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President's Note

Professing Education, an e-journal of the Society of Professors of Education, stimulates and sustains dialogue about teaching and education among members of the Society of Professors of Education and the communities with which we intersect. *Professing Education* is a space to consider our past and present as we face the challenges of these times and the roles of our intellectual traditions and informed practice. We invite submissions from you including individual articles and guest edited special issues. We are excited about our editorial team Mary Kay Delaney, Gretchen Givens Generett, Paula Groves Price, and Joseph Rayle. You may contact them at[professingeducation@gmail.com.](mailto:professingeducation@gmail.com)

M. Francyne Huckaby, President

Society of Professors of Education

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Call for Papers: ***Professing Education*** publishes substantive articles focused on the practice of teaching in the discipline of education. Recognizing that the "discipline" of education is multi- and inter-disciplinary, the editors seek articles from a variety of disciplinary perspectives, on all matters related to teaching "education." We accept essays related to and studies of all aspects of teaching education. Submissions are peer and editor reviewed. Manuscripts should be 4000-7000 words in length, 12-point Times New Roman, double spaced, APA-style, with 1 inch margins. In support of the Society's goal of stimulating and sustaining dialogue among its members, all accepted authors are members of the Society or join prior to publication. To view the membership form, go to www.societyofprofessorsofeducation.com/membership.html.

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Editors' Introductions to the Issue

This issue of Professing Education includes five contributions that differ in focus, scope and form of analysis, narrative structure, and perspective. Each, in its own way, aims to reveal or make visible, witness—call us to attend to-- experiences and ideas that challenge us to question, undo, re-align, see again, see anew, "un-suture," be fully physically present wherever we are in education. We seek multiple voices across settings and disciplines, and diversity in presentation of ideas and experiences. We also seek to practice this in our introduction. Thus, some combination of the editors will write introductions to each issue. Read these introductions as you would the articles in the issue—read each on its own, as a collection, and as an interplay among and between ideas, experiences, and voices. Gretchen Generett and Joseph Rayle introduce this issue.

Create More Access and Opportunity for Historically Underserved and Under-resourced Communities

Gretchen Givens Generett
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For more than twenty years, I have been asking myself the question, "What is the role of education?" In an effort to address this question, my research interrogates our educational context(s) by highlighting stories that demonstrate how educators are increasingly called on to be active community members and advocates. The stories I hear daily affirm that not only must educators be prepared to interrogate the typical hierarchical frames of geography and opportunity, but they must also be prepared to act by using innovative pedagogies that take into consideration the expanded roles of teacher, collaborator, and community partner. This is a daunting yet doable task that requires interdisciplinary research that, by design, delves deeply into how things are traditionally done in both K-12 schools and within the academy and highlights the stories of individuals who constantly and consistently have made a way out of no way.

The three articles in this issue are attempts to address hierarchical frames of geography and opportunity that pre-service and in-service teachers face. In the article *Hacking Toward a Public Education*, hacking is presented as a means to disrupt traditional teacher surveillance in an era of accountability and quantitative measures. Hacking is reframed as a means of "repositioning teachers as political and pedagogical agents." While this work is a source of interest and "enjoyment' for the authors, they are intentional in their efforts to "challenge the authority bestowed on certain technologies of power, and presented possibilities for teachers and educators to civilly disobey the logics that dominate educational systems where privately dictated surveillance prevails." *Sites of Possibility: Digital Stories as a Means of Making Reflective Practice Visible*, highlights digital storytelling as a platform to enhance the development of the professional identities of future teachers through reflective practice. Reflective practice is used to frame how teacher candidates can "bridge from knowledge to considered action." This article highlights how digital storytelling can be used to track the movement of teacher candidates to "more complex levels of reflection." This not only has implications for the growth and development of future teachers, but also on how teacher educators design reflective practice learning experiences. In both articles,

technology is used as a tool to critique and enhance our understandings of our individual actions and their subsequent impact on education.

In *A Practice-Based Approach to Teacher Educator Learning: The Foundation for Innovation in Teacher Education*, the author proposes a shift in how teachers are prepared by highlighting "a practice-based approach to teacher educator learning." They do this by describing how to design and implement clinically-based programs. The author argues that by creating clinically-based programs, teacher educators can continuously design new learning experiences, better understanding program design principles, and increase complexity in student learning. This article suggests that teacher education should work to "learn faster and innovate in a systemic fashion."

While diverse in their response to the question, "What is the role of education?" each of these articles grapples with, in their own ways, how to bridge the gap between theory and practice so that future and current educators can do a better job at the extraordinary task of preparing future citizens. If there is one critique of the three of them is that none of them speak, at least explicitly, to the systemic and structural barriers faced by stakeholders in education, whether they are students, parents, community members, or teachers. If the role of education is to allow teachers the freedom to teach in contexts without being surveyed, to be reflective in their practices, or even to create clinically-based programs, it should be done in order to create more access and opportunity for the historically underserved and under-resourced communities. However we re-imagine educational possibilities for ourselves and for those we serve, those possibilities must address cultural diversity, social inequity, and robust learning as an embodiment of critical consciousness (Freire, 1970). In the absence of this framing, whatever we create and whatever we do only serves to reify and recreate our current contexts.

Power and Systems

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Power and systems are the two themes running through these four articles on teacher preparation and evaluation. These themes are represented in contrasting ways throughout, but in tackling the issue of teaching and teacher preparation, these issues reveal a substructure that informs the system of teacher education, and we ignore them at our peril. Much of what happens in teacher training follows the pattern that this author refers to as 'ready, fire, aim,' in which programs, courses, evaluations and so on are constructed to conform to some combination of administrative or legislative edict. Some type of information is called for, or some practice is prescribed, and we spring into action, constructing rubrics, planning data representation, implementation of the new practice before really considering any of this work's connection with the realities of public education on the ground. The authors of these articles, by addressing these issues in their sundry ways, provide us not only with the opportunity to think deeply about how the issues of dynamic systems and power function in schools, but they also point to some potentially powerful avenues for action.

In *Language Education into the Anthropocene: Possibilities and Perspectives from Soka Humanism at the Posthumanist Turn*, the author makes an interesting move by invoking the highly systemic connection between human society and natural ecosystems. Indeed, he posits that to maintain a distinction between 'human' and 'natural' is to engage in the sort of folly that leads to a discursive practice in which this illusion allows destructive economic, political, and social processes to continue unabated and unseen. Such an examination of language simultaneously opens the possibility of seriously challenging a paradigm that impedes real progress in mitigating the effects of the Anthropocene, while at the same

time offering powerful individual transformation that allows students to develop an understanding of the highly complex and sometimes contradictory essence of their connection with larger world systems. Finally, there is a useful universalizing that can help teachers and students comprehend the shared worldwide dilemma of global climate change.

The empowerment of teacher candidates is an important aspect of the article *"A Practice-Based Approach to Teacher Educator Learning: The Foundation for Innovation in Teacher Education*, in which both power and the complexity of dynamic systems are addressed in the context of teacher education. The authors recognize that students move closer to thinking in terms of complex systems through the process of recursive thinking. The experiences that make the recursive process more likely are authentic ones. It is vital that one teach in order to become a teacher, but in addition, teachers must engage in self-reflection and systemic analysis of the milieu in which their educational practice is located. A potentially powerful idea in this article is, to borrow from Paulo Freire's(Freire, 2000) parlance, the move toward a more biophilic ethos, in which students assume a greater role in their learning. Not only is this generally recognized (often unpracticed, alas!) as a more effective approach to teaching, it also models this pedagogy for teacher candidates. It represents a serious challenge to the 'one-size-fits-all' approach to teaching, creating the sort of liminality corresponding with the 'real world' of teaching and classrooms.

Both of the articles *Sites of Possibility: Digital Stories as a Means of Making Reflective Practice Visible,* and *Hacking Toward a Public Education* represent a critical engagement with digital technology, in some cases reorienting it so it becomes less of a tool of surveillance, and instead a tool for liberation of teachers and students. For teacher candidates, storytelling becomes an act of interrogating one's own assumptions and ideas about teaching, contrasting them with both one's own experiences and the experiences of others. The whole notion of 'hacking' is a transgression of boundaries of patent, copyright, custom, boundaries and so on. At heart, it takes seriously the idea that one may 'learn how to learn' and applies it to almost anything. In Weapons of Mass Instruction, Gatto (Gatto, 2009) suggests that we can move toward an 'open source' education, which has students taking greater control of not only how they are taught, but what they are taught. In the technology world, 'open source' software is software that is created in a way that users can 'go under the hood' and add their own modifications and improvements to software. Technologists often employ various 'hacks' to improve something they use. The user decides how the software may serve their needs. Similarly, Gatto suggests that learners take this sort of approach. Both of these articles have different, yet highly useful, ways of taking on this idea and applying it to the preparation of teacher candidates.

With digital storytelling, students are engaged in the act of meaning making and decision making. Meaning is an often overlooked aspect of education. In Between the World and Me, Ta-Nehisi Coates (Coates, 2015) describes an education in Baltimore that bore little connection to his own life. A glance at the desultory ranks of undergraduates in almost any course marked 'general' education drives the point home: Meaning and purpose are removed, abstract. "This is something you'll need later" students are told. Students are acted upon, rather than actors themselves. Digital storytelling moves the focus to the students and their connections to learning. It provides them with opportunities for both meaning making and decision making, all of which is a great step toward reflective educational practice. The story telling can engage the recursive nature of teaching, which reflects the highly dynamic nature of the classroom. There is an element of liberation here, as the students' voices literally represent their own experiences. The authors of the digital storytelling article report that their approach results in student reflections on their

educational practices that are more complex and cognitively challenging than what appears in written artifacts typically used to judge student progress.

In conjunction with the (re)appropriation of digital technology in teacher education, it is possible to engage with its highly social nature. Again, based upon results from their own classrooms, this sort of engagement makes it more likely that students will support each other, incorporating what amounts to differentiated instruction in the process. Further, the social nature of these classroom is liberatory, in that it gives voice and validation to students' desires and experiences in education.

Closely connected here is the notion of hacking, in which students again use technology to take greater control over their educational experiences. The rise of accountability regimes, and greater levels of surveillance in schools put one in mind of the Roman satirist Juvenal's question,, "*Quis custodiet ipsos custodes?"* which roughly translates 'Who watches the watchers?" (Kenney, 1982). Here the authors suggest that the digital means of surveillance be disrupted though the re-interpretation of question on evaluation forms, to challenge those with power about these practices, and, arguably most importantly, give voice to what is most important to teachers about what they do. In this particular case, there is a move to expose the generally hidden (and ignored) issues of emotional and psychological labor that is part of most teachers' jobs, and more frequently, common in fields dominated by women (Hochschild, 2012). This in and of itself has the potential cause a serious reappraisal of what teaching is all about.

In general, these articles explore issues of power and dynamic systems as part of teacher preparation from a number of perspectives, inviting us to think about how we might use these insights in our own practice as educators.

Transform, Invade, Hack, Stretch, Practice

The featured verbs in the articles, on their own, invite change and reconsideration, In this spirit, the editors invited Amir Asim Gilmore, Ph.D. to reflect on his experiences as a Black male teacher educator. Gilmore powerfully shows the "realness" of social theory and lived experience—and the central role of whiteness and race in teacher education. His reflection calls for us to create pluralistic communities that value all participants—because our students' students and our students' lives depend on it.

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The DeGarmo Lecture 2018: Language Education into the Anthropocene: Possibilities and Perspectives from Soka Humanism at the Posthumanist Turn[1]

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> *Our planet is scarred and damaged, its life systems facing possible collapse. We must shade and protect Earth with "leaves of language" arising from the depths of life.* Daisaku Ikeda (2006,2017), pp. 62-63)

My recent work calls on language educators and researchers to conceive of language and culture education in necessarily new ways at the dawn of the Anthropocene, or the "age of Man" (Goulah, 2010, 2011, 2012b, 2017a, 2017b; Goulah & Katunich, forthcoming). Popularized in 2000 by Nobel Prize winning chemist Paul Crutzen, "the Anthropocene," from the Greek words *anthropos* meaning "human being" and *kainos* meaning "recent" or "new," is the proposed name for a new geological epoch signifying the period (beginning around 1750) when human activities began to significantly impact Earth's geology and ecosystems (Steffen, Grinevald, Crutzen, & McNeill, 2011)[2].

