, education transmits necessary skills for economic success or industrialization (education as “investment”), and traditional values such as “religious, tribal, and kinship beliefs” have been replaced by new social norms (Smelser, 1991, pp. 286–287, 427).

Functionalism has been criticized as incapable of providing a full view of change, because of its inability to explain why some system fail or experience sudden
CHAPTER 2

revolutionary changes (Ballantine, 1997). Some call the functionalist approach “overly deterministic,” arguing that it neglects the role of historical actors, and envisions that advances will come “as if they were automatic once certain conditions have been met” (Huang, 2002). In the case of Taiwan, numerous studies in the 1980s and early 1990s endorsed the modernization approach, linking Taiwan’s socio-political modernization to its economic success (Tien, 1989; Pye, 1985; Cheng & Haggard, 1992; Tien, 1992). However, the approach, which envisions a “steady progression toward liberal democracy”, has been criticized for being unable to pinpoint the “historical moments” in which transitions actually begin, which, in the case of Taiwan’s democratic change, “commenced quite suddenly in the late 1980s” (Potter, 1997; pp. 219–220). In addition, the approach cannot explain the state’s promotion of ethnic values, which are “traditional” values with little economic payoff, nor the escalation of partisan antagonism in Taiwan since 2000 after years of democratic institutionalization.

Contrary to structural-functionalism, conflict theory assumes that “society comprises conflicting interests, with some groups prospering only at the expense of others (‘win-lose situation’)” (Appelbaum & Chambliss, 1997, p. 17). Conflict theory is exemplified by various leftist theories, such as dependency theory, that emphasize relationships of domination and resistance between those with power (the haves) and those being subordinated (the have-nots). As a reaction to modernization theory, dependency theorists see the Western model of development and the presence of Western capital as vehicles for continued domination, leading to the underdevelopment of the third world. From this perspective, education is a transmitter of ideas of Western (core) ideas, leading to the diminishment of local and traditional values (periphery) (Pan, 2003).

However, conflict theory cannot explain the “balance of equilibrium that does exist between segments of a system” (Ballantine, 1997, p. 10). For instance, a conflict approach cannot explain the formation of the wide social consensus on education reform that emerged in Taiwan during the 1990s.

Despite their differences, dependency theory and modernization theory are both considered structuralist theories (Cohen, 1994; Huang, 2002), in that they emphasize social-economic pre-conditions over historical actors, and the domination of external factors over the local setting. The two theories shed little light on the behavior of actors, such as parties, groups, or prominent individuals (like Li Yuanzhe in the case of Taiwan), and their influence on policy outcomes. Structural theories’ neglect of the local setting can be supplemented using the theoretic framework of globalization and localization.

Globalization, Localization, and Educational Change

Globalization has been much discussed since the 1990s. The world has become more and more interconnected due to the rapid advance of “technology of communications and travel” and “worldwide spread of neoliberal capitalism,” which have given rise to

Hyperglobalists opine that the current course and level of globalization is historically unprecedented, and erodes the role and functions of nation-states, resulting in a shift of power toward non-state agencies and global economic systems. In contrast, skepticals argue that the current globalization does not differ much from historical economic internationalization precedents, and point out that nation-states and regional organizations are still vital regulators of international economic activity. The transformationalists agree that the nature of globalization is unprecedented, but see regional and local adaptation to or resistance against globalization as key components of a grand historical process. Local reactions grow in an “indeterminate” fashion (Held et al., 1999, p. 10), and may appear as forms of ethnic politics, particularist nationalism, or religious fundamentalism (Heywood, 2000; Lewellen, 2002).

Globalization mandates substantial challenges to education, and its advance has led to many of the reforms launched around the world in the late twentieth century. Taiwan is no exception, with responses to globalization having manifested in official documents (MOE, 1995; CER, 1996). Carnoy and Rhoten (2002, pp. 5–6) identified five global trends that require governments and nation-states to make changes in education: reduced growth in public spending on education; calls for increased transnational skills level (e.g., English language fluency) in the labor force to attract foreign capital; an emphasis on accountability in and international comparison of national educational systems; the advance of information technology; and, a transformation toward world culture due to globalized information networks, plus subsequent local reaction or resistance.

