

Lee, S., & Lee, K. (2019). Digital Pharmacists with the Panacea in the New Paradigm: Discursive Formation of a Good Teacher in Digital Era. In K. Graziano (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1902-1910). Las Vegas, NV.

## **Digital Pharmacists with the Panacea in the New paradigm: Discursive Formation of a Good Teacher in Digital Era**

Sejin Lee  
Educational Research, Lancaster University  
United Kingdom  
[s.lee25@lancaster.ac.uk](mailto:s.lee25@lancaster.ac.uk)

Kyungmee Lee  
Educational Research, Lancaster University  
United Kingdom  
[k.lee23@lancaster.ac.uk](mailto:k.lee23@lancaster.ac.uk)

**Abstract:** Teachers today face ever-increasing demands in teaching to ensure that their students are to be well equipped to be competent in the 21<sup>st</sup> century. Among many demands, teachers are expected to be fluent, versatile, and professional in using technology based on the taken-for-granted beliefs that technology has a good and innovative influence on education. However, while it is hard to hear that innovation has completed, it is easy to see teachers still find the effective integration of technology in their practices complicated. The purpose of the study is to investigate the formation of the gap between what has been commonly claimed regarding technology use and what has been seen by educators in the classrooms. By drawing Foucault's theory of discourse and power, this research will examine a set of claims produced in the process of promoting an educational policy "SMART education" in South Korea. The study ultimately aims to demystify taken-for-granted assumptions related to SMART education which invisibly urge teachers to accept and conform regardless of what teachers find in their classrooms.

### **1. Introduction**

Most people, in a modern society with advanced information and communication technology (ICT), seem to believe that technology has a strong, even though not the strongest, and generally 'good' influence on educational changes (Selwyn, 2011). Besides, scientific evidence drawn from educational research has often shown that adopting technology in education is likely to benefit learners in such a way that it enhances learner autonomy, higher thinking ability, and/or collaborative learning (e.g., Kirschner & Erkens, 2006; Lim & Chai, 2004; Sanprasert, 2010; Pivec, 2007; Young, 2003). Consequently, this belief, seemingly supported by scientific evidence and academic knowledge in a broad field of education, has further fuelled up the governmental efforts to boost enormous financial investments in building technological infrastructure in schools, which can be observed globally.

A small number of representative examples of technology-driven education reform projects can be listed here: 'Schooling for Tomorrow Project in OECD', 'School 2.0' in the United States, 'Building School for Future' in the United Kingdom, and 'Futureschools@Singapore' in Singapore. In the continuum of those governmental efforts (or we would argue, technological imperatives), in 2011, South Korean government announced a new education reform policy, 'SMART education'<sup>1</sup>. It aims to integrate advanced ICT in classroom teaching and learning practices, aiming to support young learners' 21<sup>st</sup> Century skills (e.g., learning and innovation skills, life and career skills, information media and technology skills) acquisition.

Despite these efforts, as Laurillard (2008) aptly points out, the imminent educational transformation through adopting technologies has rarely been realized and, even in those rare cases, it tends to take a rather long time (sometimes more than decades) to prove the educational effectiveness of those adopted technologies. Given the challenging nature of proving the effectiveness of technology-driven educational innovation, it may be evident that many governments (and educational reformers) have focused on searching for or creating the "best pedagogical

<sup>1</sup> SMART education is defined as an intelligent and tailored learning system bringing changes in educational environments, contents, methods and assessments for enhancing the 21st learner competences (Kim et al., 2013). In Korean context, the word 'SMART' stands for 'Self-directed', 'Adaptive', 'Resource-enriched', 'Technology-embedded'. It is also perceived as an individualized, autonomous, flexible educational system based on ICT.

Lee, S., & Lee, K. (2019). Digital Pharmacists with the Panacea in the New Paradigm: Discursive Formation of a Good Teacher in Digital Era. In K. Graziano (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1902-1910). Las Vegas, NV.

practices" adopted or mediated by ICT. Again, inevitably, most of the best practices can be found or developed in a very small number of pilot-schools at which the governmental, particularly generous, early investments arrive. Even within the pilot-schools, another small number of classrooms led by particular teachers who can be labelled a "technology enthusiast" or at least an "early adopter" tend to be selected as the best practices, which look obviously far away from everyday classroom practices conducted by normal teachers in normal school settings.