The Anthropocene is characterized by increasingly extreme climate volatility, profound transformations in land use, accelerated biodiversity and species loss, resource conflicts and climate migration, energy, food and health insecurity, ethno-racism and monoculturalism, and linguicide. Significantly, it fundamentally collapses "given" distinctions between Humans and Nature as it redefines human beings as transcending simply having a biological relationship with "the environment," which they have always had, to being a *geological* force shaping Earth's future and the crisis of sustainability that affects all life on the planet (Chakrabarty, 2009; Hamilton, Bonneuil, & Gemenne, 2015).

But what does all of this have to do with language education? As I have argued elsewhere, the mutually amplifying predicaments of the Anthropocene—what Latour (2017) calls the "New Climate Regime"—are "intimately entangled with issues central to language education pedagogy and curriculum theorizing, including geocultural dynamics of language, race, class, gender, ethnicity, spirituality, religion, economy, politics, power, geography, militarization, security, technology, and (un)documented transborder flows" (Goulah, 2018, p. 453; see also Goulah, 2008, 2012b, 2017a, 2017b). I argue that these intersecting predicaments and entanglements must become the nodal points for reconceptualizing culture and language education theorizing, practice, and research as we move into the Anthropocene.

Specifically, at such a significant shift in the histories of Earth and humanity, we must contend with our own socio-cultural, socio-ecological, and socio-linguistic perspectives, practices, and products (ACTFL, 2015), as well as those of the Other. In this way, the Anthropocene obliges the field of language education to examine how the world's developing entanglements and predicaments are implicated in language, culture, and identity, and to reexamine not just how and what we teach in bilingual, ESL, and world language classrooms, but why. Put differently, what are the evident, transforming, and emerging literacies and semiotics of and for the radically changing biosphere? What is the impact on "culture" in language classrooms as the Anthropocene collapses the boundaries between Human and Nature, and thus between Culture and Nature? How must identity and citizenship be conceptualized at local and global levels at the

dawn of the Anthropocene? And, finally, how do we engage these literacies, identities, and culture pedagogically and curricularly to foster just and creative coexistence among ourselves and between ourselves and biospheric ecologies? These are the questions driving this article, and I believe Soka Humanism offers perspectives and possibilities for answering them.

Much of the related literature in the physical and social sciences coheres around whether and how these fields should be conceived in the Anthropocene era. Some authors argue the emergence of the Anthropocene is already a point of no return, that no magnitude of corrective human effort is sufficient to avoid an eventual climate cataclysm; others view the Anthropocene as a force for consideration, hopeful action, and EcoJustice (Bonneuil & Fressoz, 2015; Chakrabarty, 2009; Hamilton et al., 2015; Orr, 2016; Purdy, 2015; Raffnsøe, 2016; Siperstein, Hall, & LeMenager, 2017).

I take the latter view while acknowledging that, as Bonneuil and Fressoz (2015) caution, the Anthropocene "promises to be violent" (p. 25) and "cancels the peaceful and reassuring project of sustainable development" (p. 22). I thus propose that we conceive of language education into the Anthropocene as necessarily seeking—and engaging—the material, spiritual, corporeal, and affective dimensions of language and culture for transformed perspectives and practices and what Daisaku Ikeda (1991-2015) calls *kyosei*, or "creative coexistence." Language education must therefore engage the Anthropocene *as curriculum* and *as pedagogy*—theoretically, onto-epistemologically, axiologically, teleologically, methodologically, materially (i.e., teaching materials and "texts"), and empirically. There are two reasons for this.

The first is cultural. The Anthropocene collapses the binary between nature and culture, illuminating the social construction of nature. That is, according to Folke and Gunderson (2012), "global environmental change interacts with interdependent and globalizing human societies. In the globalized world, there are no ecosystems without people and no people who do not depend on ecosystem functioning. They are inextricably intertwined in a new play of interdependent social-ecological systems. Ecosystem services therefore are not really generated by nature but by social-ecological systems" (p. 55).

More, Bonneuil and Fressoz (2015) aver that "it is impossible to hide the fact that 'social' relations are full of biophysical processes, and that the various flows of matter and energy that run through the Earth system at different levels are polarized by socially structured human activities" (p. 33). These socially structured human activities, or social-ecological systems, to use Folke and Gunderson's language, both threaten (Strauss, 2012) and are embedded and actualized in, culture (Hoffman, 2015), one of the two pillars of language education.

The second reason is that these socially structured human activities are also equally embedded in language (Hoffman, 2015; Purdy, 2015), the obvious other pillar of language education. Here, Vygotsky's (1997) perspective of language in, as, and of social construction and Bakhtin's (1981, 1986) perspective of the chronotopic and heteroglossic nature of language as a means of organizing the real world and conveying one's view, evaluation, and ideological positioning in it are important. Together, these perspectives cospecify the role of language as a dynamic mediating tool for naming and responding to spatio-temporally contingent local contexts of a climatically changing world, as well as the tool for "authoring" the self and other socio-culturally—and thereby socio-ecologically. In this, language undergoes tensions that shape it and we are thereby concomitantly transformed. This is significant as the extant literature is clear that the Anthropocene demands a "new language" to make meaning of the current eco-cultural moment (Hoffman, 2015; Purdy, 2015).

What does this mean for classroom teachers and teacher educators? In practical terms, the Anthropocene as curriculum is an opportunity for students to explore cultural and linguistic ways of

being and communicating with others in the climatically changing world. It is an opportunity to explore the cultural and linguistic products, perspectives, and practices of such a world.

Consider the seemingly neutral term *mountain* as just one example. Is *mountain* as a vocabulary word and "text" presented curricularly, pictorially, and pedagogically as a source for water (unit on food), as a force in changing weather patterns (unit on weather), as a landmark or boundary (unit on geography), as a location of sport and leisure (unit on hobbies and/or sports), as a religious symbol (think of a unit on Shintoism), as art (think of a unit including Monet's 1888 Impressionist landscape The Esterel Mountains), or as something to dragline into surrounding valleys and waterways to extract oil? Mountaintop removal mining destroys peripheral landscapes and converts areas that should be lush with wildlife and forests into barren moonscapes. Although such cultural practices and perspectives contribute to climate change, they are likely rarely examined in language classrooms relative to the simple term *mountain*. In the Anthropocene moment, however, such an examination of vocabulary in the context of culture can help us to "complicate" literacies and discourses as the planet warms and warps.

Makiguchi advocated for such a curricularly multivalent reading of mountains in his 1899 essay *Yama to jinsei* (Mountains and Human Life; 1981-1988, Vol. 7, pp. 329-346), which anticipated his own more thoroughgoing treatment of human-environment curriculum in the 1903 work, *Jinsei chirigaku* (The Geography of Human Life; 1981-1988, Vols. 1 & 2), and Arne Næss's (1979) similar examination of the ways human beings *experience* mountains. For Makiguchi, the point is not just about mountains per se, but about fostering modes of thinking about our relationship with natural elements based on direct observation of the proximate and known, and moving outward to the distant and imagined. He is focused on enhancing students' capacity to glean universal principles through engaged study of society's and one's own practices, products, and perspectives as they are manifest in local, surrounding, and distant communities (1981-1988, Vols. 1 – 4; see also Gebert, 2009; Goulah, 2013).

Hoffman (2015) views the climate change debate as a cultural manifestation in fundamentally different language: "One side is talking about solutions to a scientific debate they see as concluded, and the other is talking about threats to freedom, scientific corruption, or distrust of government" (Hoffman, 2015, p. 29). He calls implicitly for a Bakhtinian "dialogic becoming," noting that "the two sides are talking past each other, not to each other, and solutions will not emerge until a common language can be found" (Hoffman, 2015, p. 29).

Likewise, Purdy (2015) echoes the call for a new language to make cultural meaning dialogically from the Anthropocene: "The meaning that we find in nature is meaning that we help to produce by preparing ourselves to encounter it, creating vocabularies in which to share it, and so making it part of cultural life" (p. 243). He adds that such meaning is not just a human invention, but something that emerges from intimate, strange, sensual, and aesthetic encounters with the natural world and other beings that help us reimagine humanity (Purdy, 2015). Thus, this socio-culturally, socio-linguistically, and socio-ecologically constructed Anthropocene "demands a response" (Bakhtin, 1981) in the language classroom. Soka Humanism can help us conceptualize this response.

Soka Humanism at the Post-humanist Turn: Perspectives and Possibilities for Conceptualizing Language Education into the Anthropocene

Much has been written on *soka*, or "value-creating," pedagogy and the Soka (Kyoiku) Gakkai (e.g., Gebert & Joffee, 2007; Goulah & Gebert, 2009), so here I provide only summaries of each. Regarding value-creating pedagogy, Japanese educator Tsunesaburo Makiguchi (1871 – 1944) believed that the aim of human life is

genuine, almost existential, happiness and, therefore, that education ought to empower students to lead truly happy lives. His four-volume book, *Soka kyoikugaku taikei* (The System of Value-Creating Pedagogy; Makiguchi, [1930-1934] 1981-1988, Vols. 5-6, hereafter *The Pedagogy*; see also Vol. 8), argues that individuals lead happy lives by creating (subjective) experiential values of individual gain, or benefit, socially contributive good, and aesthetic or sensory beauty based on the cognition of objective truth through direct observation, understanding, and evaluation and engagement. In it, Makiguchi asserts that individuals who can engage in this twofold process of agentive meaning-making, even and particularly in life's most challenging circumstances, embody *jinkaku kachi*, or "character value," which enables them to lead contributive and fulfilling lives in the context of their lived realities and local communities.

Soka Kyoiku Gakkai is forerunner to the Soka Gakkai and Soka Gakkai International. It was originally a group of reform-minded educators with a diverse range of motivations, including disenchantment with the national education system's focus on, among other things, rote learning and the cultivation of subjects of an increasingly militarized Japanese state. They ostensibly shared a generic dissatisfaction that is often the fate of educators who are constantly plagued by the feeling that they could be doing better for their students. They turned to Makiguchi's value-creating pedagogy as a viable alternative because it focused on individual happiness, independent thinking, creativity, criticality, and social self-actualization. The organization also developed a steadily growing emphasis on the Lotus Sutra-centric teachings of the 13th century Buddhist reformer, Nichiren (1222 – 1282), to which Makiguchi had converted two years before the *Pedagogy's* publication.

The Soka Kyoiku Gakkai thus developed into a movement dedicated to reforming society through value-creating pedagogy in schools, on one hand, and members' own Buddhism-based inner transformation, on the other. It is important to note, however, that the organization's educational efforts did not, and do not, lie in Buddhist proselytization in schools and classrooms. Value-creating pedagogy is not Buddhist education.

Yet, in labeling both his generic value-creating pedagogy and the Soka Kyoiku Gakkai with the same term "創価," Makiguchi reanimated, if inherently, what religious scholar and critical theorist Jun'ichi Isomae (2003) outlines to be Japan's historical intersection of Buddhism and education in developing humanity's being and becoming.

Isomae argues that until the late 19th century, education (教育) and Buddhism (仏教) coexisted in Japan as two aspects of a single underlying process of human development combined under the rubric "kyo" (教), or *teaching*. The contemporary distinction between what constituted religion, or Buddhism, and what constituted national learning and moral conduct, Isomae clarifies, was not clear in the Japanese terms. Moreover, he adds that the modern Japanese term for *religion*—*shukyo* (宗教)—derives from Chinese Buddhist dictionaries and, until the Edo Period (1603-1868), meant only "the teachings of a school of Buddhism." The epistemological scope and signification of this word changed, however, when it was used as the translation term for the Western term "religion." Significantly for our understanding of Soka, though, Isomae concludes that the lingering bivalent meaning of *kyo* (教, teaching) remains today as it appears in the character compounds for *shukyo* (宗教, religion), *bukkyo* (仏教, Buddhism), and *kyoiku* (教育, education/training).

