



**3<sup>rd</sup> International Conference  
on Public Policy (ICPP3)  
June 28-30, 2017 – Singapore**

**Panel T02 P17 Session2**

*Policy Tools in Social Policy*

**Which is more effective in education policy, regulation or grant?**

**: The Case of Education Policy in South Korea**

**Nanyoung Kim**

*Board of Audit and Inspection of Korea,*

*South Korea, codi2000@korea.kr*

---

**Friday June 30<sup>th</sup> 0815:00-10:15**

This article examines the effect of key policy tools on policy performance in creativity education policy in Korea using both secondary administrative data and survey data gathered from 167 middle school teachers. The findings suggest that the impact of a policy tool is different from the detailed type: for regulations while textbook amount effectual with creativity education regulation has statistically positive and significant relationship with performance, fewer subjects per a semester regulation is not; and for grant while Subject classroom facility grant is positively and significantly associated with performance, creativity education model school grant is not.

Key Words: policy tool, regulation, grant, policy performance

## **Introduction**

The success of a policy depends on choosing policy tools that work well in complex policy environments and designing them to work well to effective policy implementation (Salamon, 2002; Peters and Van Nispen, 1998; Eliadis et al., 2005). These explanations are common in all policy areas, but they are particularly relevant in education policy, welfare policy, and regulatory policy. There are, however, few studies on how policy tools work, how they affect performance, and which is more effective in diverse and complex policy environments. About 35 years ago, Lester Salamon (1981) pointed out the following two most important research questions to be answered by policy tool research. First, what causes various policy tools to choose a particular policy tool? Second, what is the outcome of the policy tool selection? Yet there is still no satisfactory answer to these questions (Chun, 2007).

This study aims to explore how policy tools work, how they affect performance, and which policy tool is more effective in diverse and complex policy environments by analyzing the case of Creativity Education (hereinafter referred to as CE) policy in South Korea. In advance I suggest a policy performance model including grant and regulation which are the policy tools most commonly used to accomplish goals in many fields. In this performance model, street level administration variables (e.g. school management effectual with CE, teacher expertise for CE) and environmental variables (e.g. college entrance examination, class size, parental support, school district) which, as many previous studies have shown, have significant effects on educational policy performance are included.

And then the impact of grants and regulation on policy performance in CE policy is analyzed using both secondary administrative data and survey data gathered from 167 middle school teachers. Also 20 employees with experience related to the implementation in CE

policy was interviewed to find out the relationship among variables and extract valid measurements for each variable.

CE policy has been one of the key education policies in many countries including South Korea since the 1990s. While South Korean education has been praised for both its role in economic development and its comparatively high international performance rankings (OECD, 2009; 2011a; 2013), there are growing worries that the education system hinders the development of the students' creativity. That is, Korean elementary and secondary school education system represented by one-sided lectures by teacher and student assessment by multiple choice questions may no longer be effective in the era of information technology and globalization. To solve the problems, with the inauguration of the Lee Myung-bak Government in 2008, CE Policy was introduced in order to foster globally creative humans throughout the elementary and secondary school levels.

## **Policy Tools and Performance**

Interest in policy tools or instruments has increased dramatically in recent years in each country (Salamon, 2002; Peters and Van Nispen, 1998; Eliadis et al., 2005). Policy instruments have always been used by the government since the creation of the government, but what has changed in recent years is the spread of awareness of the independent influence of policy instruments on policy success and failure. Policy makers in each country have a variety of options to solve a given policy problem (Chun, 2007).

The term policy tool has been suggested as new paradigm of policy and public administration which have characteristics of network, collaboration, negotiation and persuasion, and enablement skills (Salamon, 2005, 9). While there has been diversification and change to the extent that the research on policy tools has been characterized as a “big

bang” (Issalys, 2005: 157), both the identification and the type have been ambiguous and complex (Chun, 2007: 262).

A number of common features have been found in the conceptual definition of policy instruments or tools proposed by many researchers (Chun, 2007). Policy tools are, firstly, purposefully designed techniques or means, secondly, used by the government or similar public actors, and finally aimed at achieving policy goals or solving collective problems. Based on these common points, policy tools, in this research, refer to the means used by the government to address public problems.

While if we can systematically explain which policy tools are superior to other policy tools and why they are more successful at resolving specific policy issues than other policy tools, it will be greatly helped to policy success as well as decision-making of government, our causal knowledge about policy tools is not accumulated enough to actually help the choice of tools (Peters, 2005). Chun (2007) argues that one reason for this slow development is the lack of a policy tool classification that can systematically analyze the diversity of policy tools.

While policy tools are diverse and systematic policy tool classification lacks, grants and regulation are policy tools most commonly used to accomplish goals in many fields, particularly in education policy (Craft, 2003: 121). Helgøy and Homme (2006: 142) identify three distinctive categories of policy tools: regulations are rules and directives imposed by authorities to mandate behaviour in accordance with public policy; economic tools involve either the allocation or withdrawal of material resources, whether in cash or in kind; lastly, information can influence behavioural change through the transfer of knowledge, the communication of reasoned argument and persuasion (Vedung 1998, sections 31-33). Further, it makes use input regulations and accountability tools as two main categories of policy tools to present and compare the most important changes in the three countries.

Conceptually, regulation can assume many different meanings. While it can be understood narrowly as “authoritative rules” usually set by governmental institutions, it can also be understood as an umbrella term for “all mechanisms of social control, by whomsoever exercised” (Jordana and Levi-Faur, 2004:3). Yet the meaning of regulations as policy tool are rules and directives imposed by authorities to mandate behaviour in accordance with public policy as Helgøy and Homme, 2006: 143) argues. The type of national curriculum with respect to the degree of detail regulating and the amount of standardisation in organising teaching is one of crucial policy tools.

Grant, the other policy tool, is a payment from a donor government to a recipient organization or an individual with the aim of either “stimulating” or “supporting” some sort of service or activity by the recipient (Bean and Conlan, 2002: 341). Through this device, a governmental agency (the grantor) participates in the provision of a service, while leaving to another entity (the grantee) the task of actual performance. Numerous government-funded education projects and development programs are formulated and implemented by related central ministries and agencies. Funding and resources is necessary to motivate and empower individuals to take actions. Allocation and withdrawal of resources are governed by the principles of reward and punishment in order to secure a certain level of quality in education (Helgøy and Homme, 2006: 143).

Many researches have showed some factors except policy tools have impact on the performance of education policy. In advance policy performance depends on the competence and reliability at the street level of government (Lynn, Heinrich, and Hill, 2000: 235). Kenneth and O’Toole have provided consistent findings that change at the service-delivery level is heavily dependent on implementing agency’s street level administration (Ewalt and Jennings, 2004). For example, in a study of the educational performance of Latino students in Texas schools, Meier, O’Toole, and Nicholson-Crotty (2004, 31) found that managerial

influence “cade[s] through the governance system” and has both direct and indirect effects on student performance.