When the specific ideas of what technology would or should bring about in education, created and supported by the best practice examples, are promoted as pedagogical norms or educational standards, imposing a new set of responsibilities and actions upon ordinary teachers: we see issues and struggles, which are the focus of this paper. An end result is, somewhat depressingly, a stark contrast between the expected changes and the actual results of doing SMART education emerged in those ordinary classrooms. We, the two authors of this paper, are ourselves a teacher and a teacher educator who are familiar with the Korean SMART education initiative. And this depressing story about one of many technology-driven education reform initiatives is a starting point of our inquiry employing a Foucauldian Critical Discourse Analysis(CDA) approach.

Among diverse aspects of the depressing story, we have focused on a discursive formation of certain positive, and often normative, claims about the SMART education in South Korean context: that is, how and in which conditions, discourses about adopting the SMART education have earned their legitimacy and promoted as norms need to be accepted by all educators. This study problematizes the discursive process of the construction of "new" conceptualisation of learning, teaching and teachers. In this article, we will also describe the discursive power of the SMART education discourses upon different subjects in education including learners and teachers by highlighting the particular ways in which learners and teachers are discussed in the discourses and in which teachers' roles are specified. A detail of our methodological approach will be presented in the Section 4.

The study ultimately strives to elucidate the taken-for-granted assumptions related to the SMART education, which seem to prescribe certain pedagogical ideas and impose particular pedagogical behaviours upon teachers, which are often incompatible with specific educational realities that each teacher (or most teachers) are dealing with. The result would be significant in allowing educators to be able to see the substantial power effects of the discourses, which educators, themselves, also often accept without being aware of and critical about the possibly negative consequences created by the discourses upon their identities and practices. Through the problematization, teachers could avoid of being captured by the set of taken-for-granted claims and further, be able to create new version of truths that better serve their own realities. The research questions set to guide our inquiry process are:

- What are the taken-for-granted claims and their rhetorical strategies can be found in SMART education discourse?
- What are the similarities and differences can be found among the claims in the related texts?
- What is the discursive formation and its effects of SMART education discourse?

## 2. Literature Review

This section reviews the literature reporting 1) political status of teachers, 2) technology use in education, and 3) teacher professional development(TPD). Considering that SMART education we are interested in is one of the educational policies, it looks necessary to investigate how literature understand the relationship between educational policies and the status of teachers. Also, technology use is fundamental to SMART education. If technology is used in the field of education, it must have to do with learning, teaching, and teachers which is directly related to this research project. Lastly, if we consider that teachers are the one who use technology in the classroom, it is not difficult to assume that literature dealing with TPD might be key to understand the current research topic. These three folds will be discussed with general trend in literature with brief explanations of some research.

The political status of teachers is generally indefinable in the literature. Many academic commentators report arguable or somewhat contradicting examples of the political status of the teacher in relation to governmental educational reform(Ben-peretz & Flores, 2018; Jung, 2018; Priestley et al.,2012; Taylor, 1997). While Taylor(1997) argues teachers hold vulnerable and passive political position, Jung(2018) maintains that there are many political groups of teachers which exercise political power to resist governmental attempts in many educational reforms. In

Lee, S., & Lee, K. (2019). Digital Pharmacists with the Panacea in the New Paradigm: Discursive Formation of a Good Teacher in Digital Era. In K. Graziano (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1902-1910). Las Vegas, NV.

the meantime, Ben-peretz and Flores(2018) discuss the ironic nature of the teacher agency by admitting two conflicting power of educational policy and teacher agency make teaching profession considerably paradoxical.

Second, the literature regarding the effect of technology use confirms that there are differing views. On the one side, many claims that technology use in learning improves students' higher thinking ability or learner autonomy(see, e.g. Kirschner & Erkens, 2006; Lim & Chai, 2004; Sanprasert, 2010; Pivec, 2007; Young, 2003). However, on the other side, there is an assertion that those claims regarding the positive effects of technology use have been failed to prove that those effects last long and lacks concrete evidence (Selwyn 2011:85). Interestingly, teacher professionalism has been highlighted by the researchers who argue that technology can be innovative in learning and teaching (e.g. Blackwell, Lauricella & Wartella, 2014; Ertmer & Ottenbreit-Leftwich, 2010; Richard, 2005; Pareja Roblin et al., 2018; Roschelle et al., 2000). They comment that the physical presence of technology in classroom does not make learning innovative and agree that teachers thus need to be 'professional' in using technology.

Lastly, the identified approaches investigating TPD are three folds: 'normative' approach, 'ideology critical' approach, and 'Foucauldian' approach. They consider 'professionality' from different angles. Normative approach does not question 'why do teachers have to be professional in technology use' but studies 'how to effectively and efficiently develop teacher's professionalism'(see. e.g. Opfer and Pedder, 2011; Lawless and Pellegrino, 2007). It should be admitted that it provides scientific prescriptions which are effective in solving educational practices such as training programs or teaching practices. In contrast, this approach is not efficient in questioning what other reasons could exist in becoming professional teachers.