This bivalent essence is present throughout many publications by Makiguchi and his successors in the Soka heritage, namely Josei Toda (1900 – 1958) and Daisaku Ikeda (b. 1928). For example, in his 1937 booklet, *Soka kyoikuho no kagakuteki choshukyoteki jikken shomei* (The

Scientific and Supra-Religious Empirical Verification of the Methods of Value-Creating Education; Makiguchi, 1981-1988, Vol. 8), Makiguchi examines the intersection of religion and education explicitly and consciously. Taking up faith and knowledge, or believing and knowing, in a kind of "sociology of knowing," he problematizes the contemporary Western convention of religion and education as necessarily distinct and instead (re)casts them as fluid and mutually informing and inclusive. In so doing, in reexamining the mutually informing fluidity of religion and education—of the Soka (Kyoiku) Gakkai and *soka*, or "value-creating," education (*soka kyoiku*)—Makiguchi anticipated the emergence and role of what under Daisaku Ikeda has come to be called Soka Humanism.

How can Soka Humanism be leveraged to conceptualize the Anthropocene? First, it should be noted that the Anthropocene has spurred a search for eco-justice alternatives to "Western industrial notions of human centered progress [that] are pervasive throughout PreK-12 curriculum and in colleges of education" (Lupinacci, Happel-Parkins, & Turner, 2018, p. 4). One of the leading frameworks for conceptualizing this "changing reality" of the Anthropocene is post humanism. Centered on the question of what it means to be human, post humanism, in the work of Michel Foucault (see Badmington, 2000), Rosi Braidotti (2013), Donna Haraway (2016) and others, critiques humanism as developed in Europe as a mechanism for holding certain "Western" values as universally normative. According to these scholars, humanism is idealized as "masculinist in content and Eurocentric in context," and it is always framed in its proponents' image. What it means to be human, in other words, is an image based largely on straight, white, educated, European male elites (SWEEMEs; and we can add rich, industrialized, and Democratic) as a universal norm, emphasizing the individual and their own minds as the source of knowledge, agency, and ethics (Pennycook, 2018). It also emphasizes separation of humans from all other beings and things, including nature. This is an image, they critique, as never really founded on a principle of shared humanity but rather the human being as autonomous, willful, acting independently of the world (Pennycook, 2018). It is one that on the surface might seem *a priori* skeptical of Soka Humanism.

Bonneuil and Fressoz (2015) assert, however, that "many more narratives, imaginaries, cosmologies and types of knowledge have an essential role to play in order to inhabit the Earth in a proper fashion" (p. 87). Indeed, in the prevalent (Western) discourse on the Anthropocene, the shift in humans' status from biological agents to a geo-physical force "means that the history of the planet and the history of humanity begin to converge" and, further, that it "is no longer possible to think of 'the environment' [or Nature with a capital 'N'] as something out there, as a negligible and dispensable externality. The environment is not exterior to but constitutive of who we are" (Cronin, 2017; see also Bonneuil & Fressoz, 2015; Purdy, 2015).

It is here where Soka Humanism is important. Not only does posthumanism rely mainly on Western perspectives to critique Western norms, but its proponents largely fail to consider non-Western perspectives, such as Soka Humanism and Nichiren Buddhism, that have always theorized Nature as constitutive of who we are, and we constitutive of it. Specifically, from the Eastern perspective of Buddhist humanism, Nature and humanity are always already "two but not two." Your life does not end at your own skin, in other words. A distinguishing feature of Soka humanism is the consciousness of and respect for the interdependence and interrelatedness of all life and living (see Ikeda, 2010b). While Buddhist humanism focuses on the human being, it recognizes the uniqueness of each human being and does not polarize human beings and the environment or other forms of life. Rather it seeks to create human happiness through a

harmonization of these interdependent relationships.

Soka Humanism, as Jim Garrison rightly observes, renders the would-be posthumanist critique irrelevant. He argues:

> *In Buddhism there is no fixed self, no entity that simply is, or which remains in static relationship with the world. This notion of impermanence is closely linked to the Buddhist doctrine of interdependence. Humanism thus understood, is creative rather than hierarchical, and resists the essentializing of certain traits among certain populations, so endemic to the colonial project. Therefore, Buddhist humanism provides a way out of the humanist conundrum.* (Bogan, 2017; see also Garrison, 2019)

This philosophical and practical perspective of human-biospheric interdependence manifest at spiritual and material levels offers an expansive conceptual framework similar to but long preceding posthumanism for understanding, articulating, and creating meaning in the Anthropocene.

Daisaku Ikeda (b. 1928), the Japanese Buddhist philosopher and founder of the 15 international Soka schools and universities across seven countries in Asia and the Americas, explicates the Soka Humanist view of the mutually constitutive nature of humans and environment through the three interrelated concepts of *eshō-funi*, *engi*, and *kyosei*.

Eshō-funi is literally the inseparability of life and its environment, which maintain a relationship as a single unit while interacting with and affecting each other. This is a fundamental principle of Buddhist or Soka humanism and represents a viewpoint that is rapidly becoming a major paradigm of postmodern epistemology, particularly posthumanist thought (Ikeda, 2010a, p. 116).

Ikeda adds that the subjective basis for this dynamic, causal, and inseparable relationship between humankind and Nature is *ichinen*, or the mind or life at a single moment. Here, both Nichiren and Ikeda reference the Lotus Sutra's teaching of the "wonderful workings of the mind" as well as the teaching of *ichinen sanzen*, or "three thousand realms in a single life moment," propounded by Zhiyi (538 – 597), the 6th century founder of the Chinese Tiantai school of Buddhism. "Three thousand realms in a single life moment" is the theoretical system to describe the ontological reality of the expansive relational potentiality of human beings' interiority and exteriority in a single life moment. It expresses the infinite, complex, and interconnected spiritual and material realms possible in each instant of life and the individual's agency in effectuating them[3]. As Ikeda (2015) states, "One's mind, the innermost realm of life, is vast and boundless; it is dynamic" (p. 37). He continues:

> All phenomena of the three thousand realms—that is, all things in the universe—are contained within a single moment of life, or innermost mind, of us ordinary human beings. Likewise, a single moment of life, or mind, pervades the three thousand realms. When the state of our mind changes, we change. Or rather, by changing the innermost orientation of our minds, we change both ourselves and our world. (Ikeda, 2015, pp. 37-38)

Soka humanism thus posits that in the context of person-environment relationality: "From [the] single element of mind spring all the various lands and environmental conditions" (Nichiren, [1279] 2006, p. 843). And it embraces the Lotus Sutra-centric teaching of *sanpen doden*, the "threefold transformation of the land," or the principle that "the land is purified and transformed when one changes one's heart or mind and thus transforms oneself" (Ikeda, 2013b, p. 322).

These concepts take on a deeper meaning in the context of the Buddhist principle of *engi*, which is commonly rendered as "dependent origination" or "dependent causation." Ikeda (2010a) asserts that "The Buddhist principle of dependent origination…reflects a cosmology in which all human and natural phenomena come into existence within a matrix of interrelatedness"

(Ikeda, 2010a, pp. 235-236), and it views "every phenomenon, be it social or natural, [as] the result of its connection with something else. Nothing can exist in isolation; everything is interrelated. Usually we think of interactions in spatial terms, but the [Soka Humanist] conception is multidimensional, including the dimension of time…[in a living cosmos]" (Ikeda, 2010a, p. 7). He adds, "once this principle is understood, then we can establish the proper role of reason" (Ikeda, 2010a, p. 47).

Such dependent causation of psycho-ecological and socio-ecological conditions in a single life moment, from moment to moment, thus compels individuals to consciously and volitionally seek a mutually organizing and benefitting harmony, or creative coexistence, which Ikeda captures in the Japanese term *kyosei*. More specifically, *kyosei* is the:

ethos that seeks to bring harmony from conflict, unity from rupture, that is based more on "us" than "me." It signals a spirit that seeks to encourage mutual flourishing and mutually supportive relationships among humans and between humans and nature. It is my belief that by making this ethic of [*kyosei*] the shared spirit of our age, we can find the certain means to close the gap between power and ethical standards of behavior. (Ikeda, 2003, p. 9)

Ikeda (Ikeda, 2010a) concludes that such an ethic of *kyosei* will "play an ever more important role as the problems of environmental pollution and destruction, and of dwindling resources grow increasingly serious" (p. 164).

Kyosei, or creative coexistence, then, is agentive, volitional, and active, and the vector targets the "creation (*sozo*) of value (*kachi*)," or *soka*, namely the values of individual gain or benefit, socio-ecological good, and aesthetic beauty that Ikeda (1991-2015; 2010a), following Makiguchi (1981-1988, Vols. 5 & 6), encourages individuals to actualize relationally and dialogically in each life moment and under any circumstances. This ethos of value creation undergirds the 15 Soka institutions Ikeda founded and is practiced by thousands of educators around the world who are inspired by Soka principles (Gebert & Joffee, 2007). In the context of the current climatic moment and the crisis of sustainability, this value creative coexistence parallels Purdy's (2015) call to "make meaning" in the Anthropocene (see e.g., Ikeda, 2002, 2010b, 2012a, 2012b, 2013a, 2014).

In his 2017 peace proposal, *The Global Solidarity of Youth*, Ikeda revisits these ideas, extolling the power of youth to transform society and the current climatic moment. In particular, he advocates for Soka Humanism as an empowering response to the dominant views of fatalism and chance that frequently frame the Anthropocene discourse and can make people "indifferent to the harm they inflict on others" (Ikeda, 2017, p. 3).

Conclusion: Soka Humanism and Language Education into the Anthropocene

Taken together, these concepts of Soka Humanism—*esho funi*, *engi*, and *kyosei*—co-define and illuminate one another. They are interlocking principles for actualizing a fundamental inner transformation, for leveraging and enhancing the full complexity of the human condition to effectuate outer change. Ikeda calls such a necessarily constant and unending transformation in the deep interiority of each individual a "human revolution" from the private and isolated "lesser self" (*shoga*)—"held prisoner to its own desires, passions and hatreds"—to the "greater self" (*taiga*) of an expanded, deeply rooted, and collective identity coexistent with all phenomena and "the living essence of the universe" across space and time in causality (Ikeda, 2010a, pp. 233-234). For Ikeda, such persistent and volitional inner transformation is what it means to become "fully human."

According to Ikeda this kind of human revolution happens most thoroughly through dialogic value creation and value-creative dialogue (Goulah, 2012a; Hatano, 2009). Situated in the Eastern principles of dependent origination and the oneness of life and

environment, the greater self can be understood plainly and realistically as one that completely identifies and empathizes with others' suffering and is driven to alleviate it. It is an unprejudiced and wide-ranging character grounded in profound respect for the dignity of all life and living—including one's own and the natural world—and the wisdom to perceive the inextricable interdependence of that life. Also drawing on Ikeda's perspectives, Thayer-Bacon (2003) calls this "relational '(e)pistemologies'" and LaChance (2005) calls it "architecture of the soul."

In the context of language and culture education, then, this greater self of one's full humanity manifests most expansively through persistent "immersion in the ocean of language and dialogue fed by the springs of cultural tradition" (Ikeda, 2010a, p. 203). As Ikeda states, "We are not fully human at birth. Only through the training we receive in the sea of language, the sea of dialogue that constitutes our cultural heritage, do we acquire knowledge of ourselves, of others, and become fully human. In this sense, it can be said that dialogue is what makes us truly human" (Marinoff & Ikeda, 2012, pp. 104-105).

Such a conceptual framework engages climate change as culture and the complexity of the human condition through deep ecology (e.g., Drengson & Devall, 2008; see also Fellows, 2019), and consistent with language education, it reinvigorates the purpose of language and dialogue, or "conversation." In other words, the word "ecology," from the Greek *oikus,* denotes "house or dwelling place" and conversation, which only recently came to mean talking with others, derives from the Latin *conversare*, or "to dwell, abide, pass one's life" (Sumara & Carson, 1997; see also Goulah, 2017a). Language and culture education conducted through such a lens encourages students to awaken to the ways they live and communicate in places with others. Language (and dialogue) animated by the value-creative coexistence of Soka humanism, then, becomes more than just a curricular subject or a tool for talking with others. Rather, in the truest and fullest sense of "conversation" and "what is worthwhile" (Schubert, 2009), it becomes the means for understanding and actualizing others and ourselves in our self-locations in the biospherically changing world.