Also a particular governance arrangement is embedded in a wider social, fiscal, and political context (Lynn, Heinrich, and Hill, 2000). Implementation conditions are socioeconomic and political features that are inherent to the context of policy implementation to affect performance.

## **Creativity Education Policy in Korea**

From the last decade of the 20th century onward, there have been an increasing number of global reforms of education. Through these reforms, creativity has been touted as the most important quality for the 21st century and has become a growing interest area within education circles as well as wider society(Barron, 1988: 77; Craft, 2003; Henry and Walker, 1991; Ripple. 1989, 199). While creativity is a heterogeneous word in educational parlance<sup>1</sup>, creativity education policy has been introduced in many countries in response to the global economic environment (Woods et al., 1997).

For example, in the U.K., the emphasis and value placed on encouraging creativity has grown as policy makers have introduced a number of reforms to encourage creativity in education (Nicholl and McLellan, 2008). Creativity has become a central component of national educational curriculum and there are many initiatives aimed at fostering individual and collective creativity (Craft, 2003:115; NACCCE,1999; Nicholl and McLellan, 2008; Stronach, 2010). Numerous government-funded projects related to education have been initiated by the Department for Culture, Media and Sport, the Department for Education and Skills, as well as other bodies such as the Qualifications and Curriculum Authority.

---

<sup>1</sup> Politicians and economists would use the term instrumentally by binding it to the future needs of the workforce, while romantic individualists would return us to a naive bygone age of authentic self-expression(Gibson , 2005: 148).

In Korea, creativity education policy was introduced 2010. Though Korean education has been praised for both its role in economic development(Guo,2005,75) and its comparatively high international performance rankings(OECD, 2009; 2011a; 2013; Song, 2013), there have been growing worries in Korean society that the education system hinders the development of the students' creativity. That is, Korean high school education system represented by one-sided lectures by teacher and student assessment by multiple choice questions (MOE, 2010; BAI, 2013), may no longer be effective in the era of information technology and globalization.

To solve the problems, with the inauguration of the Lee Myung-bak Government in 2008, the Minister of Education, Science and Technology (MEST)<sup>2</sup> introduced "Creativity Education Policy (CEP)" in order to foster globally creative humans throughout the elementary and secondary school levels. The documented aims of CEP are to stimulate the creativity of students by introducing teaching and learning methods such as discussion, experimentation, practice, and presentations. Another goal is to lessen the dominance of rote memorization and multiple choice tests by introducing more comprehensive student assessment including problem solving capability of student (MOE 2010). Teachers are encouraged to use different educational methods for developing student creativity, and to foster the ability to solve problems creatively (BAI, 2013; MOE, 2010; 2011).

As such, the implementation goal of CEP in Korea is to transform the curriculum from uniform to specialized, to move from lecture-based instruction to higher engagement activities, to introduce comprehensive evaluation instruments which measure creative problem solving capability and to shift the education system's focus from entering a top-ranking collage to promoting creative-thinking. Based on these goals, the performance

---

<sup>2</sup> In 2008, the function of science and technology was integrated into the MOE (Ministry of Education) to be the MEST. Yet in 2013, the function of science and technology was separated, thus the MOE was established again. In this paper, I will use the term 'MOE' to represent a Korean central government body in charge of education.



variables in this research are: (a) use of CE teaching methods in class; (b) comprehensive assessment of student; (c) increasing student's creativity

The government-funded development project includes the CE Model School grant and subject classroom facility grant. The former is to support the cost of improving school management effectual with CE. The total budget is 171.8 million dollars with the number of schools at 2,627 in 2012. About 65,000 dollars on average to each school and the time period is three years. The latter is intended to support the remodeling classroom by subject. The total budget is 200 million dollars and the number of schools was 1,400 in 2012. 300,000 to 700,000 dollars was given to each school in proportion to the number of classrooms remodeled.

The other policy tool is to change the educational curriculum distinctive for CE including textbook amount adjustment, fewer subjects per a semester, and so on. First, the amount and content of textbooks should be adjusted for CE which requires education method different from previous knowledge-centered education. In Korea, the amount of textbook-based learning is excessive and teachers have difficulties in using CE teaching methods in class (MOE, 2010). Fewer subjects per a semester system is to lessen the student's burden thus to deepen the study of each individual subject. Each school, by law, could voluntarily organize which subjects are learned under the condition that the total class time is met.

Attempts to restructure and deregulate state schooling in various parts of the world have increased. Efforts to dismantle centralised educational bureaucracies and to create devolved systems of education are the essence of these initiatives, involving greater levels of institutional autonomy and school-based management and administration (Whitty et al. 1998).

These school curriculums are kind of regulations in Korea because all schools have to follow the national and basic curriculum (Korea's Elementary and Secondary Education Act Article 23)<sup>3</sup>.

## **Hypothesis**

I identify performance as a function of three sets of variables: policy tools including textbook amount effectual with CE regulation, fewer subjects per a semester regulation, subject classroom facility grant, and CE model school grants; street level administration including teacher expertise for CE and school management effectual with CE; and implementation conditions including class size, school district trait, college entrance examination traits, and parental support for CE.

### ***Policy Tools***

Government-funded projects vary in terms of their time span, budget size, applied subjects, and so on each of which performs differently (Crafts, 2003). While some research have found that the scales of improvement are modest at best and the influences are muted (Brehm and Gates, 1997; Knapp 1987; Riccucci, 2005), a federal block grant could be a useful tool as it expands the use of educational technology, bolsters curriculum and staff development, provides seed funding for local improvement initiatives among a large numbers of districts, and so on. The following grants policy tool hypotheses guide this empirical investigation.

---

<sup>3</sup> Article 23 (Curricula, etc.) (1) Schools shall operate curricula. (2) The Minister of Education shall determine basic matters on standards and details of the curricula referred to in paragraph (1), and the Superintendent of an Office of Education may determine the standards and details thereof according to actual circumstances of a region within the scope of the curricula determined by the Minister of Education. (3) Subjects taught at schools shall be prescribed by Presidential Decree.

*Hypothesis 1.1: A teacher who works in a school with CE Model School grant has higher performance than a teacher who does not.*

*Hypothesis 1.2: A teacher who works in a school with subject classroom facility grant has higher performance a teacher who does not.*

Curriculum regulation in education policy has been one of the key policy tools in education reform to foster creativity (Craft, 2003: 115). It is known that a fixed and compulsory curriculum which involves a great deal of propositional knowledge may pose more challenges to stimulating creativity (MOE, 2009). Too much textbook amount and many subjects prohibit teachers from using CE teaching and learning methods such as discussion, experimentation, practice, and presentations. Less textbook amount and fewer subjects per a semester regulation could give more time to students to think deep. It is expected to be strongly positively associated with more use of CE teaching methods in class, more comprehensive assessment of student, and increasing student's creativity (Weller and McLeskey, 2000; Lewis et al., 2005).