Ideology critical approach raises a question about 'professionality' whether it has the value as a truth. They argue that 'professionality' is such a vague concept and could be false term (see. e.g. Abbott, 1991; Esland, 1980; Ginsburg, 1987). They historically trace processes that a group of people becomes professionals. It is noteworthy that they take the other factors such as social contexts and history revolving around professionalism into consideration in exploring TPD. However, there is scant interest in finding 'power' which becomes a core that govern a whole process of production, reproduction, and sophistication of governing strategies as well as structure of the system.

Foucauldian approach focuses on hidden 'power' and interprets the professionalism as a domain where 'power' exerts its influence to regulate teachers and educational system with various techniques(see. e.g. Bourke, Lidstone & Ryan, 2015; Fenwick, 2003; Hall & Noyes, 2009; Jung, 2018; Kim, 2010; Rossi et al., 2007). TPD research in the Foucauldian approach literature has two trends in investigating unseen 'power' and its strategies. The main finding of one of the trends is that TPD programs end up being disciplinary systems in the process of implementing bigger education policies (Bourke, Lidstone and Ryan, 2015; Fenwick, 2003; Hall & Noyes, 2009; Rossi et al., 2007). The other researchers try to find a place or a possibility of teachers to resist or to exercise their agency in relation to regulative governmental power (Kim, 2010 ; Jung, 2018).

We can conclude that there are various and unsettled views in studying the political status of teacher, technology use in education, and teacher's professionalism. However, if we try to understand SMART education, teacher education and teachers at the same time, the body of knowledge that we have shown lack the contextual, theoretical, and methodological appropriateness. Specifically, Foucauldian approach can be potential in delivering a beneficial perspective by focusing on hidden power underneath effectiveness and vague social factors. In spite of this, there is dearth of knowledge studying the power enabling SMART education and teacher education function and to be governed that way. Therefore, we argue that more research should be conducted to broaden our understanding.

### 3. Theoretical Framework

'Power' has been discussed by many thinkers and defined in various ways such as Marx, Gramsci and Foucault. Among them, Foucault's understanding of power is clearly distinguishable from the previous view in the point that he views power as ubiquitous, embodied, and discursive rather than as concentrated, possessed, and coercive (Gaventa, 2003). This section will discuss Foucault's view of power and its characteristics. In the meantime, Foucault's theory of discourse will be introduced as a way of investigating power.

Lee, S., & Lee, K. (2019). Digital Pharmacists with the Panacea in the New Paradigm: Discursive Formation of a Good Teacher in Digital Era. In K. Graziano (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1902-1910). Las Vegas, NV.

The significance of Foucault's view of power is peculiar in the sentence: "Power is everywhere" (Foucault, 1990). Power comes from everywhere rather than owned by few elites, institutions or states. Foucault (1965) studies knowledge about "madness" and points out that there have been moments when the understanding had significantly changed. Those knowledge was not produced by certain elites, institutions or states. Rather, each knowledge about 'what is madness and how it should be treated' was constituted, circulated and committed in each social and historical context by the entire society.

As the Foucault's study suggests, the omnipresence of power indicates that 1) power is shifting and changing interactive network of social relations among and between individuals, groups, institutions and structure (Ball 2013:30), 2) power is not always repressive, prohibitive, negative (Gaventa, 2003). It is also productive and positive (Foucault, 1979). The abrupt changes of certain knowledge found in the history shows that knowledge is also a kind of production of power considering the shifts of the meaning in the society. Further, just as knowledge about "madness" has called different subjects 'mad', power actually 'produces' domains of objects and rituals of truth and it is not necessarily always repressive (Foucault, 1979).

Foucault defines 'discourse'<sup>2</sup> as 'a more selective group of statements about a particular subject that has regulative power upon people's thoughts and behaviours (Lee, forthcoming: 5). In other words, discourse is an instrument or vehicle of power (Ball, 2013; Gaventa, 2003). In this sense, investigation of discourse automatically means the investigation of 'power' and the investigation of 'a certain set of statements' in the society. It explains why this research focuses on the SMART education discourse specifically in relation to teacher education. This point will be further explained in the next chapter in aligned with research tasks to be taken.

It is noteworthy that discourse is also a domain where resistance can be spawned (Gaventa, 2003). It has been identified that power comes from everywhere and it is changing. If we see it from the different angle, it implies there is always a possibility or a space that discourse can give a birth to the resistance by building its own selective group of statements. Then, we can think that the society is made of multiple competing discourses. Although it seems that there are dominant discourses seemingly inevitable, there is always a possibility to resist to the dominant discourse and create new discourse which is the ultimate aim of this research project.