The theoretical sophistication of globalization sheds lights on, first, the changing role and functions of the nation-state, particularly in regards to national economic and educational systems, and, secondly, the interactive relationship between globalization, regionalization, and localization. However, it is not specific enough to explain the relationship between politics and education reform. As Kayser (2007) pointed out, globalist literature disproportionately focuses on globalization’s influence on policy outcomes, rather than on “politics” – i.e., political competitions and the actual decision-making process. Some globalists have argued that, because of the diminishing role of nation-states, “democracy” is becoming “trivialized,” and popular participation is marginalized in the policy formulation process (Jones, 1998).

In contrast, a number of studies (Keohane & Milner, 1996; Kriesi et al., 2006; Kayser, 2007) have found that global forces do not override local politics. Kriesi et al., pointed out that the advance of globalization has not altered the political structure of six European democracies, but has, rather, been embedded into existing socio-political cleavages. In addition, the impact of globalization on politics varies depending on local “contextual conditions,” such as institutional and electoral rules.
and players’ “somewhat unpredictable” strategies and decisions (Kriesi et al., 2006, p. 932). For instance, Taiwan’s localization campaign and ethnic politics, which resist not global integration, but a specific regional power – mainland China (Liu, 2005, p. 381) – cannot be explained without knowledge of the local context.

To explain how political competition relates to education reform, specific literature about democratic politics must be examined. The next section discusses the theory of democratization as a complement to theories of globalization.

Theories of Democratization and Educational Change

During the 1970s and 1980s, the “third wave” of democratization swept across countries in Eastern Europe, Asia, Latin American, and Africa. The force of democratization decentralized previously monolithic political power, and wrought changes in economies, education, administration, and other state functions (Garman, Haggard, & Willis, 2001; Hanson, 1996; Sayed, 2002). According to Huntington (1991, p. 7), a state system can be described as democratic (or having passed the transition) if “its most powerful collective decision makers are selected through fair, honest, and periodic elections in which candidates freely compete for votes and in which virtually all the adult population is eligible to vote”. A country that does not fully meet the “procedural” benchmark is categorized as a “partial democracy” (Dahl, 1989).

Theories of democratization have two focuses: “initial transition from authoritarian rule” and “consolidation of liberal democracy” (Potter et al., 1997, pp. 15, 524). There are three major approaches to democratic transition: (a) the modernization approach, which emphasizes socio-economical requisites associated with existing liberal democracies; (b) the structural approach, emphasizing changing structures of class, state, and transnational power; and, (c) the transition approach, which focuses on political processes, and elite initiatives and choices (Potter et al., 1997, pp. 10–22). The modernization and structural approaches, as mentioned above, cannot explain players’ specific political behaviors, and thus are not suitable for this study.

The transition approach, however, focuses on how democratization is triggered at the initial or pre-electoral period by interaction, competition, or compromise between elites within the regime and their opponents. Transition literature delves into the patterns of the interplay of players, often categorizing ruling elites who hold different preferences as “hardliners” or “softliners,” and the opposition as “opportunist,” “moderates,” or “radicals.” The transition approach helps to explain the decentralization of the former regime’s authoritarian power, and highlights the importance of the “actions, choices, and strategies of [the] political elite” (Potter et al., 1997, p. 17). However, it is not specific enough to account for the intimate relationship between education and electoral politics seen in Taiwan. Also, the influence of public opinion or voter preferences on players’ decision-making is obscured.
The institutionalization of electoral politics is central to the consolidation of democracy. Many scholars observe that the uncertainty caused by changes to state power structures can be eased by the introduction of elections. As McLeish stated, the institutionalization of “national and provincial elections” is an important means of “alleviating some of the chaos and uncertainty common to all nations engaged in the process of democratization”. In brief, elections indicate “different degree of closure” to the democratic transition (McLeish, 1998, p. 17). Various studies of education reform during democratic transition also use the introduction of elections to mark progress in politics and education (Birzea, 1994; McLeish, 1998), because elections are vital for clarifying “the likely direction if not outcome, of the educational transition process” (McLeish, 1998, p. 17).

However, the existence of elections alone does not guarantee a healthy democracy. Some nascent democracies have experienced major setbacks, or have collapsed, despite having held elections, often returning to authoritarianism following a coup d’état. Potter et al. (1997) proposed that democratic consolidation is more likely to be successful if:

a. the polity has geographical, constitutional, and political legitimacy;
b. there is agreement about the rules of the political game and the parties abide by them;
c. opposing groups agree on policy restraint;
d. there are low or declining levels of poverty; and,
e. ethnic, cultural, and religious cleavages are not deep and uncompromising.