Some research have found that fewer subjects per a semester regulation produces better outcomes such as student grades improvement, increasing number of students on the honour roll , and so on than traditional scheduling (Edwards 1995; Eineder and Bishop, 1997; Lewis et al., 2005; Queen, Algozzine, and Eddy,1997; Thomas and O'Connell, 1997). The following regulation policy tool hypotheses guide this empirical investigation.

*Hypothesis 1.3: The higher the extent that a teacher think the amount of textbook is appropriate for CE is the higher performance is.*

*Hypothesis 1.4: A teacher under a school which has fewer subjects per a semester system has higher performance than a teacher under a school which has not.*

### ***Street Level Administration***

In this research, street level administration refers to the extent to which the client has been placed in specific work activities, such as a school's management and a teacher's expertise. Performance is expected to be a function of how successfully managerial effectiveness follows through on policy goals. As Goggin et al. (1990, 130) put it, "No matter how clear the policy message is, no matter how high the level of capacity of a given state is, and despite an appropriate formal organizational structure, skilful and committed program management seems important for implementation success." Findings of recent scholarship on public management reinforce the basic point that "management matters" (Boyne, 2003; Brewer, 2005; Kim, 2008; Kim and Cho, 2015; Moynihan and Pandey, 2005; Nicholson-Crotty and O'Toole, 2004; Im and Lee, 2012). Previous research findings about managerial influence on policy performance lead to

*Hypothesis 2.1: The more effectual School management is with CE, the higher performance is.*

Implementation research has given attention to implementers. More than three decades have passed since Lipsky's (1980) seminal research on street level bureaucracy, and recent conceptual and empirical research continues to explore critically important questions of this unique type of public servant (Brodkin, 2011; Maynard-Moody and Musheno, 2012; Oberfield, 2010; Resh and Pitts, 2013). Given the key role of frontline workers in policy implementation, continued research is necessary to understand better how policies are actually executed (Bovens and Zouridis, 2002; Hill, 1974; Lipsky, 1980; Maynard-Moody and Musheno, 2012; Riccucci, 2005).

Teacher, a kind of street level bureaucrat, is expected to be the most strongly associated with performance (OECD, 2011b). Whitehurst, Chingos, and Gallaher(2013)

which analyzed 10 years of data involving all public school in Florida and North Carolina shows that while the effect of school management is about as twice as that of districts, the effect of teachers is about seven times larger than that of districts. Also many research findings show that for street level bureaucrat, including teacher, expertise is strongly associated with policy performance (Toh et al., 1996). In other words, the actual provision of services and the imposition of mandates on clients begin with expertise of the implementers (Ewalt and Jennings, 2004).

Which characteristics of teachers matter? Toh et al. (1996) argues that teacher expertise is an important determinant in the pursuit of educational excellence. Meyers and Vorsanger (2003) argues that the expertise of a street level bureaucrat is considered to determine the action in implementing policy. This basic observation has been born out in studies of street level bureaucrat' role in implementing policy programs (Meyers, Glaser, and MacDonald, 1998) as well as in a ethnographic study by Maynard-Moody and Musheno (2012) of how “cops, teachers, and counsellors” view their roles. The following hypothesis is thus proposed.

Hypothesis 2.2: The higher expertise for CE of a teacher is, the higher performance is.

### ***Implementation Conditions***

First, class size often is put on as an easy representative statistic to monitor a measure of educational quality. Some teachers and parents presume that students will learn more in smaller classes because of increased opportunities to receive individualized instruction from teacher (Chingos, 2013: 413). Many researchers have demonstrated that smaller classes increase educational performance such as attending college, college choice, and degree completion (Dynarski, Hyman, and Schanzenbach, 2013). The following hypothesis guides our empirical investigation.

Hypothesis 3.1: The smaller class size is, the higher performance is.

Yet, a large body of research on the relationship between class size and student learning show that the number of high-quality studies is disappointingly small and does not offer guidance as to the optimal class size overall, much less for specific grades, subjects, or populations (Chingos, 2013: 412).

Second, the extent of relevance of a subject with the college entrance examination is one of the strongest factors that determine the recognition, behaviour, and performance of all actors in Korea. The college entrance examination provides a vivid example of what Koreans sometimes call their “education fever” (Seth, 2002). The Korean educational system has become a "testocracy," with the influence of the high school and college entrance exams rippling throughout the system (Sorensen, 1994). Therefore, if a subject has great importance in the college entrance examination, the more teachers, parents, and students concentrate on training for entrance examination mostly associated with multiple choice questions rather than CE methods in class. The following hypothesis is proposed.

*Hypothesis 3.2: The lower the score rate of a subject is in the college entrance examination, the higher performance is.*

School districts occupy central role in education reform in many OECD countries (Whitehurst, Chingos, and Gallaher, 2013). They manage nearly all public funding and are frequently the locus of federal and state reform initiatives. Whitehurst, Chingos, and Gallaher (2013) found there are differences among the academic achievement of demographically similar students in higher and lower performing districts.

Whether the superintendent of an Office of Education is under ruling party or not could have impact on policy performance because CE policy was led by the Ministry of Education as a presidential promise project. The following hypothesis is proposed.

*Hypothesis 3.3: A teacher under an Office of Education where the superintendent is under ruling party has higher performance than a teacher under an Office of Education where the superintendent is not.*

Yet, the impact of school district on performance could not be large in Korea. Central government has played a central role in education in Korea (Sorensen, 1994; Seth, 2002). By law (Korea's Local Education Autonomy Act) MOE has many authorities to control most works of school districts.

Client characteristics may mitigate or increase policy performance (Ewalt and Jennings, 2004: 451). In many policy arenas, support from key stakeholders is critical for effective policy implementation (Imperial, 2005). Key stakeholders have strong impact on street level bureaucrat's behavior and working (Kim and Cho, 2015). Parents are the clients of CEP and could be deeply associated with performance. Teachers are expected to consider parents in their implementation of CEP. Parents' characteristics may have four to eight times the impact on student achievement compared with teacher (Whitehurst, Chingos, and Gallaher, 2013). The following hypothesis is proposed. The conceptual framework for education policy's performance is as follows (Figure 1).