Lastly, since this research explores power in the SMART education discourse, modes of power needs to be discussed which Foucault identifies in democracies (Fendler, 2010). Sovereign power is the power based on authority. It can be easily recognized when someone break the rules since the authority will use power to punish or control. Disciplinary power is in action when we behave as we think it is right or desirable to the rules in society. If we believe we are constantly being watched by gaze from outside, that rules come into bodies and build self-discipline. Pastoral power is somewhat trickier. It would not make sense if you rebel against the power which only does good such as giving feeding, providing a shelter and so on. Lastly, bio-power is a mode of power that shapes how we think of ourselves relative to populational factors such as births, deaths, healths, and sickness (Fendler 2010:47). These modes of power are the facades of power that Foucault wants to highlight that power can take many forms and show power is not necessarily coercive and recognizable (Fendler, 2010).

#### 4. Methodological Framework

We have identified that discourse is the apparatus of power even though discourse can also influence power. In either way, by the definition of discourse, the investigation of SMART education discourse would mean that the investigation of a set of claims made in SMART education as truths and the power relations in the discourse. In this sense, our approach to discourse study is both method-driven and theoretically framed: both theory and method work to inform each other and are inseparable as the process of methodological shaping finds their form through the analysis (Talib & Fitzgerald 2015:448).

This study thus critically analysed discourse with Foucault's theoretical lens and it should be called 'Foucauldian Critical Discourse Analysis'. CDA has the potential to reveal the way power is diffused through the

<sup>2</sup> Here, the term 'discourse' should be distinguished from the general use in linguistics which are a group of sentences, conversation, a paragraph or a speech (Fendler, 2010; Lee 2017).

Lee, S., & Lee, K. (2019). Digital Pharmacists with the Panacea in the New Paradigm: Discursive Formation of a Good Teacher in Digital Era. In K. Graziano (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1902-1910). Las Vegas, NV.

prevalence of various discourses throughout an education system (Locke 2004:2). According to Allan (2013), Foucauldian CDA pays attention to explanation about the relationships between language use and social structures, mediated by discursive practices based on Foucault's theory of discourse (cited in Lee, forthcoming). Moreover, by considering different possibilities of understanding and questioning to our taken-for-granted knowledge, it can disclose that things can actually work in different ways (Allan, 2013).

This Foucauldian CDA project identified taken-for-granted claims and rhetorical strategies in a governmental policy document about SMART education. As suggested by Lee (forthcoming), we found a national policy document as a starting point of examining SMART education discourse in relation to teacher education in South Korea. It is the first formal document that declare what needs to be done with the clear statements announcing the need to foster technology-related TPD. It provides general strategies and follow-up implementation plans to cope with technology integration in innovating education. They are evaluated as having significant influences considering that SMART education has been increasingly studied since the document announced (Kwon & Chun, 2013).

The analysis followed the steps proposed by Lee (forthcoming) in doing Foucauldian CDA. First, the focus was on searching for internal contradictions within the document followed by the next analytical stage. The next stage investigated the outside of the text by looking into the production process of each the related texts. In examining the claims found in the documents, three categorical tasks were implemented: 1) semiotic/linguistic characteristics such as grammatical features, vocabulary, use of direct indirect speech, 2) rhetorical expressions, 3) supporting structure or mechanisms of between statements. To effectively reveal the implicit discursive formation of the discourses and hidden ideological influences on the subjects, some of the analytical devices presented by Fairclough(2003) were drawn selectively such as the use of modal verbs (Fairclough 2003:165), free indirect speech (Fairclough 2003:49), rhetorical strategies just as 'listing' (Fairclough 2003:125), and so on.

Next, to demystify discursive statements collected, the focus of analysis moved to the production process of the text by looking into summary article of SMART education policy in one magazine written by one of the authors of the text; the circulation methods; and the social/cultural/institutional backgrounds of the text production (Lee, forthcoming). There was a focus on contradictions between discursive statements across texts by checking and comparing terms, claims, or values such as "quality" or "equity" across the target texts (Reisigl & Wodak 2005:33; Lee, forthcoming).

This study is entirely based on qualitative interpretation of relevant texts to explore research questions regarding SMART education discourse in relation to teacher education. Hence, if the analysis of the data invalid and arbitrary then it is worthless. To ensure validity, two researchers in this paper compared the analysis, discussed the results, and continued discussion until they reached agreements.