Another key electoral benchmark is the so-called “two-turnover test”. According to Huntington (1991, p. 266), a democracy can be said to have been consolidated.

if the party or group that takes power in the initial election at the time of transition loses a subsequent election and turns over power to those election winners, and if those election winners then peacefully turn over power to the winners of a later election.

Democratization is usually associated with the liberal democratic paradigm of the West, which adheres to the rationale of representative politics, usually dubbed the theory of groups or pluralism (Howlett & Ramesh, 2003). Pluralism assumes that “power is widely and evenly dispersed in society, rather than concentrated in the hands of an elite or a ruling class,” so that “there is roughly equality amongst groups and the state is neutral amongst groups” (Heywood, 2000, p. 176). Policy decisions are usually made by “representatives accountable to the community” such as “political parties and interest groups” (Potter et al., 1997, pp. 4–5). Political parties and interest groups function differently, according to the principle of separation of power, as interest groups “seek to exert influence from outside, rather than to win or exercise government power,” and “seldom have the broader programmatic or ideological features that are generally associated with political parties” (Heywood,
In addition to electoral rules, players in pluralist/liberal democracies are also constrained by “democratic culture” (Dahl, 1997) and other virtues, such as constitutionalism, the rule of law, constraints over executive power, etc. (Diamond, 1996).

Pluralism has been identified as a “major theoretical perspective” on the study of educational policy-making (McNay & Ozga, 1985, p. 1). A typical pluralist account of educational policy-making, usually grounded in a Western democracy such as the USA or UK (Dye, 2002, pp. 120–144; Kogan, 1975), comprehensively portrays the distribution of power among a formal governmental hierarchy (e.g. central and local government, political parties and parliament, schools and universities), while still accounting for the influence of a wide-range of interest groups (teachers’ unions, parents’ associations, etc.). The role of public opinion or voter preference is somewhat deemphasized in the policy-making process. For instance, in Japan’s “patterned pluralism,” public opinion was trivial in the education reform of the 1980s, dubbed “immobilism” by Schoppa (1991).

Theories of democratization and pluralism help to explain the interaction between social groups, political parties/legislators, and Taiwan’s MOE in shaping educational policy outcomes since the 1990s, and parliamentary lobbying for and deliberations over various reform measures. However, its emphasis on the Western liberal democratic model and deemphasis of direct mass participation makes it hard for the theory of democratization to accommodate instances of deviation in political neutrality, political intervention in education, demagoguery, mass mobilization, etc., in transitional or nascent democracies like Taiwan, where democratic culture, formal or legal rules are yet to be consolidated.

Second, electoral politics do not necessarily alleviate chaos, and can create antagonism in procedurally qualified democracies. The theory of democratization and pluralism cannot explain lingering electoral conflicts, many related to ethnicity or religion, in some transitional societies and young democracies. The pursuit of electoral success in nascent democracies may instigate ethnic or religious mobilization (Huntington, 1997b), both of which are particularistic and threaten democratic consolidation (Diamond, 1997). In Taiwan, electoral politics became a major source of socio-political conflicts during the democratization process. The national identity cleavage and the longstanding constitutional controversy with mainland China have been manipulated for partisan reasons in both the political and educational arenas.

The theories of democratization and pluralist democracy are insufficient to explain the pattern of interaction between players in new or transitional democracies like Taiwan, where ethnic and national identity cleavages are dominant, and democratic culture is comparatively immature. To supplement this insufficiency, the next section turns to game theory, which provides alternatives for assessing how players holding different or contradictory preferences interact, compete, and compromise in various settings.
Game Theory and Educational Change

Game theory is often referred as the theory of “interactive decision-making” (Zagare & Slantchev, 2010; Fang, Hipel, & Kilgour, 1993). It provides analytical tools to explain how “decision-maker interact” (Osborne & Rubinstein, 1994, p. 1) in situations “where no single decision maker has full control over the outcomes.” (Kelly, 2003, p. 1) In particular, it focuses on “the relationships that are made and broken in the course of competition and cooperation.” (Kelly, 2003, p. IX) The approach originated among mathematicians in the 1920s, and its experimental and mathematical methods were widely adopted by social scientists after the Second World War. Schelling’s classic game theory account of the Cold War, *The Strategy of Conflict* (1960), did not use much algebra, however, opening a non-technical path for game theory research and earning its author a Nobel Prize, in 2005.