*Hypothesis 3.4: The higher parent support CE in school, the higher teachers' performance is.*

## **Research Design and Measurement**

### ***Data***

I conducted a cross-sectional regression analysis of teacher's implementation of CEP in 2012, the third year since its initiation. In addition to statistical analysis, I conducted a series of in-depth interviews with teachers, principals and policy-makers before statistical modelling. The

total number of interviewees was 20 and each was affiliated with different organizations related to the school management: 8 were teachers in high-schools, 4 were principals in high-schools, and 8 were policy-makers in the MOE. The knowledge attained via interviews was used for detecting possible omitted variables and also considered in the conceptualization and operationalization of variables. I also utilized the interviews in the interpretation of the results of statistical testing. Basic summary statistics for the variables is as follows (Table 1).

**Table 1. Summary statistics**

	N	Mean	S. D.	Min	Max
Use of CE teaching methods in class (%)	165	33.5152	20.00933	0.00	100.00
Comprehensive assessment of student performance (%)	152	44.2368	15.81547	.00	90.00
Increasing student's creativity	166	2.6446	.59304	1.00	4.00
Subject classroom facility grant (dummy)	167	.4910	.50142	.00	1.00
CE model school grant (dummy)	167	.2754	.44808	.00	1.00
Textbook amount effectual with CE regulation	167	2.6108	.64798	1.00	4.00
Fewer subjects per a semester regulation (dummy)	167	.8144	.38998	.00	1.00
School management effectual with CE	165	2.6667	.79121	1.00	4.00
Teacher expertise for CE	191	2.4759	.60002	1.00	4.00
Class size (student number)	159	33.1887	6.41514	4.00	40.00
Subject relevance to college entrance examination (allocated minutes number )	161	50.9938	34.64471	.00	100.00
Parental support for CE	167	2.4251	.78700	1.00	4.00
School district trait(whether the Superintendent of an Office of Education is under leading party dummy)	167	.4910	.50142	.00	1.00

I used a survey data, a combination of recognition data (7questions) and objective data (3 questions). The survey data is drawn from a nation-wide sample of teachers who are responsible for CEP. The survey was send to each teacher and the answers to the survey were collected by Korean Educational Development Institute (KEDI) which is a leading institution in Korea in the field of educational policy research and planning.<sup>4</sup> 167 teachers were selected randomly from high schools within a stratification grid defined by three variables: regional location, school district, and whether antecedent policy tools per school existed or not.

<sup>4</sup> The BAI audited CEP performance in 2012. The survey in this research was developed to find street level facts by the author and part of survey results were cited in BAI's audit report (BAI 2013).



The response rate was 100%, as all teachers to whom questionnaires were sent returned them. Teacher surveys are often used as evidence in the analysis and evaluation of education policy implementation and performance because teachers are themselves evaluators as well as a street level bureaucrat with the most knowledge about the implementation context (Favero and Meier, 2013).

In the survey, teachers reported performance such as use of CE teaching methods in class, comprehensive assessment of student performance, and increasing student's creativity. Also, teachers reported whether their schools get CE Model School grant or subject classroom facility grant or not, get fewer subjects per a semester regulation or not.

Teachers rated the extent of textbook amount, the extent of school management effectual with CE, the extent of their CE expertise, and the extent of parents' support for CE. Questions were answered on a 4-point Likert scale ranging from low to high.

### ***Concepts and Measures***

Meier and O'Toole(2013: 446) offers to avoid the use of administrators' self-perceptions of performance as a dependent variable. In this research, I use data-based measures as a dependent variable and they are more specific and less likely to generate spurious results.

While it is unclear what creativity exactly is (BAI, 2013; Craft, 2003; Gibson, 2005), the announced goals of CEP are clear. CEP in Korea focuses on reducing cramming-style education in favour of different teaching methods and comprehensive student assessments. Performance variables are based on use of CE teaching methods in class, comprehensive assessment of student performance, and increasing student's creativity. Three aspects of the instructional program can be influenced directly by CEP tools.

"Use of CE teaching methods in class" is the extent to which teaching methods for cultivating student creativity are used in the classroom. The scale ranges from 0 to 100.

“Comprehensive assessment of student performance” is measured as the rate of essay-type questions (long answers) scores and creative experiences activity scores of total score. The scale ranges from 0 to 100. Higher scores indicate that policy is implemented in line with CE goals. As such, the index indicates the extent to which teachers carry out the policies asked to be implemented. This choice of dependent variable is consistent with the broader shift in implementation research from studying outcomes to studying the behaviour of implementers (May and Winter, 2007; Winter, 1986). The remaining entries in Table 1 fit into the three categories of potential influences that prior researches suggest are important to consider. These are summarized including policy tools; street level administration; and implementation conditions variables.

CE model school dummy measures whether the school is given the CE Model School grantor not. The subject classroom facility grant dummy measures whether the school is given the subject classroom facility grant or not. The two grant tools are measured by dummy variables because the supported grant size is almost the same among schools. In the few cases that the amounts are different among schools, the amount is uniformly decided depending on the size of the school.

The textbook amount variable captures the extent of textbook amount is effectual with CE. The fewer subjects per a semester variable captures whether the system has been introduced to the relevant school.

School management effectual with CE is measured by the extent that school is managed appropriately to nurture pupil creativity. Teacher expertise measures a teacher’s self-assessment of their own expertise level in CE teaching methods. Class size measures the number of students in the respondent teacher’s class.

School district trait is measured by a dummy variable whether the Superintendent of an Office of Education is under leading party. Subject relevance to the college entrance

examination is measured by the amount of test time in minutes in the 2012 exam. The subjects are broken down as follows: Korean=80; Math=100; English=70; social studies=30; science=30; career exploration=30; music=0; PE=0; art=0; secondary language=40. Parental support for CE is measured as the extent parent support CE.

## **Findings**

The results of OLS are as follows (Table 2). I estimate the effect of the variables associated with policy tools, street level administration, and implementation conditions on performance. Higher scores on the dependent variable indicate greater performance aimed at cultivating student's creativity. Three all models provide statistically meaningful levels of fit ( $p$  values  $< .000$ ).

It is found that the impact of a policy tool is different from the detailed type. For regulations while textbook amount effectual with CE regulation has statistically positive and significant relationship with performance in all three models, fewer subjects per a semester regulation is not. The difference of impact of both policy tools seems to be because while textbook amount effectual with CE regulation directly contributes to making the locus for creative activities, subjects per a semester regulation does not. Textbook amount effectual with CE, one of the curriculum regulation policy tools, influences both use of CE teaching methods in class ( $b=.188$ ), comprehensive assessment of student performance ( $b=.210$ ), and increasing student's creativity ( $b=.201$ ). Curriculum is one of the determinants of performance in education policy. Improper curriculum can be a major barrier to fostering creativity (Crafts, 2003: 124). Particularly in Korea, there has been a lot of concern that an excessive amount of textbook-based learning is a constraining factor for teachers in fostering creativity (MOE, 2010).