Notes

1. A version of this article was presented as the 2018 DeGarmo Lecture at the annual meeting of the Society of Professors of Education in New York, NY.

2. The Commission "divides the Earth's 4.5-billion-year history into eons, eras, periods, epochs and ages, with each division of diminishing length and geological significance. After gathering a multitude of evidence from a range of sources, the Commission's Anthropocene Working Group will advise [in 2016 or 2017] on whether the Anthropocene should be officially deemed the successor to the Halocene" (Hamilton, Bonneuil, & Gemenne, 2015, p. 1).

3. The notion of "mindfulness," which is increasingly applied to education and is often attributed to psychology, has roots in this Buddhist principle of *ichinen sanzen*; however, there is unfortunately barely a trace of *ichinen sanzen* in contemporary applications of mindfulness in education today.

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"Wait, He's Black?" Reflections of a Black Space Invader in Teacher Education.

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Introduction: The Perils of Being a Black Academic

Years ago, Malcolm X asked, 'What does a white man call a black man with a Ph.D.?' He answered: 'A nigger with a Ph.D.'
(Yancy, 2018)

Nigger Professor, a contradiction…a nigger professor is an oxymoron, something pointedly foolish. And since I am allegedly a nigger, I damn sure cannot be a professor.
(Yancy, 2018, p. 28)

"Dear Nigger Professor." That was the beginning of a message that philosopher George Yancy received. The heaviness of those words – the implications of that phrase has stuck with me since reading Yancy's (2015) *Dear White America* in my doctoral program. I watched from afar as Yancy was *niggerized* by the racist emails, voicemails, and comments by those that uphold whiteness and white supremacy. Yancy's vulnerable open letter to white America was an invitation to make white people become more self-critical of their every day, deep-seated existential racism (Yancy, 2018). The letter exposed "the subtle ways in which so many white people go about their daily lives, oblivious to the gravity and violence of white racism in this country and the ways in which they simultaneously benefit from and contribute to that racism" (Yancy, 2018, p. 2). Yancy's letter was an invitation to white people "un-suture" themselves from whiteness. To be un-sutured, is an "active process to be cut open", to be exposed to the toxicity of whiteness and how it impacts Black life (Yancy, 2015b, p. xvi). Yancy spoke to the reality that many white people wish to be sutured – an active process of closure, to seek protection from "white normative disruption." (Yancy, 2015b, p. xv). Yancy's letter entered him into a space where is he is *not supposed to be* — a Black philosopher speaking as a voice of reason and authority. His call to be un-sutured was met with the violence of racist backlash. Yancy was caught in the "white gaze" of white supremacy and his body was returned to him an inferior person —a nigger (Yancy, 2005). What Yancy's experience signified was the peril of being a Black academic. Such episodes are not uncommon, as Black academics share tales like this all the time. The threat of racial violence is ready and real for any Black person who gets out of their place, invades a white space, and then challenges the logics and structures of white supremacy. It served as a reminder of what could happen, that to do this work is to be branded as a *Space Invader*.

I how know it feels to be a space invader because I am a Black Teacher Educator within the field of Teacher Education. Years after reading *Dear White America*, I finally have the *language* and the *courage* to write out of, as Yancy (2005) described a "personal existential context" (p. 215). Writing from "a place of lived embodied experience, a site of exposure," this article will theorize Puwar's (2004) notion of being a *Space Invader*, as well as speak to the nuances and complexities of being a Black Space Invader in the academy as a Black Teacher Educator.

What is A Space Invader?

What happens when those embodied differently come to occupy spaces rarely occupied by them?
(Puwar, 2004, p.141)

To be Black in America is to take up and occupy spaces that were never designed to be

occupied by you. Your body, your presence does not fit the spaces that you enter. A "space invader" is the notion of a *body being out of place* (Puwar, 2004). I am indebted to Nirmal Puwar's (2004) *Space invaders: Race, gender and bodies out of place* for critically examining the socio-political notions of space, place, and belonging in regard to racialized and gendered bodies. Despite "the liberal assertion that bodies do not matter and that positions are constituted in neutered, natural, colorless terms," space invaders highlights the mismatch between certain bodies and certain spaces (Puwar, 2004, p. 144). Within her examination of the lived experiences of women and non-whites, Puwar (2004) revealed how "privileged positions have historically been *reserved* for specific kinds of bodies" through the functions and processes of power, domination, and exclusion of whiteness (p. 144, emphasis mine). Her analysis critiques the "neutrality" of the "universal human body," as well as "universal space."

The neutrality of the universal human body is a fallacy because the body is never divorced from perception and interpretation. Puwar (2004) stated that "only certain bodies are assigned having the capacity to be universal" (p. 56). A key component of what makes a universal body is the "capacity to be unmarked by one's body in terms of race, gender or for that matter any other social feature" (Puwar, 2004, p. 57). This means that certain bodies are positioned as universal, while other bodies are marked by "historical practices and discourses" (Yancy, 2005, p. 216). These *certain* universal bodies are *white bodies* because to be universal means to be white (Ahmed, 2017). DiAngelo (2011) stated that "whites are taught to see their interests and perspectives as universal, they are also taught to value the individual and to see themselves as individuals rather than as part of a racially socialized group" (p. 59).

Therefore, being white is privileged because whites bodies are *normalized* in all spaces and have the ability to transcend their racialized body and assume the position as a universal voice of reason (Puwar, 2004). On the other hand, race and gender remain a non-issue for non-white body is socially and politically constructed by a set of practices which marks the body as raced, gendered, disabled and other axes of differentiation. Their bodies remain visible as they are unable to "achieve a privilege state of normative absence" (Yancy, 2008, p. 38).

The universality of whiteness expands into the notion of "space." There is a co-relationship to bodies and the spaces they occupy. What does whiteness and white bodies *do* in spaces? It occupies and shapes them. Therefore, space is no less neutral than "the body" because "bodies are constituted by the spaces they enter" (Puwar, 2004, p. 32). Ahmed (2007) expanded this concept by noting, "spaces acquire the 'skin' of the bodies that inhabit them" (p. 156). If white is universal, then the spaces occupied by white bodies will be white spaces. The logics of whiteness provides a *natural right* to occupy privileged spaces and to be normalized in those spaces. As Yancy (2008) described "white bodies move in and out of these spaces with ease, paying no particular attention to their numbers or looking for bodies that resemble their own. They are at home" (p. 40). Therefore, when scholars are critiquing institutional whiteness, they are "pointing to how institutional spaces are shaped by the proximity of some bodies and not others" (Ahmed, 2007, p. 156). This is evident within academia, as universities are positioned towards whiteness and white bodies because of the accumulation of white bodies within those spaces (Ahmed, 2007). Lander and Santoro (2017) emphasized that "this mutual re-inscription of space determines the nature of that space, who belongs and who may reside within it" (p. 1012). The gathering and the accumulation of whiteness and white bodies makes the non-whites bodies of space invaders to feel "uncomfortable, exposed, visible, different" (Ahmed 2007, p. 157). They are cast as the "Other".

While the term, space invader, includes the lived experiences of Black people, it is important to note that it is a generalist term for non-whites

and non-males, similarly to how "People of Color" is a misnomer for Black people. To add the qualifier of "Black" to space invader, not only expands the lens of the term, but examines the specificities, the nuances, and the complexities of Black social life in various spaces. Exploring the lived experiences of Black Space Invaders conveys how anti-Black social and political constructions have *particular effects* on *particular bodies* occupying *particular spaces*. These constructions indicate how Black "bodies are in an instant judged as suspicious, or as dangerous, as objects to be feared" (Ahmed, 2017, p. 143). For example, Ahmed (2017) denotes that an "unarmed black man is seen as armed whether or not he is armed" (p. 144). To exist as a Black person in white societal spaces is to understand that a social agreement was created that deems your body as *dangerous*. As Ahmed (2017) stated, "there can be nothing more dangerous to a body than the social agreement that that body is dangerous" (p. 144). The next section will highlight *why* Black bodies are made to be *strange*, *dangerous*, and are always *out of place* due to the pervasiveness of *antiblackness*.

Antiblackness: The Logics Of Stranger Making

I feel most colored when I am thrown against a sharp white background.– Zora Neale Hurston

The Black is trapped, always already ontologically closed… the Black is held captive by the totalizing power of whiteness (Yancy, 2005, p.227)

What does it mean to be *against the Black?* It is a reminder that Black people struggle to live in an anti-Black society where they are regarded as humans (Dumas, 2016). According to Dumas and ross (2016), antiblackness is "not simply racism against Black people," but rather a "broader antagonistic relationship between blackness and (the possibility of) humanity" (p. 429). To paraphrase Wilderson (2017), antiblackness is the DNA of civil society because antiblackness is a pre-requisite for world-making. Antiblackness is a global phenomenon that structures violence against Black bodies. Black people are not only "Other," but *other than human* because Black "is the very antithesis of a human subject" (Dumas, 2016, p. 12). Humanity is defined by how white you are or your affinity towards whiteness. Therefore, to be Black equates *non-human* and to be white equates *human*. There needs to be a greater focus on specificities of antiblackness as it is not only perpetuated by whites, but also non-whites. Ahmed (2007) wrote that "if the world is made white, then the body-at-home is one that can inhabit whiteness (p. 153). Whiteness is not locked to *just* the white body, as it can inhabit *any* 'body.'" Moreover, if universal spaces are saturated with the accumulation of whiteness, this means that the logics and habits of whiteness can be assumed and performed by non-whites. By "sharing whiteness" (Ahmed, 2007, p. 155), being in proximity to whiteness, or being white-adjacent, non-whites can perpetuate not only whiteness but also antiblackness.

The *modus operandi* of antiblackness is *stranger making*. It operates to make the Black body feel universally strange. To be a *stranger* as Ahmed (2012) described is, "an experience of not being white…the one who is recognized as 'out of place,' the one who does not belong" (p. 2). Black bodies are denied at the phenomenological level. Gordon (1995) stated, "in an anti-Black world, Black people are situated in the *what* mode of being instead of a *who* mode" (p. 6). Therefore, to be Black is to experience the world as strange; to be denied a sense of belonging and place because Blackness is not the "universal" image." Gordon (1999) said that "white people are universal…and Black people are not" (p. 34). To be white is to be *universal* and to be Black is to be *particular* (Ahmed, 2017). While being Black is surmised as a *particular* experience, antiblackness feels like it is a *universal* experience for the Black body. The Black body cannot be *universal* because it is foreclosed by social and historical markers. Yancy (2008) noted that:

The Black body has been historically marked, disciplined, and scripted and materially,

psychologically, and morally invested in to ensure both white supremacy and the illusory construction of the white subject as a self-contained substance whose existence does not depend upon the construction of the Black qua inferior (p. 1)

This foreclosure of the Black body is the basis for the transcendence of the universal white body. Fanon (2008) noted that "not only must the black man be black; he must be black in relation to the white man" (p. 82-83). The Black body is constructed and scripted in relation to the construction whiteness and the white body as the norm (Yancy, 2008). Therefore, the existence of the universal white body is justified and normalized at the expense and justification of Black existence (Gordon, 1995). In this damning ontological (pre)determination, the Black body becomes a body that is inscribed with meanings that are not our own. As Parker (2019) put it, "My body is an argument I did not start. In a way I am not aware who made me" (p. 22). As a result, the existence of Black life is always in a state of questioning. The "I am" becomes "am I?" as anti-Black racism is the experience of racial gaslighting. The Black body is violated by onto-epistemological violence.