## 5. Discursive Formation: Paradigm shift, The panacea and a New Good Teacher

### Paradigm shift in Education

On June 29th 2011, a document entitled 'Forward strategies of SMART education: a way to the great talent-abundant country' was presented in a presidential meeting regarding 'new system of Education in the new paradigm'. MoEST announced officially paradigm shift in Education and suggested innovative educational system in collaboration with Presidential committee on National Informatization. This government report (MoEST, 2011) first discusses 'Paradigm shift in Education'. According to Kuhn (1962), paradigm shift occurs when anomalies and the emergence of scientific discoveries have been encountered which ultimately lead to changes of world view. In dictionaries, 'paradigm shift' is defined as

*a time when the usual and accepted way of doing or thinking about something changes completely (Cambridge Dictionary, 2018)*

*a fundamental change in approach or underlying assumptions (Oxford living Dictionary, 2018)*

In this sense, 'paradigm shift in Education' assumes the current educational paradigm has completely and fundamentally changed. It says that it is different from the previous one which cannot properly explain the recent educational phenomenon not to mention expect the future and provide concrete solutions for the potential problems.

Lee, S., & Lee, K. (2019). Digital Pharmacists with the Panacea in the New Paradigm: Discursive Formation of a Good Teacher in Digital Era. In K. Graziano (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1902-1910). Las Vegas, NV.

Further, by implying that it is the new era which needs ‘innovative driving force (MoEST, 2011:5)’, the report intends to assert that there should be follow-up movements as the world has changed.

The report provides evidence of the paradigm shifts in Education using various rhetoric. Particularly, the rhetoric use related to the image of ‘movement’ is considerable. Indeed, ‘development’, ‘expansion’, ‘generation’, and etc conceptualise the shift as dynamic, increasing, and expanding movement. Further, it often refers to descriptive statistic data using high figures and stark contrasts in presenting the ratio implying that the paradigm shift has already happened and it is the irreversible trend.

However, it does not mention the other claims that the websites referred in showing figures cannot be simply exemplified as proofs of innovative learning behaviours considering educational practices (see e.g. Madge et al., 2009; Manca and Ranieri, 2013; Manca and Ranieri, 2015; Selwyn, 2011). Furthermore, it is evident that the mere big numbers cannot tell whether or not they really can contribute to knowledge construction as legitimate channels.

We can notice that the previous claims and evidences are rather limited in justifying the assertions regarding paradigm shift in Education. As Lee (2018) pointed out in her critical analysis of an academic work, the paradigm shift is adopted as a legitimating rhetoric in constructing the reality as shifted which then conceptualised as truth that cannot be disputed. Based on the claims regarding paradigm shift in Education, it continues to list the achievements and tasks that have not yet achieved but ‘necessary, therefore, desirable by referring research implemented by public research institutes and using metaphoric words such as ‘dreams’, ‘a key’, ‘a path’, ‘the base’(see. e.g. Talib & Fitzgerald, 2015).

### **The panacea, SMART education**

The paper declares that ‘superior ICT competence of students’, ‘creativity and character education’, ‘diversified learning environment, needs’, ‘class improvement’, ‘accessibility in ICT education service’, ‘interest of learning’ and ‘educational welfare of the marginalized’ are the necessities for the future education (MoEST 2011:3-4). These contain general values such as creativity, diversity, equality as well as accessibility in updating teaching methods to fit in the 21st century, satisfying learning needs of individual students, closing the information gap of the marginalized, maximizing information access (MoEST 2011:3-4). As the panacea to accomplish all educational tasks realizing ‘dreams’, getting ‘a key’, walking ‘a path’, being on the ‘base’, the report proposes, ‘SMART education’ which is defined as following

*SMART education is an intelligent and tailored learning system including educational environment, contents, method and assessment which is the driving force in innovating (whole) educational system for enhancing the 21st learner competences (MoEST, 2011:5)*

The government’s commitment to SMART education is peculiar in the definition. Within the new paradigm of Education, SMART education promises ‘innovative’ education which cures problematic former educational system as well as previously identified social problems. By using assertive modality (‘SMART education is an intelligent and tailored learning system’; ‘...which is the driving force’), the report makes their definition as fact and truth (Fairclough 2003:175). However, it is identified that the same author of this government report uses the subjective and moderate modalization such as ‘we expect’, ‘can’ instead of ‘will’, ‘must be’, or ‘should be’ in an educational magazine(Kim 2011 :30).

We have identified the declarative definition of SMART education and what it promises was neither expectation nor prediction. However, it is somewhat modalized and stated as a matter of probability (see. e.g. Fairclough 2003:170). From this difference, we can notice that the assertions stated in the document (MoEST, 2011) might be mere possible, optimistic, and aspirational hopes that the government wants to achieve by implementing SMART education rather than that they are taken for granted results that are completely assured as the new and innovative evolution of Education in the new education paradigm.