A fewer subjects per a semester system dummy doesn't have a statistically significant relationship with performance. A number of considerations may explain these null results, including an incompatibility with existing curriculum, mismatch between teacher supply and demand, incompatibility with core subjects closely related to the college entrance examination, as well as inconsistency with children's cognitive development (Joongang Daily, April 16, 2012; Hankook Ilbo, October 4, 2014). Even more a fewer subjects may make it more difficult for teachers to assign long-term work and students feel increased learning burden within this system. Moreover, the system may be largely incompatible with other policy aims, as subjects relatively less relevant to the college entrance examination are studied at the lower grades. Eventually, teachers, students, and parents raised concerns about this system and the MOE decelerated its implementation two years after it was first introduced.

**Table 2. Explaining Creative Education Policy Performance**

	Model 1	Model 2	Model 3
Dependent Variables	Use of CE teaching methods in class	Comprehensive assessment of student performance	Increasing student's creativity
<b>Explanatory Variables</b>			
<b>Policy Tools</b>			
Subject classroom facility grant	.235** (2.878)	.276** (2.904)	-.092(-1.162)
CE Model school grant	-.021 (-.255)	-.063(-.655)	-.054(-.671)
Textbook amount effectual with CE regulation	.188** (2.439)	.210*(1.783)	.201** (2.701)
Fewer subjects per a semester regulation	.055 (.765)	-.080 (-.965)	-.068(-.975)
<b>Street level administration</b>			
School Management effectual with CE	.139(1.689)	-.045(-.468)	.043(.546)
Teacher expertise for CE	.082 (1 .098)	.108 (1.243)	.413*** (5.730)
<b>Implementation conditions</b>			
Class size	.013(.156)	.125(1.359)	.019(.251)
Subject relevance to college entrance examination	-.291***(-4.013)	-.201*(-2.399)	-.001(-.021)
Parental support for CE	-.124(1.422)	.020(.201)	.173*(2.049)
School district trait	-.090(-1.241)	.057(.689)	-.036(.511)
<b>Model Statistics</b>			
<i>F</i>	6.857	2.649	8.302
<i>p-Value</i>	.000	.000	.000
Number of cases	153	143	154
Adjusted R <sup>2</sup>	.278	.104	.323

Note: Figures in parenthesis are standard errors. \*p < .05; \*\*p < .01; \*\*\*p < .001

For grant while subject classroom facility grant is positively and significantly associated with performance in two models, CE model school isn't. It seems difficult to

differentiate the performance of model schools from those of other schools by the way of selecting some schools as the leading schools and supporting the activity costs. The reason of ineffectiveness of CE model school grants seems that this way is top-down and not continuous according to the interviews with teachers and principals. For the U.K., while policy makers have introduced a number of grant programs to encourage creativity in education, there were difficulties in implementation because of a relatively low level of development of the teaching methods, goal conflicts among programs and tensions in school management changes (Nicholl and McLellan, 2008: 588).<sup>5</sup>

In addition I found strong evidence that teacher expertise is related to increasing student's creativity. This result is consistent with the results of most research that teachers among school-related variables matter most (RAND, 2014).

While the school management effectual with CE variable has no influence on all three dependent variable of use of CE teaching methods and increasing students, it 't have influence on comprehensive performance assessment. These results are consistent with Whitehurst, Chingos, and Gallaher's (2013) study, which used 10 years of data collected from all public schools in Florida and North Carolina.

Hypothesis 3 concerns the influence of implementation conditions variables such as class size, subject relevance to the college entrance examination, and school district on performance. Class size is not statistically significant in this research. This result is consistent with Hanushek (2003)'s findings that 80 percent of 276 estimates of class-size effects from 59 studies is not statistically distinguishable from zero. Similarly, Hoxby (2000) found no relationship between class size and achievement among fourth and sixth graders. In Korea, class size reduction has been one of the key indices of school improvement until early 2004.

---

<sup>5</sup> The U.K. performativity policies based on New Public Management philosophy has been central to the government's agenda and include monitoring mechanisms such as Office for Standards in Education (OSE) inspections, performance management, and school league tables, all of which are used to measure the value of a school or individual teacher (Ball, 2003: 216; Nicholl and McLellan, 2008: 586).

By continuing investment in education, the pupil-class ratio has decreased from 59.9 in 1980 to 35.5 in 2010 in higher middle school (K10-12 in the U.S.). In this research, the mean class size measured by pupil-class ratio is 33.

The relevance to the college entrance examination of the subject has a negative influence on both use of CE teaching methods in class ( $b=-.291$ ) and comprehensive assessment of student performance ( $b=-.201$ ). This result implies that the more a subject is given much weight in the college entrance examination, the more difficult it is for teachers to apply comprehensive performance assessment. As I write above, relevance to the college entrance examination has a strong impact on the recognition, behaviour, and performance of all actors including teachers, students and parents in Korea.

It is found that school district measured by a dummy variable whether the Superintendent of an Office of Education is under leading party has no effect on the performance.

Lastly for parental support for CE while it isn't significantly related to use of CE teaching methods in class or comprehensive assessment of student performance, it is significantly and positively related to increasing student's creativity. While parents seem to be not mostly linked with school management, they seem to be mostly linked with impact performance.

## **Conclusions**

This research aims to explore how policy tools work, how they affect performance, and which policy tool is more effective in diverse and complex policy environments by analyzing the case of Creativity Education (hereinafter referred to as CE) policy in South Korea. The effect of policy tools on performance is examined using regression analysis with data from secondary administration data and survey of 167 middle school teachers in Korea. In addition to statistical analysis, 20 employees with experience related to the implementation in CEP

were interviewed to find out the relationship among variables and extract valid measurements for each variable.

The findings show that impact of policy tools varies according to type. For regulations while textbook amount effectual with CE regulation has statistically positive and significant relationship with performance, fewer subjects per a semester regulation is not. And for grant while subject classroom facility grant is positively and significantly associated with performance, creativity education model school grant is not.

The empirical findings of this study in advance highlights to the necessity of caution in the choice and the design of policy tools. While appropriate regulation such as textbook amount reduction is effective, fewer subjects per a semester regulation could be ineffective especially. **Many researchers and teachers have argued that the curriculum amount should be reduced to** introduce CE methods such as teaching and learning methods such as discussion, experimentation, practices in the classroom in Korea. The statistical results seem to be because while textbook amount effectual with CE contributes to reducing the amount of curriculum, a fewer subjects per a semester system doesn't.

Also the reason while subject classroom grant is effective, CE Model School grant could be ineffective seems to be because of the difference of operation methods between two grants: while subject classroom grant is decided on a need basis for all schools, CE Model School grant is paid to a selected school as a model school by a specific sum of money.