Game theory has been suggested as an alternative to structuralist theory for understanding social change, one which could highlight the “subjectivity of the actors” (Boudon, 1986, p. 43). The major difference is methodological. Game theory is based on “methodological individualism” (Hargreaves Heap & Varoufakis, 2004); it denies that social structures determine individual behaviors, and asserts that an explanation of group action “must be understandable in terms of individual choice.” (Orneshock, 1986, p. 1) In addition, it assumes that decision makers “pursue well-defined exogenous objectives (they are rational),” and “take into account their knowledge or expectations of other decision makers’ behaviors (they reason strategically)” (Osborne & Rubinstein, 1994, p. 1). Later studies refined the concept of “rationality,” allowing that humans do not always make the most rational choice, but may instead follow “heuristic rules,” using what is called “bounded rationality” (McCain, 2004). Rationality need not be seen as an exercise of reason, but human behavior should be seen as “purposeful” (Orneshock, 1986).

The interplay of the four basic elements/rules of gameplay: “Players, actions, payoffs, and information,” constitute the platform for game theory inquiry (Rasmusen, 2007, p. 12). Other key concepts include “strategy,” “preference,” “equilibrium,” and “outcomes” (Rasmusen, 2007, Hargreaves Heap et al., 1992). The job of game theorists is to “describe a situation in terms of the rules of a game so as to explain what will happen in that situation” (Rasmusen, 2007, p. 12).

A “player” is a decision-maker, and can be an individual, an organization, or, in some cases, “nature” (Kelly, 2003, p. 3). “Actions” or “moves” are the choices a player can make (Rasmusen, 2007). “Payoffs” are the utilities or expected utilities of players’ moves. Payoffs can be quantified – the number or percentage of votes gained in the legislature or an election, for instance – or, in some cases, expressed as ordinal numbers, ranking the “transitive preference” of players. In all cases, the payoffs must reflect the player’s motivation(s).

To maximize their payoffs, players will devise plans, known as “strategies,” that select actions based on the “information” available at a given moment. A strategy is a
“plan of action,” such as “[i]f the other does A, then I will do X but, if the other does B, then I will do Y” (Dixit & Skeath, 2004, p. 27). The conjunction or combination of all players’ strategies is explained by the concept of “equilibrium” (Rasmusen, 2007, p. 12), in which “each player’s strategy is his best response to the strategies of all the other players” (Dixit & Skeath, 2004, pp. 27–33). An “outcome” (a specific policy, an election result, etc.) is an outgrowth of the equilibrium among players (Rasmusen, 2007, p. 12).

Given that there are a wide variety of game tools, I highlight only those related to socio-political change. These include the “prisoner’s dilemma,” the “chicken” game, and the related strategies of cooperation, defection, brinkmanship, and avoidance.

The prisoner’s dilemma. Many game theorists use a basic game model called the “prisoner’s dilemma” to develop their theoretical frameworks for socio-political change (Cohen, 1994; Colomer, 2000, 1995); the dilemma is one of the most studied games in the “competition and cooperation” thesis (Axelrod, 1984, 1997; Rapoport & Chammah, 1965). Suppose that two burglars are captured near the scene of a burglary. The police separately interrogate them, making a mutual information exchange impossible. If neither betrays the other (i.e., if they cooperate), each will serve one year in jail for illegally carrying a weapon. If both betray the other (i.e., if they defect), each will go to jail for 10 years. However, if one betrays the other, and the other remains silent, the former will go free, and the latter jailed for 20 years. Table 2.1 illustrates the possible outcomes.

Table 2.1. The prisoner’s dilemma

<table>
<thead>
<tr>
<th>Burglar A cooperates</th>
<th>Burglar B cooperates</th>
<th>Burglar B defects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Both serve 1 year</strong></td>
<td></td>
<td>B goes free</td>
</tr>
<tr>
<td></td>
<td>A goes free</td>
<td>A serves 20 years</td>
</tr>
<tr>
<td><strong>B goes free</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B serves 20 years</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The payoff table shown above has two “equilibriums”. The best outcome (both serve 1 year) is in bold italics; however, empirical studies suggest that the most common outcome is the less efficient one (both serve 10 years), shown in underlined bold italics. This is the famous Nash Equilibrium, which asserts that “no player could do better by choosing a different strategy given the ones the other chooses” (Baird, Gertner, & Picker, 1994, p. 21). Although the optimum outcome can only be realized by cooperative action, to avoid the worst scenario (unilaterally defection) both would choose their second-best strategies – to defect from the other. From this point of view, although their actions cannot result in maximum payoffs, they are nonetheless “rational”. Ordinal numbers can represent player’s preference or payoff. Games sharing the same payoff table in ordinal numbers can be seen as the same game.
Table 2.2. Preference orders in a prisoner’s dilemma