Anti-Black violence is structural, but not always physical, as it can be *insidious*. Brown (1995) mentioned that "insidious trauma," is a structure of violence where "the traumatogenic effects of oppression that are not necessarily overtly violent or threatening to bodily well-being at the given moment but that do violence to the soul and the spirit" (p. 107). Bazemore (2013) furthered that point by suggesting, "the aspects of [insidious] trauma that are attached to and repeated through cultural, queer, racial, gendered, class, and socio-economic structures. Black people are wounded and scarred through various social locations. In *Nihilism in Black America*, Cornel West (1992) stated that, "these wounds and scars attack black intelligence, black ability, black beauty, and black character daily in subtle and not-so-subtle ways" (as cited in Dent & Wallace, p. 42). The wounds and scars are produced by violation of the Black body through the generative gaze of white spectatorship (Yancy, 2005). What does this *look* do to the Black subject? Yancy (2005) noted that, "the white gaze defines me, skewing my own way of seeing myself. But the gaze does not 'see' me, it 'sees' itself" (p. 230). The white gaze takes the Black self out of the Black body, shapes it to its liking, and returns it as something else: a nigger. This ritual of niggerization reduces the Black body as inferior – a plaything that "must learn to live with mediocrity and accept [their] place within the 'natural' order of things (Yancy, 2005, p. 231). To be niggerized traps Black existence, as Gordon (1995) stated, "manqué—existence gone wrong. Their mode of being, becomes the 'being of no'" (p. 98). To be Black is to be reduced to a condition, a "certain facts of life." Black existence becomes a feeling of *being a problem*. For white America and beyond, framing Black bodies as a *problem* seem to be a necessary relation (Yancy, 2005). The question becomes: How do Black people operate in white civil spaces?

What Is He Doing Here? Being A Black Preservice Teacher Educator

The arrival and residence of Black intellectuals within academic spaces is challenging the homogeneous notions of place, identity and knowledge within academia. Defying the historical and conceptual norms, Black academics threaten the status quo by possibly altering the *look* of the institution and displacing the white body as the figure of authority (Puwar, 2004). With a more diverse teacher education faculty, teacher education programs are more likely to, "emphasize critical inquiry; recognize the 'Other' and what that means in the United States; respect diverse student groups' experiences" (Atwater et al., 2013, p. 1309). Despite this Puwar (2004) emphasized that the "presence of black people in institutions should not be taken as a straightforward sign that organizational cultures and structures are drastically changing" (p. 32). Whiteness is deeply embedded into the social fabric of institutional life as Black presence within

academia can be seen as Black sprinkles within a vast sea of whiteness. As James Baldwin (2012) eloquently stated, "I remain as much as a *stranger* today as I was the first day that I *arrived*" (p. 165, emphasis mine). The arrival of my Black body within academic spaces disrupts the natural domain of whiteness and creates a "strangeness" to the space (Puwar, 2004). There is always a feeling of being unwelcome, as if I were an alien in that space. This is a slice of reality of "Teaching While Black" (T.W.B.).

In *Against the Dark: Antiblackness in Education Policy and Discourse,* Dumas (2016) asked, "What does it mean to suggest that education policy is a site of antiblackness?" (p. 15) I wish to expand that question to Teacher Education: What does it mean to suggest that Teacher Education is a site of antiblackness? It means that being a Black Teacher Educator is challenging, even on the good days because I know that I am occupying a space that was not made for me. As a Black faculty member, I must negotiate the identity of being a Black male and an academician at all times. My existence in these white spaces "becomes a form of political labor" (Ahmed, 2017, p. 115.) I cannot avoid that I am a Black man. In an anti-Black society I am not afforded the privileges of not going *there* when talking about race. Every semester I have to prepare myself for psychically exhausting encounters, the patience that I will have to afford to my white pre-service teachers, and the epistemic violence and suffering that comes my way. The challenge of being a Black Teacher Educator is: my Blackness. I am not a part of the norm because as Lander and Santoro (2017) stated that "the majority of academics in faculties and schools of education are white and from the hegemonic white majority" (p. 1098). Therefore, as a Black Teacher Educator, there is a keen understanding that my arrival into white educational spaces, means that my body is *out of place* and my presence brings *tension*. I am reminded of this fact every time I teach.

Body Out of Order: Visibility and Invisibility of The Black Body

As a Black Teacher Educator there are certain social dynamics that impact my identity as a Black professional. As a Black academic there is a *pressure* to prove that I am capable to teach, which requires me to work "twice as hard" to legitimize my presence, despite the "spotlight of intense racialized optics" (Puwar, 2004, p. 63). Yancy (2005) and Puwar (2004) mention the paradoxical social dynamics of "visible invisibility." As a tool of whiteness, this contradictory designation, renders the Black body hyper visible and invisible simultaneously (Lander & Santoro, 2017). I am hyper visible became I am a Black man in a public space. Staples' (1986) *Black Men and Public Space* spoke to this reality due to the fantasies of racist white imagination. The fear and suspicion of the Black male body keeps me under the watchful eye of the *white gaze*. Yancy (2005) stated that, "the Black body is looked at. The Black body does not return the gaze. The white body is the looker" (p. 228). I am also *looked* at because I also embody "diversity" (Ahmed, 2017). It is hard not to be noticeable when you provide "color" for a university. This visibility brings a disproportional amount of surveillance. Marked by gendered racism, "every gesture, movement, and utterance is submitted to 'super-surveillance'" (Puwar, 2004, p. 11). I am haunted by the anxieties of making errors because the slightest mistake is likely to be noticed and exaggerated (Puwar, 2004). Moreover, I am cognizant of how I *appear* because Black existence is perceived as threatening. Black academics have to work "to maximize the distance between yourself and their idea of you" (Ahmed, 2017, p. 131).

Yancy (2005) posits "what is "seen" when the white gaze "sees" "my body…?" (p. 220) The idea of "me" renders me invisible because I am never *seen*. Gordon (1997) stated that "the black is invisible because of how the black is 'seen.' The black is not heard because of how the black is 'heard.' The black is not felt because of how the black 'feels'" (p. 37). I am invisible because the

white gaze dispossesses my identity in relation to my body. My identity is superficially imposed onto my body by the white idea of Blackness (Yancy, 2005). I become a point that is *viewed*. Moreover, I am also a point of *view* because as a Black man that embodies "diversity," I am "seen" as a race specialist. Black academics are not representatives of the universal human because we are marked by race. We offer "minority discourse," as Black academics speak with racial particularity (Puwar, 2004). Even within this designation I am damned. I am particularized as a race specialist, but I have to be careful about how I speak on race, as my speech can be *viewed* as mildly unconventional or labeled as extremist (Puwar, 2004). My invisibility can shift to hypervisibility at any time. Within this double-bind, my Black body is "phenomenologically returned to me as inferior" (Yancy, 2005, p. 219). These social dynamics do not make me feel like a human but as a "object in the midst of other objects" (Fanon, 2008, p. 82). It is hard to *fight* that feeling. The sections proceeding below highlights the nuances and complexities of these social dynamics.

Teaching While Black (T.W.B.)

To suggest that Teacher Education is a site of antiblackness is to explain how my Black body is problematized within the classroom. To many of my white students, being their first (probably last) Black professor presents me as an anomaly. There is a certain *weight* – a heaviness that comes with that because I am "different" and "unknown." Every semester, students do not know what to make of me. My teacher identity is *strange* to them. I dress plain, wearing jeans, hoodies, and some dusty sneakers. I swear, carry two cellphones, and my Black skin makes me hypervisible. I am first "Othered" by students when they see my name online as the instructor: Professor Amir Gilmore. Before even meeting me, my body is already being inscribed by the white imaginary, with meaning that is not my own. Students generally assume that I am non-white Muslim because of my "ethnic" first name. I am "Othered" yet again upon my arrival during the first class of the semester. Students are generally surprised that their professor not only has an ethnic name but is also "Black." Since my identity is *alien* to them, I get asked questions that reify my exclusion, such as: "where are you from?" "where is your family from?" "are you Muslim?" If it is not questions about my body belonging to a certain *place*, then I am asked diversity-related questions, because I am a body of *diversity*. If it is not that, then I am asked very subtle questions to see how *Black I am* in a "Blacker than thou" performative context. My identity is stolen from and violated. My Blackness is judged against the white imaginary of what it means to be *really* Black in a DuBoisian (1982) "double consciousness" type of way. Instead of trying to understand *who* I am, students sometimes feel it is more important to understand *what* type of Black person I am. This discourse is rooted in the anti-Black notion of respectability politics called *Black Exceptionalism*.

Black Exceptionalism is a raced, gendered, and classed discourse that affects Black people. Agada (2015) stated that Black Exceptionalism is, "the mythical notion that Black people who are educated, smart, articulate, and poised are atypical or rarities among the general Black population." Black people that "defied" dominant racist stereotypes are deemed "exceptional." This notion polices Black people through a hierarchy of Black life, as it distinguishes good negroes from bad negroes (Armour, 2000). Only those that defy the stereotypes are worthy of praise. I am "Othered" for a third time because my presence as Black professor is deemed a rarity, not because of structural nature of antiblackness, but because Black people do not have the capacity to be an intellectual. The occupational space of *the intellectual* is largely reserved for white middle-class men (women in education) (Lander & Santoro, 2017). To be a Black intellectual is outside the normative realm of possibility as an occupation for a Black person (Yancy, 2005). It is a reminder that who I am and what I do is not normal within the white imaginary. My inclusion

is through the exclusion of the Black "Other." "I must not be a "bad negro" because I am a Black academic." "I am not like other Black people because I occupy this space." In this circumstance, the white gaze takes my Black self out of my body, shapes it to its liking, and returned it as something else: a nigger; more importantly a nigger professor. This *niggerization* traffics subtle and complex forms of racism, such as microaggressions, my way. (Lander & Santoro, 2017). Huber and Solorzano (2015) defined microaggressions as "a form of everyday racism used to keep those at the racial margins in their place' (p. 298). These subtle cumulative assaults can be verbal (i.e. where are you from?) or non-verbal (i.e. eye-rolls) communications that insult and demean the Black recipient (Lander & Santoro, 2017). I have come to expect these assaults, to feel as if my body is a question mark (Ahmed, 2017) because "[American culture has] already told me what this was and what my reaction to this should be: not to be surprised; to expect it; to accommodate it; to live with it" (Marble, 2000, p. 9). How does it feel to be a problem? My body is the problem.

Un-Suturing The "White Problem" Through Curriculum

Not only is my body a problem, but so is my anti-racist curriculum. Lander and Santoro (2017) specified that teacher education curriculum that is "developed by, and taught entirely by academics from the dominant white majority group, is likely to reflect the cultural values, priorities and practices of that group" (p. 1099). Knowing what we already know about the accumulation of whiteness in academia, and the demographics of teacher education candidates, teacher education curriculum is geared towards white people, especially white middle-class women. As a result, the bodies, the values, habits, and practices of white teacher candidates remain as *universal* because whiteness as a racialized position remains unchallenged. White teacher candidates see themselves as *individuals* that are producers of "unbiased, value-free information and advice" (Puwar, 2004, p. 56-57). Upon entering my class, many white preservice teachers hold the belief that within educational spaces that the human body is *neutral* and that they themselves are *people.* As devout believers in the logics of color-evasiveness, neoliberalism and meritocracy, they see education as the "great equalizer." To suggest that teacher education is a site of antiblackness is to illuminate white teacher candidates' failure or inability to believe that "Black lives are still imperiled and devalued by a *racial calculus* and a *political arithmetic* that were entrenched centuries ago" (Hartman, 2008, p. 6, emphasis mine). It is a failure or an inability to believe in the pervasion of antiblackness and how it intersects within education. Wilderson (2010) suggested, "it is important for educators to acknowledge that antiblackness infects educators' work in schools, and serves as a form of (everyday) violence against Black children and their families" (as cited in Dumas, 2016, p.17). Many white preservice teachers do not think that they do not have a "racist bone" in their bodies. Once again, there is a failure or an inability to believe how white logics, discourses, habits, and performances perpetuate antiblackness. They would like to believe that Americans live in post-racial America, where racism has receded as a distant memory. But as Ahmed (2012) eloquently stated that, "the very idea that we are beyond race, that we can see beyond race, or that we are 'over race' is how racism is reproduced; it is how racism is *looked over*" (p. 182-183). So much of my time is spent challenging my students that racism, sexism, and other "isms" have not ended. It is hard to get over something that has not ended (Ahmed, 2017).