Second, street level bureaucrat variables in street level administration should be dealt with the most importantly for policy success. As Lipsky (1980) argued, intended goals of policy can result in failure or unintended results without considering street level administration.

Third, implementation conditions should be deeply considered in policy design and implementation. CEP could not succeed without reform of college entrance examination in Korea. Also how parents support for CE could be increase should be included in policy design.

The model in this research is still requires improvement for future administration and policy studies. Particularly, theoretical property of grants or regulations and the reason of their different impact on performance are required to be clearer. Why does a grant, one of the most often used policy tools for stimulating some sort of activity in many policy areas, have no impact on performance? Why does regulation, also one of the popular tools with grant, have different impact on performance different from the traits? Analyses of the U.K. education reform may give an idea. Craft (2003) pointed out that education reform implementation in the U.K., which has tightened the control of teachers as well as the management and financing of schools, has resulted in greater controls of teachers to the failure of policy.

Also a better measure of some variables including performance is needed. The measurement of several independent variables such as the extent of teacher's expertise used in this study is based on a teacher's response to the survey. While teachers are responsible for implementation as a street level bureaucrat and have intimate knowledge of policy context, there could be a gap between teacher's perception and other stakeholders' perception.

## REFERENCES

- Anderson, M. L. 2008. "Multiple Inference and Gender Differences in the Effects of Early Intervention: A Re-evaluation of the Abecedarian, Perry Preschool, and Early Training Projects." *Journal of the American Statistical Association* 103: 1481-1495.
- Angrist, J. D., and A. B. Krueger. 1991. "Does Compulsory School Attendance Affect Schooling and Earnings?" *Quarterly Journal of Economics* 106: 979-1014.
- Ball, S. J. 2003. "The Teacher's Soul and the Terrors of Performativity." *Journal of Education Policy* 18 (2): 215-228.
- Barron, F. 1988. "Putting Creativity to Work." In *The Nature of Creativity* edited by R. J. Sternberg. Cambridge: Cambridge University Press.
- Bean, D. R., and T. J. Conlan. 2002. *Grants in the Tools of Government*. New York: Oxford University Press.



- Berger, M. C., and E. F. Toma. 1994. "Variation in State Education Policies and Effects on Student Performance." *Journal of Policy Analysis and Management* 13 (3): 477-491.
- Boyne, G. A. 2003. "Sources of Public Service Improvement: A Critical Review and Research Agenda." *Journal of Public Administration Research and Theory* 13: 367-94.
- BAI (Board of Audit and Inspection of Korea). 2013. *감사결과보고서: 창의교육정책* [Audit Result Report: Creativity Education Policy]. Seoul: Board of Audit and Inspection of Korea.
- Bovens, M., and S. Zouridis. 2002. "From Street-Level to System-Level Bureaucracies: How Information and Communication Technology is Transforming Administrative Discretion and Constitutional Control." *Public Administration Review* 62 (2): 174-84.
- Brehm, J., and S. Gates. 1997. *Working, Shirking, and Sabotage: Bureaucratic Response to a Democratic Public*. Ann Arbor, MI: University of Michigan Press.
- Brewer, G. A. 2005. "In the Eye of the Storm: Frontline Supervisors and Federal Agency Performance." *Journal of Public Administration Research and Theory* 15: 505-27.
- Brodkin, E. Z. 2011. "Putting Street-Level Organizations First: New Directions for Social Policy and Management Research." *Journal of Public Administration Research and Theory* 21 (suppl 2): i199-i201.
- Chingos, M. M. 2013. "Class Size and Student Outcomes: Research and Policy Implications." *Journal of Policy Analysis and Management* 32 (2): 411-438.
- Chun, Y. 2007. 정책도구의 다양성: 도구유형분류의 쟁점과 평가 [Diversity of Policy Tools: Issues and Assessment of Tool Type Classification]. *정부학 연구* [Government Study] 3 (4): 259-295.
- Craft, A. 2003. The Limits to Creativity in Education: Dilemmas for the Educator, *British Journal of Educational Studies* 51 (2): 113-127.
- Dee, T. S. 2004. Are There Civic Returns to Education?, *Journal of Public Economics* 88: 1697-1720.
- Deming, D. 2009. Early Childhood Intervention and Life-cycle Skill Development: Evidence from Head Start. *American Economic Journal: Applied Economics*, 1: 111-134.
- Dynarski, S., J. M. Hyman and D. W. Schanzenbach. 2013. Experimental Evidence on the Effect of Childhood Investments on Postsecondary Attainment and Degree Completion, *Journal of Policy Analysis and Management* 32 (4): 692-717.
- Edwards, M. C. 1995. Virginia's 4 x 4 High Schools: High School, College, and More, *NASSP Bulletin* 79 (571): 23-41.
- Eineder, D. V. and H. L. Bishop. 1997. Block Scheduling the High School: The Effects on Achievement, Behavior, and Student-teacher Relationships, *NASSP Bulletin* 81 (589): 45-54.
- Elmore, R. 1987. Instruments and Strategy in Public Policy, *Policy Studies Review* 7, (1): 164-186.
- Ewalt, J. A. G., and E. T. Jennings. 2004. Administration, Governance, and Policy Tools in Welfare Policy Implementation, *Public Administration Review* 64 (4): 449-62.
- Favero, N., and Meier, K. J. 2013. Evaluating Urban Public Schools: Parents, Teachers, and State Assessments, *Public Administration Review*. 73 (3): 401-412.
- Frederickson, H. G. 2012. *The Public Administration Theory Primer*. Boulder, CO: Westview Press.
- Gibson, H. 2005. What Creativity Isn't: The Presumptions of Instrumental and Individual Justifications for Creativity in Education, *British Journal of Educational Studies* 53 (2): 148-167.
- Goggin, M. L. 1987. *Policy Design and the Politics of Implementation: The Case of Child Health Care in the United States*. Knoxville, TN: University of Tennessee Press.