<table>
<thead>
<tr>
<th>Burglar A’s preferences</th>
<th>Ordinal Value</th>
<th>Burglar B’s preferences</th>
<th>Ordinal Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>betray</td>
<td>silent</td>
<td>4</td>
<td>silent</td>
</tr>
<tr>
<td>silent</td>
<td>silent</td>
<td>3</td>
<td>silent</td>
</tr>
<tr>
<td>betray</td>
<td>betray</td>
<td>2</td>
<td>betray</td>
</tr>
<tr>
<td>silent</td>
<td>betray</td>
<td>1</td>
<td>betray</td>
</tr>
</tbody>
</table>

Table 2.3. The prisoner’s dilemma in payoff table

<table>
<thead>
<tr>
<th>Burglar A cooperates</th>
<th>Burglar B defects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burglar A cooperates</td>
<td>3 3</td>
</tr>
<tr>
<td>Burglar A defects</td>
<td>4 1</td>
</tr>
</tbody>
</table>

Game theory reveals that the mechanism of interactive decision making is more than an aggregation of individual preferences (Turner, 2004; Hargreaves Heap et al., 1992). Meanwhile, theorists also look for “solutions” to the prisoner’s dilemma that achieve an efficient outcome, known as the “Pareto optimal,” meaning “there should not be any other outcome in which both players simultaneously do better” (Davis, 1970, p. 105). The basic solution is “repetition of games,” through which players can learn from their experiences and mistakes and adjust their behaviors, thus overcoming the problem of a lack of mutual communication (Dixit & Skeath, 2004). A repeated game of prisoner’s dilemma is likely to lead to a cooperative outcome, known as the Folk Theorem (McCain, 2004).

One could play strategically with punishment and reward, using a tit-for-tat strategy of strictly mirroring their counterpart’s actions – defect for defect, or cooperate for cooperate – forcing a return to equilibrium. Some solutions depend on the specific setting. For instance, players’ power may not be equal in a real scenario, and the more powerful player may take the role leader, making the “first move” for cooperation (Dixit & Skeath, 2004).

One could alter players’ payoffs to compose different types of game, such as the “chicken” game. Suppose that two players drive cars straight toward each other from opposite directions. If neither turns off the straight line, they will have a disastrous accident. If one turns off, he will be seen as a coward (or “chicken”) and lose the game; the other will be the winner.

The chicken game exemplifies the strategy of “brinkmanship,” a common feature of the Cold War. Through the threat “mutually assured destruction” (1, 1), the actual use of nuclear weapon was avoided (Dixit & Skeath, 2004; McCain, 2004). From this point of view, the chicken game can be seen as an evolution of or solution for the
inefficient outcome found in the prisoner’s dilemma, intensifying the punishment to each other and altering each other’s payoffs.

Numerous game theoretic works on political change start with the prisoner’s dilemma model. Cohen’s work (1994) on the failure of democracy in Brazil and Chile proposed that moderate players within both the government and opposition preferred reform; however, a lack of information exchange barred necessary reforms, leading to a breakdown of the system and a return to authoritarianism (2, 2). Colomer’s account (1995) of Spanish democratic transition argued that both the prime minister and the Communist leader learned from their counterpart’s past moves, having built their reputations and exchanged information, fostering an efficient and smooth democratic transition (3, 3) through an agreement that ended the authoritarianism that had prevailed under Franco.