DiAngelo (2011) stated that "white preservice teachers have hardly ever had to problematize or discuss their whiteness because "a single required multicultural education course taken in college… is the only time they may encounter a direct and sustained challenge to their racial understandings" (p. 55). My class is the required class. Therefore, my role in Teacher

Education is to have white preservice teachers "'get real' about race and the persistence of racism in America" (Bell, 1992, p. 5). I remind students of the "lingering significance of racism and our inability to eliminate it from U.S. society" (Solorzano & Yosso, 2001, p. 2). My curriculum attempts to blows up the universality of whiteness by challenging ordinary racism, sexism, classism, and other "isms" in our lives. Scripting the mundane, these isms affect the habits, behaviors, and actions of people (Ahmed, 2007). By providing an intersectional analysis, students interrogate how markers such as gender, race, class, sex, sexuality, and ability inform and influence notions of adolescence, community, and schooling. My course challenges commonly held beliefs by approaching social justice issues, dimensions of identity, discrimination, and power from a *systemic* basis. White students are raised to believe that they are no better than anyone else but neglect to discuss how whiteness, power, and privilege operate and benefit them in this country (Yancy, 2018). My aim is to never let white teacher candidates forget that they are not the *universal* body, but a racialized and gendered body that has configured the world to privilege their whiteness and comfortability of whiteness. To achieve that, I invite white preservice teachers to un-suture themselves from whiteness (Yancy, 2018). The process of un-suturing is *truth-telling*, as it gets white preservice teachers uncomfortable with their racism and their privileged mode of living in a color-evasive world. Un-suturing answers the common question that I hear the most from teacher candidates: "but what can I do?" Un-suturing makes white preservice teachers vulnerable to the world, centers themselves as the *problem*, and allows them to rearrange themselves to see the anti-Black world. Un-suturing is the starting point of anti-racist activism.

Un-suturing is the starting point because what white preservice teachers have to understand is that they are gatekeepers to the wellness and joy of Black children. They have the power and privilege to acknowledge Blackness and Black children in a *meaningful* way. If white preservice teachers remain sutured to whiteness, they will be unable to grasp how Black children are subjected to anti-Black violence. They will be unable to understand how their "whiteness provides [them] comfort at the expense of Black suffering" (Yancy, 2018, p. 11). Their inability to un-suture could be the very starting point for Black children to experience anti-Black violence. Within schools, Black children suffer because as Dumas (2016) stated, they, "struggle against what has always been (and continues to be) a struggle against specific anti-Black ideologies, discourses, representations, (mal)distribution of material resources, and physical and psychic assaults on Black bodies in schools" (p. 15). Schools "revolve around middle-class white norms and expectations" (Majors & Billson, 1994, p. 14) and therefore, do not embrace the humanity of Black lives. Upon their *arrival* to school, Black children are "constructed as wrong, inappropriate, not enough" (Dumas, 2018, p. 39). To be Black "is to be always bad, and to be in urgent need of disciplining" (Dumas, 2018, p. 38). This *hidden curriculum* goes unchallenged if white preservice teachers remain sutured. We cannot ensure the futurity of Black children without addressing how antiblackness functions within schools. This is something that needs to be furthered theorized within the field of preservice education.

Creating Anti-Racist Practitioners in the Face of White Resistance and White Fragility

Inviting white preservice teachers to un-suture themselves from whiteness is no easy task, as I encounter white resistance along the way. In *Silences as weapons: Challenges of a Black professor teaching White students*, Ladson-Billings (1996) described the nuanced strategies that white preservice students engaged in to disrupt learning opportunities for themselves in regard to race. To suggest that Teacher Education is a site of antiblackness is to understand the pedagogical turmoil that Black Teacher Educators experience to get their white preservice teachers to embrace anti-racist pedagogy. Despite a majority of white

preservice students claiming that they are *not racist*, there is a damn near impossibility to have an honest conversation with white people about their racism, especially anti-Black racism (Yancy, 2018). This is because of one aspect of whiteness called White Fragility. According to DiAngelo (2011), "White Fragility" is a state in which even a minimum amount of racial stress becomes intolerable, triggering a range of defensive moves (p. 57). To reinstate white racial comfort, these defensive moves include, "the outward display of emotions such as anger, fear, and guilt, and behaviors such as argumentation, silence, and leaving the stress-inducing situation" DiAngelo, 2011, p. 54). Teaching with white students about their complicity to racism means learning to teach around the wall of white resistance.

In *On Being Included*, Ahmed (2012) explained how white resistance against the critiques of the institutionality of whiteness is likened to "banging your head against a brick wall," and "coming up against something that does not move" (p. 26). White resistance is a defensive mechanism that allows white preservice teachers to remain sutured to their whiteness. White resistance creates a space where I am the *problem* because I cause discomfort for white students for bringing up their complicity to white racism. To pose a problem is to become a problem (Ahmed, 2017). My mention of racism is seen as instigating versus educating because in a post-racial America, racism is a distant and unpleasant memory. To hear racism as an accusation is a way to avoid changing how institutional whiteness is reproduced. I become the racist by bringing race up. I am subjected to the strong reactions that white fragility brings.

One strong reaction that this work brings is white silence. Nothing shuts down a conversation quicker than silence. Surely, sitting in silence with certain tensions can be a good pedagogical lesson for students, but this tension is located *elsewhere*. This tension comes from having their white social environments disrupted. In this regard, silence is weaponized as a form of resistance to convey an unwillingness to engage in meaningful conversations about race. "Let's talk about color-evasive ideologies within schools." Silence. "Let's talk about the school-to-prison-pipeline." Silence. "Let's talk about intersectionality and white feminism." Silence. "Let's talk about racist coded language." Silence. "Let's talk about white privilege." Silence. No white student wants to go *there* when it comes to race because they do not want to sound like a racist. Silence insulates white people from race-based stress. Surely talking about racism can be stressful, but so is dealing with the material, physical, and psychological effects of racism. There is a racial injury that is inflicted upon me by white silence. I cannot avoid race because I am marked by race. The conversations that I have with white students are not just "academic," as they have material, sometimes lethal consequences for Black people, especially Black children. Their passivity and silence make me question if my life is valuable enough to them to warrant discussion and challenge whiteness.

Besides the use of silence, another defensive tactic that is used is anecdotal evidence. In certain contexts, the use of anecdotal evidence can be beneficial to providing perspective. If used defensively allows white students to remain sutured. For example, a white student suggesting that they are not racist because they have two Black friends will not suffice as a response that racism is over or that they are not racist. Individual white actions does not free white people from their maintenance of racism or dismantle the fixed position of Black life under white supremacy (Yancy, 2018). Ahmed (2012) noted that, "racism should not be seen as about individuals with bad attitudes, not because such individuals do not exist, but because such a way of thinking underestimates the scope and scale of racism, thus leaving us without an account of how racism *gets reproduced*" (p. 44). The inability to see that racism (and all other -isms) beyond individual white action, but as a systemic ideology rooted within our institutions is a privilege. For many students in my class, the America that I speak of is not the America that

they know. The literature, statistics, and findings that I have presented is simply "my opinion" and the particular opinions of scholars of color. To simply write off these experiences as opinions or a *thing of the past* is a privilege. White anecdotal evidence strategically avoids race by derailing the conversation. It also allows white students to re-center their whiteness as the universal site of morality and reason. To suggest that teacher education is the site of antiblackness is to suggest that white students are more interested in the "good will" whiteness and the social comfort that it brings rather than un-suturing themselves from it.

Like, Why Do It?

Black people are the magical faces at the bottom of society's well. Even the poorest whites, those who must live their lives only a few levels above, gain their self-esteem by gazing down on us. Surely, they must know that their deliverance depends on letting down their ropes. Only by working together is escape possible. Over time, many reach out, but most simply watch, mesmerized into maintaining their unspoken commitment to keeping us where we are, at whatever cost to them or to us" (Bell, 1992, unpaginated).

After reading this, one might ask: "why do this work?" Why talk about race, whiteness, and antiblackness with white preservice teachers when at the end of the day everything remains the same? It is a question that is warranted due the racial battle fatigue that myself and other Black academics endure. I do not write this to desire pity, but to share with you a slice of Black lived experience, as Yancy did for me. I wrote this to further theorize that the "Black body is the battleground," (Yancy, 2008, p. 1) for Black humanity, even within teacher education. Teacher education is a site of antiblackness where white preservice teachers struggle with concrete applications of theoretical ideas about race and racism concerning Black life.

At the end of every semester I mediate on the word *why* and every semester I *hear* the words of Derrick Bell. In this anti-Black society, Black people are the faces at the bottom of the well. To get out of the bottom of the well takes *action*. If I stopped today, who would do this work? "If we were all white, it would be possible to "do nothing. That would be enough" (Jordan, 1971, p. 3). White educators can afford not to do this work. I cannot afford not to do this work because antiblackness is pervasive. It is important to understand that antiblackness is not just a particular experience, but global phenomenon that affects Black lives. Antiblackness traffics violence to Black people regardless of your profession, the accolades you achieve, the car you drive, or how well-mannered you become. It only cares about putting you in your *place*. I do it this work, not to save white people, but to save myself, Black families, and Black communities. If Black academics stopped doing the work, the work would cease to exist, and antiblackness would continue to exist unchallenged. I do this work to manifest a world that sees the Black body as human. I do this work to manifest a world where Blackness can be loved. I do this work to manifest a world where Black children can be loved. I do this work to manifest a world that ends the perpetuation of institutional whiteness. My manifestations come from a collective commitment to action. I am committed to "doing the right thing." I am committed to showing the world that Black lives have and continue to matter. I am committed to fighting against the logics and structures of whiteness and white supremacy.

As I close thinking on Black life, I think about Black youth. I think about the past, present, and future of their lives. I think about my responsibility to them. As a Black Teacher Educator that is focused on the educational experiences and outcomes of Black children, it is imperative that we interrogate the nuances, complexities, and specificities of antiblackness. We have to be non-negotiable with Black freedom and Black suffering. We cannot

compromise our radical imagination of Black freedom for a piece of civil society (Dumas, 2018). This means that we must exercise our right to refuse what has been done and what can be done through teacher education. We must refuse the "deliberate speed" of teacher preparation and call attention to how Black children suffer. Howard (2014) mentioned that, "we need a paradigm shift, anti-black and anti-deficit view of Black performance in schools and in society writ-large" (p. 19). That paradigm and pedagogy is possible by refusing what has been refused to us: our place. As a Black space invader, I blow up the universal and bring indefinite possibilities. "This world is white no longer, and it will never be white again" (Baldwin, 2012, p. 179). As a Black space invader, I am here to tell you that Black children "deserve a school system that will educate them with intentional love (Watson, 2018, p. 309). I *belong* here and I am not going *anywhere*. I embrace my occupation of unseating and unsettling white students' expectations and feelings. I take up SPACE, and that is something that I will *always* take joy in.

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Hacking Toward a Public Education

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Introduction

In a certain section of Laura Poitras' recent exhibit at the Whitney Museum, *Astro Noise*, visitors come to a dimmed room framed in black walls. From prison cell-like openings, thin strips of light cut through the darkness, drawing visitors. Approaching these viewing stations intuitively, anticipating something sinister and secretive, one instead spies pieces of paper resting on simple easels. Leaning to examine the paper, a jarring sensation rumbles as one prepares to partake in a private, secretive moment in the public space of the museum. Upon closer inspection, it becomes evident that Poitras has displayed in these cases artifacts, including government documents about her own surveillance, from the war on terror. Though the artifacts bear the notorious markings of redaction, and though the viewing stations are individualized, the artifacts are clear and readable. One finds inside the stations formerly private, disciplinary government documents now bathed in light for all viewers to encounter, as the documents sit in a simulated solitary confinement.

In the process of making a documentary about an election in Iraq, *My Country, My Country* (2006) and the acclaimed documentary about Edward Snowden, *Citizen Four* (2014), the U.S. government began surveilling Poitras. Documentation of her surveillance, created in and intended for the private, was supposed to discipline Poitras' behavior and work. Visas granted her access to make these documentaries, but disciplinary measures suggested what kind of documentarian she was "allowed" to be. With the exhibit, however, Poitras reclaimed these surveillance technologies. That which had been intended as shameful private discipline became a rather public, artistic expression. This paper playfully applies Poitras' appropriation of private disciplinary documents to artifacts of teacher surveillance by tinkering and hacking (Lewis & Friedrich, 2016) teacher observation forms.