- Goggin, M. L., A. O. M. Bowman, J. P. Lester, and L. J. O'Toole. 1990. *Implementation Theory and Practice. Toward a Third Generation*. Glenview, IL: Scott, Foresman/Little, Brown Higher Education.
- Guo, Y. 2005. *Asia's Educational Edge: Current Achievements in Japan, Korea, Taiwan, China, and India*. Lexington Books.
- Hall, R. 2002. *Organizations: Structures, Processes, and Outcomes*. Upper Saddle River, NJ: Prentice Hall.
- Hanushek, E. A. 2003. The Failure of Input-based Schooling Policies, *Economic Journal* 113: E64-E98.
- Helgøy, Ingrid and Homme, Anne. 2005. Policy Tools and Institutional Change : Comparing Education Policies in Norway, Sweden and England. *Journal of Public Policy*, Vol. 26, No. 2 (May - Aug., 2006): 141-165.
- Hill, D. M. 1974. *The Art of Muddling Through: Policy-Making and Implementation in the Field of Welfare*. Madison, WI: University of Wisconsin Press.
- Hass, J. E., R. H. Hall., and N. J. Johnson. "Toward an Empirically Derived Taxonomy of Organizations." In R.V. Bowers (ed.), *Studies of Behavior in Organizations*. Athens, GA: Univrsity of Georgia Press.
- Hood, C. 1986. *The Tools of Government*. Chatham, NJ: Chatham House.
- Hood, C. 2001. *Japanese Education Reform: Nakasone's Legacy*. Routledge:
- Howlett, M. 1991. "Policy Instruments, Policy Styles, and Policy Implementation," *Policy Studies Journal* 22(4): 631-651.
- Howlett, M. and M. Ramesh. 2003. *Studying Public Policy*. New York: Oxford University Press.
- Howlett, M. 2005. "What Is a Policy Instrument? Policy Tools, Policy Mixes, and Policy-Implementation Styles," In Eliadis, P, M. Hill and M. Howlett. (ed.). *Designing Government: From Instruments to Governance*. Montreal, Canada: McGill-Queen's University Press.
- Hoxby, C. M. 2000. The Effects of Class Size on Student Achievement: New Evidence from Population Variation, *Quarterly Journal of Economics* 115: 1239-1285.
- Im T, and S. Lee. 2012. Does Management Performance Impact Citizen Satisfaction?, *The American Review of Public Administration* 42 (4): 419-436.
- Imperial, M. 2005. Using Collaboration as a Governance Strategy: Lessons from Six Watershed Management Programs, *Administration & Society* 37: 281-320.
- Issalys, P. 2005. Choosing among Forms of Public Action: A Question of Legitimacy In *Designing Government: From Instruments to Governance*, edited by P. Eliadis, M. Hill, and M. Howlett. Montreal, Canada: McGill-Queen's University Press.
- Jordana, J., and D. Levi-Faur, eds. 2004. *The Politics of Regulation: Institutions and Regulatory Reforms for the Age of Governance*. Edward Elgar Publishing.
- Keiser, L. R., and J. Soss. 1998. With Good Cause: Bureaucratic Discretion and the Politics of Child Support Enforcement, *American Journal of Political Science* 1133-1156.
- Kim, K.H. 2013. *A Study on the Improvement of the Welfare Service Delivery System: Focusing on the Development of a Demand - Centered Delivery System Model*, Report on the Research Service of the National Assembly Budget Policy Service.
- Kim, J.H. and Lee, J.H. 2009. *Improvement of regulatory delivery system and follow-up supervision system*, Korea Institute for Public Administration.
- Kim, Y.B. et al. 2013. Analysis of School Education Actual Status and Level (IV): High School Research, Korea Educational Development Institute. (RR2013-24).
- Kim, N., and W. Cho. 2014. Agencification and Performance: The Impact of Autonomy and Result-Control on the Performance of Executive Agencies in Korea, *Public Performance and Management Review* 37 (4).

- Kim, N. 2016. Policy tools, street level administration, and performance: The case of creativity education policy in Korea. *한국사회와 행정연구*. 27(3): 199-224.
- Kim, J.H. 2014. Social Service Delivery System Considering the Public Crisis: Focusing on the Legitimacy Crisis, *Korean Society and Administration Research*, 24(4): 187-208.
- Knapp, M. S. 1987. Educational Improvement under the Education Block Grant, *Educational Evaluation and Policy Analysis* 9 (4): 283-299.
- Lewis, C. W., J. J. Dugan, M. A. Winokur, and B. R. Cobb. 2005. The Effects of Block Scheduling on High School Academic Achievement, *NASSP Bulletin* 89 (645): 72-87.
- Linder, S. and G. Peters. 1990. "The Design of Instruments for Public Policy," In Nagel, Stuart S., and William Dunn (ed.). *Policy Theory and Policy Evaluation*. Westport, Conn: Greenwood Press.
- Linder, S. and G. Peters. 1998. "The Study of Policy Instruments: Four Schools of Thought," In Peters, G. and F. van Nispen (ed.). *Public Policy Instrument: Evaluating the Tools of Public Administration*. Cheltenham, U.K.: Edward Elgar.
- Lipsky, M. 1980. *Street-Level Bureaucracy: Dilemmas of the Individual in Public Services*. New York: Russell Sage Foundation.
- Lleras-Muney, A. 2005. The Relationship between Education and Adult Mortality in the United States, *Review of Economic Studies* 72: 189-221.
- Ludwig, J., and D. L. Miller. 2007. Does Head Start Improve Children's Life Chances? Evidence from a Regression Discontinuity Design, *Quarterly Journal of Economics* 122: 159-208.
- Lynn, L. E., C. J. Heinrich, and C. J. Hill. 2000. Studying Governance and Public Management: Challenges and Prospects, *Journal of Public Administration Research and Theory* 10 (2): 233-262.
- May, P. J., and S. C. Winter. 2007. Politicians, Managers, and Street-Level Bureaucrats: Influences on Policy Implementation, *Journal of Public Administration Research and Theory* 19: 453-476.
- Maynard-Moody, S., and M. Musheno. 2012. Social Equities and Inequities in Practice: Street-Level Workers as Agents and Pragmatists, *Public Administration Review* 72 (s1): S16-S23.
- Meier, K. J., and L. J. O'Toole. 2013. Subjective Organizational Performance and Measurement Error: Common Source Bias and Spurious Relationships, *Journal of Public Administration Research and Theory* 23 (2): 429-456.
- Meier, K. J., L. J. O'Toole, and S. Nicholson-Crotty. 2004. Multilevel Governance and Organizational Performance: Investigating the Political-bureaucratic Labyrinth, *Journal of Policy Analysis and Management* 23: 31-47.
- Meyers, M. K., B. Glaser, and K. MacDonald. 1998. On the Front Lines of Welfare Delivery: Are Workers Implementing Policy Reforms, *Journal of Policy Analysis and Management* 17: 1-22.
- Meyers, M. K., and S. Vorsanger. 2003. Street-level Bureaucrats and the Implementation of Public Policy. In *Handbook of Public Administration*, edited by B. G. Peters and J. Pierre, 245-55. Thousand Oaks, CA: Sage.
- MOE (Korean Ministry of Education). 2009. *초중등 교원 인력수급 [Elementary and Secondary Teachers' Labor Supply and Demand]*. Seoul: MOE.
- MOE. 2010. *창의교육 기본계획 [Basic Plan for Creativity Education]*. Seoul: MOE.
- MOE. 2011. *2011 년 주요 업무계획 [Major Policies and Plans for 2011]*. Seoul: MOE