Game theory is criticized for its reliance on human rationality. First, game theory proposes simple and abstract models of decision making, but not of the actual decision-making process. Logical and rational reasoning “cannot ensure that the result itself represents reality” (Kelly, 2003, p. 3). Second, uncertainty exists, for both researchers and actual players, about which specific type of game, e.g., the prisoner’s dilemma or chicken, should be identified in a specific case (Shi, 2002). In particular, in a setting with multiple players, “it is not clear whether different agents should interpret observable behavior in the same way” (Zagare & Slantchev, 2010, p. 27). Third, multiple equilibriums are possible in a game, making its predictability uncertain (Kelly, 2003; Zagare & Slantchev, 2010). Fourth, some have argued, on methodological grounds, that a human is not always as consistently rational as game theorists suppose, and may lack sufficient cognitive capacity to choose rational strategies on the basis that they maximize payoffs (McCain, 2004, p. 371). In addition to logical reasoning, players’ choice of actions are also affected by “social, cultural, political, or even ideological considerations and preferences” (Law & Pan, 2009, p. 237).

Despite these limitations, game theory provides useful tools for examining “cooperation and competition” among players and rivals. Empirical research is an important method for refining game analysis tools, as well as for abstract modeling of logical reasoning (Lin, 2005, p. 76). This is why game theory tools about elections, such as the “spatial theory” and the “median voter’s theorem,” which have been repeatedly tested in America’s democracy, have been widely applied in both Western and non-Western contexts (Lin, 2005, p. 88).

<table>
<thead>
<tr>
<th>Driver B avoid</th>
<th>Driver A avoid</th>
<th>Driver A aggress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver B avoid</td>
<td>3 3</td>
<td>2 4</td>
</tr>
<tr>
<td>Driver B aggress</td>
<td>4 2</td>
<td>1 1</td>
</tr>
</tbody>
</table>
While popular in political science and economics, game theory is “under-researched” in educational studies, especially those on educational policy (Law & Pan, 2009, p. 228). The scattered Chinese-language examples published in Taiwan are mainly short commentaries, such as newspaper articles (Qiu, 2003), or are part of a larger discussion over research methods (Chen, 2004a; Zhang, 1997a). A number of short essays from mainland China use game theory and the prisoner’s dilemma to explain such shortfalls as cheating on examinations (Li, 2002b) and credentialism (Liang, 2005; Zhu & Zhu, 2002); none of these address actual education reforms or policymaking.

In English-language literature, Turner (1987, 1990) has pioneered the use of game theory and tools, such as payoff tables, in educational studies, specifically the formulation of students’ preferences regarding whether to quit school or to complete their sixth form education. His latest theoretic inquiry advocated more extensive use of game theory tools in education; the median voter theorem, for example, he found useful for explaining the interactive nature of group decision-making in “staff meetings, governing bodies, academic boards, classroom settings” (Turner, 2004, p. 143).

Several game theoretic works assessing educational policy have been written by legal scholars, identifying two different focuses. Fennell (2001) focused on the role of “users’ participation” – the populace’s preferences and choice of actions – in shaping an education voucher scheme. Dyson (2004), focusing on interactions between decision makers, applied the prisoner’s dilemma, and saw America’s No Child Left Behind Act as having been “strategically shaped by tactical avoidance and tacit cooperation between the state and private-market actors” (Dyson, 2004, p. 577).

Among recent works by education scholars, Lumby and Morrison (2006) used game theory to explain why the UK government failed, as a decision maker, to promote “partnerships” to overcome the “more competitive and isolationist culture” of educational stakeholders, with particular focus on the preferences and interests of groups and schools. Law and Pan (2009) used game theory to examine strategic negotiation, cooperation, and competition among players – various governmental organs and national leaders – to explore the legislating of private education in China.

The above literature sampling indicates there is room for further investigation of socio-political change using game theory. Taiwan’s education reform has been closely tied to electoral politics, and game theory can help to explain the interactions between decision makers and the role of popular participation in shaping players’ choice of strategies. An incorporation of the two dimensions could provide a comprehensive and dynamic picture of education policymaking, as the theoretical framework proposed in the next section will suggest.

INTERPRETING EDUCATION REFORM IN TRANSITIONAL SOCIETIES: AN INTERACTIVE APPROACH

Existing theories on education reform focus mainly on the study of institutional factors and policy outcomes. Theories of functionalism could help explain the social consensus on education reached among players in Taiwan in the 1990s,
which sustained a “win-win” outcome. Conflict theory helps to explain the conflicts between players over socio-political cleavages, such as national identity, that led to a “win-lose” outcome. Globalization theory shows the interaction between global and local forces, and links education to the pursuit of economic competence in the world market. The theory of democratization addresses the plurality and diversity of the political system and the decentralization of power from the party-state. Finally, game theory provides an in-depth understanding of cooperation and competition between decision makers.