### **Learners, Teachers, and Teacher’s role**

Lee, S., & Lee, K. (2019). Digital Pharmacists with the Panacea in the New Paradigm: Discursive Formation of a Good Teacher in Digital Era. In K. Graziano (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1902-1910). Las Vegas, NV.

The report reveals the representations in describing desirable 'learners' with assertive modality (produce, become, evolves) which is directly related to 'new learning' within the 'new education paradigm'. In 'SMART education' paradigm, learners 'produce knowledge', 're-organize knowledge', 'learn by themselves', 'solve problems creatively', 'learn as they want to be taught', 'learn things related to their career', 'explore information', 'learn whenever, wherever, however they want' (MoEST 2011:5).

Correspondingly, as shown in the expressions such as 'enhanced flexibility', 'individual preferences', and 'at anytime and anywhere', learning and teaching are or more possibly 'should be' positioned as the 'flexible', 'individualized', and 'accessible' process. According to this logic, the government report sets the policies to make teacher as facilitator not as knowledge transmitter (MoEST 2011:5) to inform that how teacher should act and be educated along with SMART education which resulting in follow-up research by national research institute. It is important to note that teachers are described as the objects of the process of transformation rather than the subjects (Taylor, 2004:439). By stating roles and ethics within the new paradigm, it shows what, how and why students, teachers and the institutions should behave to follow 'a way to the great talent-abundant country' based on the representations which are constructed by discursive formation of 'paradigm shift in Education' and 'the education panacea' in the text.

## 6. Discussions and Implications

This formation of discourse can be understood together with the socio-political context of South Korea. 'The great talent-abundant country' was one of the key national policies during the presidency of Lee Myung-bak. Lee Myung-bak government declared 'construction of the world's best country through advancement' as the new national vision and a brand (Ministry of the Interior and Safety, 2011). The branding campaign belongs to a series of strategies aiming at transforming South Korean into a successful global site of capitalist accumulation (Schwak, 2016). In fact, the government announced the largest government reorganization in the nation's history and it was ostensibly aimed at increasing innovation, thereby improving Korea's economic growth and development (Larson & Park 2014:354). Within this context, this document, 'SMART education: a way to the great talent-abundant country', embodies the national vision at a level of nation-wide policy in the field of education which frames new educational paradigm in technology.

This set of discursive strategies is similar to 'futurology'. According to Fairclough (2003:167), a certain kind of future prediction based on authority is significant because injunctions about what people must do or must not do now can be legitimized in terms of such predictions about the future. What is considerable in the combination of paradigm shift rhetoric and representation of technology as the panacea found in the document is that it is not about the future but in the present which we can name it as 'presentology'. Specifically, while 'futurology' and 'presentology' have similar power in a sense that they create intended actions by authoritative institutions or committed claims made by experts, 'presentology', here, it increases legitimacy of claims in terms of the degree of necessity and emergency by stating certain predictions in a 'present' tense in a form of 'declarative' statement. In other words, just like the story of young shepherd boy calling out "Wolf, Wolf" in the Aesop's Fable, 'presentology' in this government document generates urgent necessities for stakeholders to take action immediately.

The representation of SMART education as the panacea is close to 'pastoral power' that Foucault found in democracies. As it does not make sense to rebel against a pastor who only to exercise its power to protect and nurture the flock, SMART education only implements its policy to innovate old education system just like a pastor does (Fendler 2010:46). Hence, the promised future become a taken-for-granted reality which only works as good and provides necessary boundaries. This discursive foundation of pastoral power might be conducive to the follow-up discursive formation stating that any problem arising within the boundary of SMART education should be attributed to the subjects including learners, teachers, or institutions since SMART education itself is the intact system. Therefore, based on this innovative, omnipotent, and authoritative SMART education discourse, the government can safely start to define new 'good' teachers and continue to build new rules and ethics which all together potentially function as disciplinary power.

This research will contribute to deconstructing such a dominant discourse that has been successfully legitimized as taken-for-granted truth. It will add knowledge about how our unquestioned beliefs in technology is constructed as well as contradictions and limitations of the SMART education discourse by identifying the chains of

Lee, S., & Lee, K. (2019). Digital Pharmacists with the Panacea in the New Paradigm: Discursive Formation of a Good Teacher in Digital Era. In K. Graziano (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1902-1910). Las Vegas, NV.

discursive techniques and discursive effects of the discourse. In addition, there has been a lack of knowledge in CDA research regarding educational technology, education policy, and teacher education. This research will contribute to broadening our understanding of the area where those three topics are intersected.