- Moynihan, D. P., and S. K. Pandey. 2005. "Testing How Management Matters in an Era of Government by Performance Management." *Journal of Public Administration Research and Theory* 15: 421–39.
- NACCCE (National Advisory Committee on Creative and Cultural education). 1999. *All Our Futures: Creativity, Culture and Education*. London: Department for Education and Employment.
- Nicholl, B and R. McLellan. 2008. We're All in This Game Whether We Like It or Not to Get a Number of As to Cs: Design and Technology Teachers' Struggles to Implement Creativity and Performativity Policies, *British Educational Research Journal* 34 (5): 585–600.
- Nicholson-Crotty, S, and L. J. O'Toole. 2004. Public Management and Organizational Performance: The Case of Law Enforcement Agencies, *Journal of Public Administration Research and Theory* 14: 1–18.
- Oberfield, Z. A. 2010. Rule Following and Discretion at Government's Frontlines: Continuity and Change During Organizational Socialization, *Journal of Public Administration Research and Theory* 20 (4): 735–55.
- OECD. 2009. *Education at a Glance 2009: OECD Indicators*.
- OECD. 2011a. *Education at a Glance 2011: OECD Indicators*.
- OECD. 2011b. *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*. <http://www.oecd.org/edu/school/48627229.pdf>.
- OECD. 2013. *Education at a Glance 2013: OECD Indicators*.
- OECD. 2014. Partners for Good Governance: Mapping the Role of Supreme Audit Institutions.
- OECD. 2016. Supreme Audit Institutions and Good Governance: Oversight, Insight and Foresight. OECD Public Governance Reviews.
- O'Toole, L. J. 2000. Research on Policy Implementation: Assessment and Prospects, *Journal of Public Administration Research and Theory* 10 (2): 263-288.
- Peters, G. 2005. "The Future of Instruments Research," In Eliadis, P, M. Hill and M. Howlett.(ed.). *Designing Government: From Instruments to Governance*. Montreal, Canada: McGill-Queen's University Press.
- Peters, G. and Frans van Nispen (ed.). 1998. *Public Policy Instrument: Evaluating the Tools of Public Administration*. Cheltenham, U.K.: Edward Elgar.
- Queen, J. A., B. Algozzine, and M. Eddy. 1997. Implementing 4X4 Block Scheduling: Pitfalls, Promises, and Provisos. *High School Journal* 81 (588): 107-114.
- RAND. 2014. Teachers Matter: Understanding Teachers' Impact on Student Achievement." RAND Education.
- Resh, W. G., and D. W. Pitts. 2013. No Solutions, Only Trade-Offs? Evidence about Goal Conflict in Street-Level Bureaucracies, *Public Administration Review* 73 (1): 132–42.
- Riccucci, N. M. 2005. *How Management Matters: Street-Level Bureaucrats and Welfare Reform*. Washington, DC: Georgetown University Press.
- Ripple, R.E. 1989. Ordinary creativity, *Contemporary Educational Psychology* 14: 189-202.
- Salamon, L. M. 2002. The New Governance and the Tools of Public Action: An Introduction, in *The Tools of Government*, edited by L. M. Salamon. Oxford University Press.
- Schneider, A. and H. Ingram. 1997. *Policy Design for Democracy*. Lawrence, Kansas: University Press of Kansas.
- Schweinhart, L. J., J. Montie, Z. Xiang, W. S. Barnett, C. R. Belfield, and M. Nores. 2005. *Lifetime Effects: The High/Scope Perry Preschool Study through Age 40*. Ypsilanti, MI: High/Scope Press.
- Seth, M. J. 2002. *Education Fever: Society, Politics, and the Pursuit of Schooling in South Korea*. University of Hawaii Press.

- Song, J. 2013. Education in South Korea: System Must Change to Satisfy Country's and Pupils' Needs, *Financial Times*, November 5. Sorensen, C. W. 1994. Success and Education in South Korea, *Comparative Education Review* 38 (1): 10-35.
- Stronach, Ian. 2010. *Globalizing Education, Educating the Local: How Method Made Us Mad*. New York: Routledge.
- Thomas, C., and R. W. O'Connell. 1997. *Parent Perceptions of Block Scheduling in a New York State Public High School*. New York: Educational Research Organization.
- Toh, K. A., C. H. Diong, H. K. Boo, and S. K. Chia. 1996. Determinants of Teacher Professionalism, *Journal of In-Service Education* 22 (2): 231-244.
- Vedung, E. (1998) 'Policy Instruments: Typologies and Theories'. In M.-L. Bemelans-Videc, R.C. Rist and E. Vedung, Carrots, Sticks & Sermons. Policy Instruments & Their Evaluation. New Brunswick (U.S.A.) and London (U.K.): Transaction Publishers.
- Woods, P., B. Jeffrey, G. Troman, and M. Boyle. 1997. *Restructuring Schools, Reconstructing Teachers: Responding to Change in the Primary School*. Open University Press.
- Weller, D. R., and J. McLeskey. 2000. Block Scheduling and Inclusion in a High School, *Remedial and Special Education* 21: 209-218.
- Whitehurst, G. J., M. M. Chingos, and M. R. Gallaher. 2013. *Do School Districts Matter?* Brown Center on Education Policy at the Brookings Institution.
- Winter, S. 1986. Studying Implementation of Top Down Policy from the Bottom Up: Implementation of Danish Youth Employment Policy, In *Cross-national Perspectives on Employment and Training*, edited by R. C. Rist, 109–38. London, UK: Falmer Press.
- Yi, H. and R. C. Feiock. 2014. Renewable Energy Politics: Policy Typologies, Policy Tools, and State Deployment of Renewables, *The Policy Studies Journal* 42 (3).
- Van Nispen, F. and A. Ringeling. 1998. "On Instruments and Instrumentality: a Critical Assessment," In Peters, G. and F. van Nispen (ed.). *Public Policy Instrument: Evaluating the Tools of Public Administration*. Cheltenham, U.K.: Edward Elgar.
- Vedung, Evert. 1998. "Policy Instruments: Typologies and Theories," In Bemelans-Videc, M., Ray C. Rist. and Evert Vedung (ed.). *Carrot, Stick and Sermons: Policy instruments and their evaluation*, New Brunswick NJ. USA.
- Vedung, Evert. and F. van der Doelen. 1998. "The Give-and-Take Packaging of Policy Instruments," In Bemelans-Videc, M., Ray C. Rist. and Evert Vedung (ed.). *Carrot, Stick and Sermons: Policy instruments and their evaluation*, New Brunswick NJ. USA.