The paper begins with an outline of some of the dominant practices of teacher surveillance and the technologies of power used to legitimate the logics that construct such surveillance within the U.S. We explain how these practices, particularly their intended secrecy, function to discipline teachers and normatively frame teaching. From here, we outline a theoretical framework grounded in notions of the commons (Rancière, 2006) to challenge surveillance techniques that operate through privacy and thus suggest a reconfigured notion of who has a say in schooling practices. We pursue two objectives: First, we intend to return to the commons of schooling that which was meant to be private; second, we disrupt the singular, and fixed functions of private teacher surveillance technologies. To pursue these objectives, we hack a document that we consider to be an example of this type of teacher surveillance. After playing with this document, we conclude with some potential implications, especially for teacher education, and offer an invitation to continue this work and reclaim education as a public good.

A Tradition of Discipline

Teacher surveillance is not a new phenomenon. Whether from desires in education policy to build an equitable system, calls for transparency, demands for demonstrable results, and/or from a lack of trust in teachers as intellectual workers, the history of public school teaching in the U.S. is populated with examples of teachers being treated as cogs in a machine in

need of watching, disciplining, and correcting (e.g. Lagemann, 2000; Mahoney & Hextall, 2000). For example, Webb et al (2009) point to Warren's (1968) call for surveilling teachers as a way of holding them accountable to particular ways of teaching. These practices present the general notion of educators working in a panopticon. Foucault's metaphor, describing the normative and internalizing effects of an all-encompassing surveillance, is frequently applied to educational settings. Here, it specifically highlights that teachers are already enmeshed in networks of corrective surveillance –as both subjects of and subjected to asymmetrical power relations, both holding and being held under the magnifying glass-- that operates increasingly on a personal level. In other words, surveillance spreads across many educational settings and contributes to normatively producing teachers. "In the system of surveillance…[t]here is no need for arms, physical violence, material constraints. Just a gaze" (Foucault, 1980, p. 155). It is important to note that, as with Foucault's notion of power as positive in its productiveness, discipline does not necessarily imply repression of an authentic teacher self. Any kind of shaping of a desired teacher -including the progressive teacher- implies discipline, and thus surveillance. The issue is therefore not with practices of watching or surveilling in and of themselves. As detailed below, the problem with this type of surveillance is its private construction, its specific authorities, and its normative workings that discipline teachers toward narrow and predetermined models of teaching. The relegation of surveillance and discipline to the private sphere is not natural or self-evident, and were one to reclaim education as a public good, so should surveillance technologies be reclaimed as part of a public.

Within this history, a particular type of surveillance, not unrelated to the surveillance Poitras hacks in her exhibit, has increasingly come to be part of schooling practices in the last fifteen or so years. For example, Au (2013) traces privatizing efforts to attack teacher education programs to the year 2000, when the National Council on Teacher Quality was created as a mechanism to challenge teacher education institutions. Au specifically focuses on one product of this shift: the Teacher Performance Assessment (edTPA)—a portfolio increasingly used by states in credentialing teachers, where student teachers create pieces of "evidence" such as teaching videos and lesson plans. Au focuses on the influence of Pearson in the production of this technology and how Pearson is reshaping the process of teacher education, which may serve as an example of the more general notion of technologies created for disciplining and policing teaching that are treated as a private (and privatized) matter. Here, we consider the private both in terms of the behind closed doors processes of teacher education and teacher development and the private entities that construct these technologies and policies.

These practices are bundled into a push for certain kinds of reform. Whether categorized under terms such as accountability era or neoliberal education (e.g. Wexler, 2004), teachers are assessed, evaluated, and educated to increase measurable and allegedly objective results (Taubman, 2009). Essentially, certain education reform measures have been linked to a call for accountability, inscribed in a discursive grid that links it to transparency, objectivity, comparison, ranking, and a trust in numbers (Porter, 1996). Teachers, this logic suggests, can and must be trained or corrected to produce the best learning along a linear march toward the educated subject.

More specifically, pedagogical practices become increasingly linked to specific elements that determine what it means to be a teacher and what teaching looks like. Teacher identities become intertwined with labels associated with the outcomes and language of these assessments (developing teacher, effective teacher, etc.). Here, we aim to highlight what forms surveillance practices take and how they are linked to specific kinds of knowledge about what it means to be a good teacher. Such knowledge is

something that can be demonstrated, provided clearly on a test or review. Furthermore, if teachers and teaching are mechanisms for working toward a universalized vision of mastery, then a teacher's knowledge is relevant to teaching practices; it is not relevant to matters like policymaking. These aspects are reserved for those who make teacher surveillance documents. Thus, we contest the power relations on which these technologies come to be rather than the technologies themselves. Moreover, we challenge that these things created in private spaces, and intended to be kept out of the public view are presented as valueless and purport to show singular, apolitical notions of ideal teaching. Even if the pursuit of standardization may be driven by objectives of equality and opportunity, and the technologies we are pointing to may also show some that multiple pedagogies can lead to desired outcomes, the creation of the documents used in their service, the dissemination of these policies, and the manner in which they are executed is decidedly private. Teacher assessment, used in hiring, pay, tenure, and other aspects of teaching, is often driven by predesigned measures. Teachers and preferred models of teaching are then produced through those who determine desirable outcomes. These surveillance technologies also include built-in ways to discipline those who deviate from these visions with little opportunity to contest the technologies or the visions of teaching they produce.

There exists in these practices a certain normalized vision of good teaching and good education. Teachers require training and feedback to enact this vision, working collaboratively to implement visions of good teaching with someone like an instructional coach, but many of the approaches to observation and the technologies used in its service are coercive. The rationale of these practices, the logics of their purpose, and the authority of both, stand on prefigured notions of effectiveness, measurability, and incentives. When these notions and the technologies developed to bring them to the classroom come from undemocratic processes and serve privately constructed ideals, teachers and other stakeholders stop being conceived of as *subjects that count* in the decision-making process. Under this framework, education has little room for risk (Biesta, 2013), play, or experimentation.

Given this privacy, the creation and use of these documents is obscured from the public, resisting their engagement. Families do not have a say in qualities they desire in a teacher. Teachers' styles and trajectories are not included, and neither are the voices of students and teacher educators. The general public is left out of conversations to construct what counts as desirable education. We do not mean to simply call for documents such as rubrics to be made public. Within a public sphere, inner life and personal privacy are still of great value. The disciplinary nature with which they were created and disseminated can make them shameful artifacts. Within this giant private system, the information contained within these documents becomes an aspect of personal privacy. Sharing their contents can make teachers vulnerable. Turning them into public works thus becomes a defiant as well as courageous act, similar to the making public of resignation letters by educators disappointed in the direction that schools have taken (Dunn et al, 2017). In this defiance, tinkering with these disciplinary documents and moving them toward the commons renders their intended function inoperative.

Activist groups and scholars alike have presented challenges to teacher surveillance. Teachers have formed affinity groups to support each other and their practices (Madrid & Dunn-Kenney, 2010). Groups such as the New York Collective of Radical Educators (NYCORE) have also undertaken direct opposition to undemocratic teacher surveillance by "helping to focus teachers' attention on personalized forms of resistance within their own classrooms" (Weiss, 2008, p. 262). We aim to contribute to and extend these lines of critical engagement. As previously mentioned, our critique is specifically on how the artifacts are made and the privacy

through which they are enacted. Further, we challenge the singular and unwavering authority bestowed upon documents used in their name.

Meanwhile, we will attempt to see the artifacts with which we work as anything but rigid, their purpose as anything but fixed. Speaking for a shift in science, Latour (2005) suggests that "For far too long objects have been wrongly portrayed as matters-of-fact" (p. 9). In our case, that means that these documents are considered as objects to convey unshakeable evidence of good teaching. Interests and politics entangled with these technologies disappear when viewed as "matters-of-fact." When taken instead as "matters-of-concern" that depict "values, opinions, attitudes or principles" (p. 4), these technologies may or may not depict acts of good teaching, but they certainly reveal the logics of the objects. Furthermore, while we contend that any notion of good teaching exists in the plural, we do not oppose the notion that teaching can have reflective or evaluative elements. Assessment can potentially function as a useful aspect of helping teachers reflect, discover, and experiment. Yet, we expose these artifacts as the product of certain conditions and concerns held by certain groups, decidedly not the totality of the public sphere. We aim to subvert the power relations on which many of these documents are constructed, suggesting that the hierarchical and unilateral dissemination of teacher surveillance is rather undemocratic.

Why and How of a Public

A concept of a common democratic public sphere drives the framing of this work. We do not simply call for schools to become places where consensus is built through something like the casting of a ballot. Rancière (2006) explores the commons as a space that is both shared and commonplace, in which anyone, without any particular qualification, can participate. We write about hacking teacher surveillance documents, but these artifacts can potentially be challenged by anyone. That is not to say our framework is one of agreement or dialogue. A commons resists becoming a one best system, a public is constructed through dissensus. Dissensus rests, once more, on the commonplace, not in the sense of basic nor in the sense of agreement. It is instead an act in the public sphere, an "interruption" by "those who have no part in the perceptual coordinates of the community, thereby modifying the very aesthetico-political field of possibility" (p. xiv). Dissensus is an unqualified challenge to the social order.

Thus, a contestation of these schooling logics (specifically the use and dissemination of these documents) comes from the assumption that formal education itself should be part of a public sphere. We recognize the prevalence of privatizing forces within education, but we operate from the perspective that anyone, at any time can potentially wedge a public challenge into these practices and their privacy. Teachers can participate in realms such as policy and teacher education. To do so would contribute to an education that is multiple and more public, an ever-changing space that is for and of anyone within public education polities.

Pursuing these concerns, we also move from a desire to disrupt these problems toward a pedagogical interest in doing so. In other words, our framework is certainly driven by an argument *that* public education matters, but it is specifically framed by methodological and stylistic concerns of "how to make things public" (Latour, 2005). While Latour's interest is a scientific one, we draw on his attention to public as a sphere, focused on representation, but also focused on objects (here an artifact of teacher surveillance).

Our approach is one of tinkering and hacking. Lewis & Friedrich (2016), as a response to a prevalence of outcome-based learning, present "ways in which educators can tinker with and hack into the curriculum by playing with the quintessential embodiment of learning: the test" (p. 237). Abstracting this notion, other embodiments of learning (such as an assessment of how well a teacher is performing at his job) may also be tinkered or hacked. Tinkering is here used as a kind of "purposeless purposiveness" (p.

238), where education (and in this case, classroom teaching) does not progress on a linear path toward mastery. It is at once suspended from particular purposes and yet engaged in purposeful work without adhering to predetermined ends. Educational events then become more open and playful. This paper thus also takes an approach to meaning 2016.that is nomadic and nontranscendent. No one true education model can be uncovered because no positivist "good education" is affirmed. Once the document has been tinkered with, its usefulness is suspended, without settling into a new use. Uses become emergent so that an informal observation form for a teacher is not taken as merely a form used to observe teachers. The potentiality of being useless of disrupts the document's authority and challenges the power relations it establishes.

Hacking, meanwhile, takes things with fixed meanings and unfixes them, challenging predefined purposes and offering surprising new meanings. Having challenged set purposes, hacking then carries the potential to appropriate a thing for new uses. Hacking creates an assemblage of "multiple 'inclusive disjunctions' that bursts apart where things *ought to be* and *how things ought to function*" (Lewis & Friedrich, 2016, p. 246, emphasis in original). What is suspended here is not the usefulness of an object, but the very idea that one can determine an object's usefulness in advance of its use. Lewis and Friedrich use the example of altered street signs by an Argentine art collective. Through recognizable imagery and placement, the signs still function as street signs. At the same time, the altered images produce a new function of signs that comment on the Argentine dictatorship. The process here involves a kind of unmaking of a set curriculum and the making of an unfixed one. A teacher surveillance document is potentially no longer only a teacher surveillance document, so the curriculum is not simply to adhere to the document to one's best abilities.