We note that this research is limited in the point that it only includes a small number of textual data. It is also limited that it does not achieve the ultimate aim as it does not provide a space or possibility in creating new discourse. Therefore, we claim that it is highly necessary to continue the exploration by tracing discursive spaces in the other related texts such as national research report or news media. Further, it is also recommendable to examine the discourse by gaining actual perceptions and practices of teachers. They will show how the discourse creates teachers regarding the discursive formation identified in the research. Further, they will also contribute to seeing the space where different version of discourses can be created.

Lastly, we would like to let educators or perhaps all the individuals in the other side of the society to know we have been locked in the frame of the discourse by its contents as well as its form of expression. This research process also gives us a chance to rethink our experiences and existences as an educator and as an individual in the society. We call further recognition to scholars, educators and policy-makers to notice that their acts of representation can bring changes in society.

## References

Abbott, A. (1998). *The system of profession: An essay on the division of expert labor*. University of Chicago Press

Allan, J. (2013). Foucault and his acolytes: Discourse, power and ethics. In M. Murphy (Ed.), *Social Theory and Education Research* (pp. 33-46). Oxon: Routledge.

Ball, S. (2013). *Foucault, power, and education*. Routledge.

Ben-Peretz, M., & Flores, M. A. (2018). Tensions and paradoxes in teaching: implications for teacher education. *European Journal of Teacher Education*, 41(2), 202-213.

Blackwell, C. K., Lauricella, A. R., & Wartella, E. (2014). Factors influencing digital technology use in early childhood education. *Computers & Education*, 77, 82-90.

Bourke, T., Lidstone, J., & Ryan, M. (2015). Schooling teachers: Professionalism or disciplinary power?. *Educational Philosophy and Theory*, 47(1), 84-100.

Eagleton, T. (1991). *Ideology: An Introduction*. New York: Verso.

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of research on Technology in Education*, 42(3), 255-284.

Esland, G. (1980). Professions and professionalism. *The politics of work and occupations*, 213-250.

Fairclough, N. (2003). *Analysing discourse: Textual analysis for social research*. Psychology Press.

Fendler, L. (2010). *Michel Foucault*. New York: Bloomsbury.

Fenwick, T. J. (2003). The 'good' teacher in a neo-liberal risk society: a Foucaultian analysis of professional growth plans. *Journal of Curriculum Studies*, 35(3), 335-354.

Foucault, M. (1965). *Madness and civilization: A History of Insanity in the Age of Reason*, trans. R. Howard, New York: Vintage.

Foucault, M. (1979). *Discipline and punish: The birth of the prison*. New York: Vintage.

Gaventa, J. (2003). Power after Lukes: an overview of theories of power since Lukes and their application to development. *Brighton: Participation Group, Institute of Development Studies*.

Ginsburg, M. (1987). Reproduction, contradiction and conceptions of professionalism: The case of pre-service teachers. *Critical studies in teacher education: Its folklore, theory and practice*, 86-129.

Hall, C., & Noyes, A. (2009). New regimes of truth: The impact of performative school self evaluation systems on teachers' professional identities. *Teaching and teacher education*, 25(6), 850-856.

Jung, Y. J. (2018). A Study of Change of Discourse of Teachers' Professionalization: Based on Change of Michel Foucault's Governmentality (Doctoral thesis). Retrieved from [www.riss.kr](http://www.riss.kr)

Kim, D. (2011, September). Classroom innovation towards the talent abundant great country, SMART education forward strategies. *Korean Educational Development Institute*, 117, 30-45.

Kim, K. (2010). 'Panoptic' accountability: Supervisory leaders and normalizing or resisting professionals. *KEDI Journal of Educational Policy*, 7(1).

Kim, H. S., Kye, B., JiKil, H., & Jeon, J. (2013). The impact of smart-education on school educational case of a model school in Sejong City. *Journal of Korean Education*, 40(3), 27-48.

Kirschner, P. A., & Erkens, G. (2006). Cognitive tools and mindtools for collaborative learning. *Journal of Educational Computing Research*, 35(2), 199-209.

Korea Ministry of Education, Science and Technology. (2011). *Smart Education Implementation Strategies*.

Korea Ministry of the Interior and Safety. (2011). *National Informatization White Paper*.

Kuhn, T. S. (1962). *The structure of scientific revolutions*. Chicago: University of Chicago press.

Lee, S., & Lee, K. (2019). Digital Pharmacists with the Panacea in the New Paradigm: Discursive Formation of a Good Teacher in Digital Era. In K. Graziano (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1902-1910). Las Vegas, NV.