Nonetheless, the above-mentioned theories of social changes and education reforms are not specific enough to explain five facets of Taiwan’s education reform: (a) the dramatic change in players’ partisan relations, from cooperation to noncooperation, following the 2000 presidential election; (b) the co-existence and parallel development of Taiwanization and democratization in education reform, which interacted closely with electoral politics; (c) the tremendous impact of individuals like Li Yuanzhe, who dominated groups, parties and government institutions; (d) how players’ preferences came into being, and changed over time; and, (e) the role of voters in shaping player’s strategic actions in both education reform and electoral politics.

This book concerns how and why players Taiwan’s education reform game reached a wide consensus in the 1990s, and how and why that consensus collapsed during a period of rapid social change. It also explores the impacts of prominent individuals on the decision-making process and the policy outcome. These issues can be summarized as the research problem of this study: how and why could a consensus on education reform be reached between rivals during a period of rapid democratization, and why did it turn so dramatically into antagonism?

To answer these questions, this book adopts a theoretical framework that assumes the interaction between players in the political process to be the dominant force shaping education reform policy outcomes. In Taiwan’s education reform process, players’ plans of action interact with multiple factors. First, players formulate and adjust their specific preferences and strategies in response to other players’ moves and changing voter preferences. Second, player’s choice of action is constrained by the need to maximize popular support by pursuing the two salient issues in Taiwan’s politics – democratization and Taiwanization.

This framework differs from the structuralist approach, in that it sees Taiwan’s education reform as the outcome of player’s strategic actions. It explores the ties between players and political competitions as they pursue maximum electoral payoffs in specific salient political issues. Player’s actions are contingent on other players’ move, electoral rules, and voter preferences, and the interplay thereof. In describing the development of Taiwan’s education reform, three stages are highlighted: The cooperative equilibrium of players’ interactions in the 1990s, the non-cooperative equilibrium that has existed since 2000, and the mixed equilibrium between 2008 and 2016, with the change of ruling party as the turning points.
The flourishing of electoral politics in Taiwan has highlighted the importance of the local context; players inevitably must take stands on salient socio-political cleavages and become somehow involved in electoral politics. To gain electoral payoffs, players’ strategic reactions to other players’ moves must be contingent on changing voter preferences. Two salient socio-political cleavages conditioned players in Taiwan’s education reform: educational deregulation/regulation (which is related to democratization, and demands diversity and plurality) and ethnic/national identity (which gives rise to Taiwanization in education, and emphasizes collectivity).

This book also examines the reciprocal relationships between players’ strategic actions and three factors. The first is players’ strategic action in response to other players’ moves; it is necessary to differentiate one’s policy positions to compete with other players, but players must cooperate and collaborate on specific issues to have their preferred policies implemented. The second is voter preferences, which constrain player’s possible plans of actions, but which players may attempt to alter or mold. The third is the impact of salient political issues on educational issues; players must seek optimal positioning in relation to major social cleavages, but can also create new salient issues by campaigning. In brief, the intertwining of the state, political parties, social groups, and prominent individuals has affected the development and outcome of education policy-making in Taiwan. Players’ actions are contingent on other players’ moves, and on changes in voter preferences. An interactive theoretical framework offers a comprehensive explanation for players’ strategic behaviors that is specific to the institutional and political contexts of transitional societies like Taiwan.

NOTES

2 The concept of “patterned pluralism” has been suggested as a means of interpreting Japan’s democracy and education system (Aspinall, 2001; Muramatsu, 1993). The one-party dominance of the Liberal Democratic Party (LDP) in Japan had been compared to the dominant status once enjoyed by the KMT (Tien, 1989). Yet it is claimed that the LDP, as a “catchall party”, was in touch with most groups, including those inclined to opposition parties. Channels for groups to “access and influence” the government are “widely distributed” (Muramatsu & Krauss, 1987, p. 534), but in a “patterned” manner oversaw by the “unified power elite—a triad of bureaucracy, business and the LDP” (Schoppa, 1991, p. 9).
3 Game theory models of elections will be mentioned in the historical account of Post-War Taiwan in Chapter Three. For a comprehensive account of game theoretic tools see Rasmusen (2007) and Dixit and Skeath (2004).