Kwon, H., & Chun, S. (2013). A Smart Education Research throughout the Semantic Network Analysis. *CNU Journal of Educational Studies*, 34(2), 103-125.

Larson, J. F., & Park, J. (2014). From developmental to network state: Government restructuring and ICT-led innovation in Korea. *Telecommunications Policy*, 38(4), 344-359.

Laurillard, D. (2008). *Digital Technologies and Their Role in Achieving Our Ambitions for Education*. London, Institute of Education, University of London.

Lawless, K. A., & Pellegrino, J. W. (2007). Professional development in integrating technology into teaching and learning: Knowns, unknowns, and ways to pursue better questions and answers. *Review of educational research*, 77(4), 575-614.

Lee, K. (2017). Rethinking the accessibility of online higher education: A historical review. *The Internet and Higher Education*, 33, 15-23.

Lee, K. (2018). Discursive Effects of a Paradigm Shift Rhetoric in Online Higher Education: Implications on Networked Learning Research and Practice. In *Networked Learning* (pp. 57-78). Springer, Cham.

Lee, K. (forthcoming). Doing a Foucauldian critical discourse analysis: A method for non-Foucauldian educators. *Discourse: Studies in the Cultural Politics of Education*.

Lim, C. P., & Chai, C. S. (2004). An activity-theoretical approach to research of ICT integration in Singapore schools: Orienting activities and learner autonomy. *Computers & Education*, 43(3), 215-236.

Locke, T. (2004). *Critical Discourse Analysis*. Continuum: New York

Madge, C., Meek, J., Wellens, J., & Hooley, T. (2009). Facebook, social integration and informal learning at university: 'It is more for socialising and talking to friends about work than for actually doing work'. *Learning, media and technology*, 34(2), 141-155.

Manca, S., & Maria R. (2013). "Is it a tool suitable for learning? A critical review of the literature on Facebook as a technology-enhanced learning environment.". *Journal of Computer Assisted Learning*, 29(6), 487-504.

Manca, S., & Maria R. (2015). Does facebook provide educational value?: An overview of theoretical and empirical advancements of affordances and critical issues. In Information Resources Management Association, *Social Media and Networking: Concepts, Methodologies, Tools, and Applications* (pp.1842-1866). IGI Global.

Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of educational research*, 81(3), 376-407.

Pivec, M. (2007). Play and learn: potentials of game-based learning. *British Journal of Educational Technology*, 38(3), 387-393.

Pareja Roblin, N., Tondeur, J., Voogt, J., Bruggeman, B., Mathieu, G., & van Braak, J. (2018). Practical considerations informing teachers' technology integration decisions: the case of tablet PCs. *Technology, Pedagogy and Education*, 27(2), 165-181.

Priestley, M., Edwards, R., Priestley, A., & Miller, K. (2012). Teacher agency in curriculum making: Agents of change and spaces for manoeuvre. *Curriculum Inquiry*, 42(2), 191-214.

Reisigl, M., & Wodak, R. (2005). *Discourse and discrimination: Rhetorics of racism and antisemitism*. Routledge.

Richards, C. (2005). The design of effective ICT-supported learning activities: Exemplary models, changing requirements, and new possibilities. *Language Learning & Technology*, 9(1), 60-79.

Roschelle, J. M., Pea, R. D., Hoadley, C. M., Gordin, D. N., & Means, B. M. (2000). Changing how and what children learn in school with computer-based technologies. *The future of children*, 76-101.

Rossi, T., Fry, J. M., McNeill, M., & Tan, C. W. (2007). The games concept approach (GCA) as a mandated practice: Views of Singaporean teachers. *Sport, Education and Society*, 12(1), 93-111.

Sanprasert, N. (2010). The application of a course management system to enhance autonomy in learning English as a foreign language. *System*, 38(1), 109-123.

Selwyn, N. (2011). *Education and technology: Key issues and debates*. Bloomsbury Publishing.

Schwak, J. (2016) Branding South Korea in a Competitive World Order: Discourses and Dispositives in Neoliberal Governmentality, *Asian Studies Review*, 40(3), 427-444

Talib, N., & Fitzgerald, R. (2015). INEQUALITY AS MERITOCRACY: The use of the metaphor of diversity and the value of inequality within Singapore's meritocratic education system. *Critical Discourse Studies*, 12(4), 445-462.

Taylor, S. (1997). *Educational policy and the politics of change*, London : New York: Routledge.

Taylor, S. (2004). "Researching educational policy and change in 'new times': Using critical discourse analysis." *Journal of education policy*, 19(4), 433-451.

Young, S. S. C. (2003). Integrating ICT into second language education in a vocational high school. *Journal of Computer Assisted Learning*, 19(4), 447-461.