Yet, hacking does not simply produce an inversion, stripping an artifact of its power and putting in place some other power. Power relations shift, but a hacked document does not produce a new form of truth or logic. Instead, hacking opens opportunities to play and for a multiplicity to challenge stalwart structures. A hacked surveillance document is still a surveillance document and it is something new that comes from hacking and something new from interpreting the hack and and and and… (to use Deleuze and Guattari's (1987) famous repetition of the word).

In the context of this paper, a "successful" play with a surveillance document would thus still be recognizable as a surveillance document, but its original function would be disrupted. It would also disrupt the power bestowed on the original document, as well as the assumption that the effects of the documents can be defined in advance. A successful play may even be completely useless or wasteful, but with a certain awareness of its own wastefulness.

An Example

With this framework, we tinkered with and hacked one example of teacher surveillance. Through word of mouth and social media, we invited teachers to share private documents intended to discipline them (such as observation reports, rubrics, or feedback forms). We explained that we intended to repurpose the documents and thereby turn them into forms of resistance and appropriation through public contestation.

From this invitation, we used a single series of "informal observations" from an "Annual Professional Performance Review" (an official term used by the teacher's school district, hereafter APPR) for a high school math teacher. The form itself (partially shown in the section below) consists of nine sections to be completed by an evaluator based on a classroom observation and three additional sections on "preparation and professionalism." Sections range from pedagogical knowledge ("demonstrating knowledge of content and pedagogy") to student behavior management ("an environment of respect and

report") to a more general assessment of a teacher's trajectory ("growing and developing professionally"). The form is completed with both qualitative feedback and a quantitative score of one to four in each section.

For this teacher, assessors used an adapted form of the Danielson rubric, an assessment rubric that the school district has universally adopted for teacher observations. The assessment is publicly available and most teachers in the district are familiar with its contents. After the observation, this teacher received a copy of the completed rubric and participated in a 20-30-minute feedback session about the observation. At the end of the meetings, the teacher signed a copy of the completed observation form. One copy was then given to the teacher and another copy was placed into a file of teacher observations.

Using the sequence of these forms, we (the authors) then spent two sessions collaboratively working and playing with the documents. In the tinkering process, we toyed with grammar, considered the observation form as a genre and tampered with its generic elements, and generally altered the uses and purposes of the documents themselves. Despite many of our hacks falling into these categories, we were propelled by a notion of emergent and multiple meanings and uses. As such, our methodology was little more than laying out copies of the APPR, taking a hacking framework, and playing. Additionally, we proceeded quite rhizomatically. Some ideas emerged, formed, and completed with a fully appropriated new use for the document. Other hacks raised questions that trailed off unanswered. A few hacks began as ideas and will hopefully take other forms; some exist here in their entirety.

To help display the layout and general format of the assessment, we have included the first section of the rubric below:

Teacher ID: [redacted] **Teacher Name:** [redacted]
School Year: 2015-2016 **School Name/DBN:** [redacted]

CLASSROOM OBSERVATION:

In each observation, all components for which there is observed evidence must be rated. Each form must contain lesson-specific evidence for each of the components observed during a classroom observation.

This observation was: (check one)

☐ **Formal Observation (full period)** ☒ **Informal Observation (15 minute minimum)**

Date of Observation: 12/17/2015 Time/Period: 8:09 a.m. - 8:24 a.m.

Component/Rationale for Score	
1a (obs): Demonstrating knowledge of content and pedagogy You display solid knowledge of the important concepts in the discipline and how these relate to one another; however, there was no connection to another discipline. Your plans and practice reflect familiarity with a range of effective pedagogical approaches in the subject; namely, the use of a self-monitoring-system, strategic share-out of group work problem while the rest of the class was still working and encouraging students to serve as a resource to one another when a student voiced that they were confused. (Highly Effective Element) You demonstrated understanding of prerequisite relationships among topics and concepts and understand the link to necessary cognitive structures that ensure student understanding. For example, you built conceptual understanding by having students create their own system of equations where there was no solution so they would understand that parallel lines never intersect and that the slopes of the lines must be equal in order for the system to have no solution.	3- Effective

In the following sections, we present our hacks. Several hacks simply involve a written reflection on what we did; some offer theoretical provocations for possible uses of the document; others graphically depict hacking and tinkering by directly rewriting onto the rubric. For these instances, we have copied and pasted the rewritten rubric as well as included brief commentary. Throughout, underlined sections indicate language directly taken from the original form. Certain sections echo feedback from the form but do not quote it directly. Again, though we have organized them into categories that emerged in discussions, these hacks only reflect the product of our play. Further hacking work need not fit into these categories.

Grammar/orthography

We tried changing definitions, punctuation marks, and single letters to see what types of new meaning came about for the teacher assessment. Doing so, we altered the meaning of evaluations as well as what was evaluated. For example:

Changing Letters and Word Meanings

In each category being assessed, the evaluator describes ways in which the teacher has mastered that category and ways in which the teacher needs to improve in that category. Adhering to the quantitative frame established for these rubrics, evaluators articulate what aspect of teaching made something a four, three, two, or one (corresponding to highly effective, effective, developing, and ineffective respectively). For instance, from section 1a: *Highly effective element: You demonstrated understanding of prerequisite*…

Our hack maintained the approach of identifying what someone did well or not so well in a given category. However, we changed the highest level of teaching into *Highly Affective Element*, taking element to mean not component of teaching but rather a chemical from the periodic table. Given the positivist nature of these observation forms, we decided to make specific, irrefutable responses for what element would be "highly affective" (4), "affective" (3), developing affect (2), or not affective (1) for each category for a high school math teacher. A 4 would thus need to both affectively and elementally design coherent instruction (1e). In this example, we determined that the teacher would need to be aluminum-like to demonstrate a highly affective design and coherent instruction.

Of course, this interpretation could more earnestly call to open a space for a move away from solely cognitive engagement and toward a place for affect in the classroom. What might a highly affective knowledge of curriculum look like? How might teachers be educated to construct affective educational spaces? At the same time, given affect's wily nature, a quantitative review of its success would veer the whole design directly back to the absurd.

Informal Write-up

We reinterpreted the word "informal." Though a generalization, it is a familiar scene to see evaluators overplay the performative element of teacher observations, pretending to casually appear in classrooms as a way to "pop in and check on how things are going." Below is a single hacked section, a truly "informal" piece of feedback:

Was kinda strolling and like thought I'd chill for 15 minutes minimum and see how you like demonstrate knowledge of content and pedagogy and stuff? I happened to notice you posted questions that promote student thinking and that kinda just happens to be part of our school's written policy. Cool. But like, also, it was really tight that you wanted to engage all students, but I dunno I kinda noticed you did not employ a range of strategies to ensure that most students are heard. I mean, it's cool but I was thinking you might wanna implement the 2-cents strategy to ensure equal contributions.

In education systems relying heavily on acronyms and buzzwords, we also theorized what might be the meaning and use of the 2-cents strategy, a term that was unfamiliar to us. It might involve the phrase's colloquial use, sharing an opinion. It might suggest that the teacher economize "teacher talk time." The hacked answer is that the 2-cents strategy is: *all highly a/effective teachers now practice the 2-cents strategy, a*

best practices approach of low cost incentivizing to increase student achievement in bite size classroom participatory moments. In other words: bribery.

Stylistic

Following the notion of tinkering as creating a use that simultaneously renders a thing inoperable, we considered the notion of offering the entire form to teachers and assessors. In the vein of Poitras, however, we would redact every writeable space.

Genre/Tone

In another approach, we read the completed rubric as a genre. Much like a western or a romantic comedy, each of these assessment forms carried qualities and traits that allowed the possibility, with a bit of tinkering, to fit it into existing genres of media and everyday life.

The One-Sided Couples Fight

At times, the qualitative feedback suggests a certain tone and a particular form of address. The critical feedback and repeated use of the second person somewhat echoes a critical exchange between significant others. The following paragraph takes from the general feedback but imagines an exchange less bound to the individual sections.

So look, there are times when you display knowledge of math content, but you never pay attention to the back of the room. Sometimes, it just feels like all you're doing is managing behavior. And honestly, it seems like you just do the same thing over and over. I'm not saying that's something you should change. I mean, if you were highly effective you'd want *to do it…*

The Civil War Letter

Much of the writing in these assessments feels repetitious and mundane. Of course, the point of the review is to objectively recount events through description. Certain phrases seemed literally cut and pasted into observations. For example, the phrase "actively engage" is used in many sections on multiple observations. On three of the four observations, managing student behavior is assessed as "student behavior is generally appropriate." The fourth observation describes it as "entirely appropriate." Yet, for anyone who has watched the Ken Burns documentary *Civil War*, reportage or remembrance can proceed with elegance. We imagined feedback delivered in the form of a love letter, nostalgic reflection, or perhaps one of the many letters read aloud in the Ken Burns documentary. We pictured the feedback being read over a slow zoom on a wrinkly black and white photograph of students sitting in a turn of the century classroom.

Voiceover

2d: Managing student behavior: Dearest Teacher, As I observe, here, your management of this hallowed space of learning, I think, often, of the grand forces mustered when you called upon your gallant students to commence working. I found their engagement to be, on the whole, generally appropriate. Whilst you instructed upon students to engage the task at hand independently, I found myself forlorn when, happening upon students on two different occasions, they did not comply. On the whole, I found the management of student behavior to be effective. Hereafter, I shall valiantly attempt to informally observe again. Until that time…

New Elements

Another type of hack maintains the general structure and purposefully keeps the form as a teacher evaluation form. With simple changes, however, what is assessed alters a great deal. In these hacks, we either proceeded to find and replace existing categories or added new categories on which teachers might be evaluated.

Exchange Existing Standards for Robocop Standards

If objective measurement reduces teaching to something robotic, and if teaching requires such methods of policing to enforce these expectations, maybe the standards for teaching should reflect that model. Fortunately, a source already exists that combines rigorous policing with rigid, robotic codes, literally. What if the various categories used to guide teachers toward a normative notion of teaching came from the film *Robocop* (1987)? Further, what if the assessor could be a robotic police officer?

Robocop is guided by four prime directives: serve the public trust, protect the innocent, uphold the law, and classified (as a spoiler, the fourth rule is revealed to be that Robocop cannot harm members of the private corporation that created him). Teaching standards would be organized under each of these principles. In addition to recalling standards and why someone has not conformed to them, teachers would also need to understand how to better progress toward compliance of these standards. Armed with specific programming phrases, Robocop offers mechanical educations for the innocent (teachers) he helps. Robo-assessors would need a series of directly causal prompts to correct deviant teaching. Without offering further spoilers, private entities creating this form would also need to consider mechanisms to prevent Robo-teachers from deviating from these directives.

Endless Rubric

From this document's logic, these twelve categories are the only categories on which one need assess a teacher in practice. Yet, anyone with classroom experience knows that many intangible factors contribute to teaching. It might be argued that no number of categories could fully capture what makes good teaching. Accepting that notion, we began an endless list of additional categories that might contribute to a teacher's performance (or at least how a teacher might be evaluated by evaluators, students, visitors, etc.). Teachers might be evaluated on their: handedness (4c), which colors they use on a dry erase board (17y), their erasing technique (17y.2), or the number of wrinkles in their clothes (h56). Considering the increasing link between students' performances on standardized test scores and the view of a teacher's quality, teachers might be evaluated on the color of their students' shoes (though this category is an actual practice in many no-excuses charter schools that pay detailed attention to uniform compliance) or the number of times students smile in a class.

New Uses

A final category considered two ways of leaving the overall template the same but changing the document's uses. First, the APPR could become a universally used form. Here, the evaluator might observe the teacher, the teacher might fill out the form for the students, and the students might fill out the form for the evaluator. Evaluators might evaluate other evaluators. Each of these participants might turn the form on themselves. And on and on.

The form could also extend beyond school boundaries. Subway conductors could be evaluated on how they manage their rapport with passengers. After being pulled over for a ticket, someone could provide a police officer an assessment based on their informal observations of how she managed the person's behavior. Certainly, the universal rubric would be a kind of play on panoptic practices of corrective surveillance. At the same time, this hack is not only a cynical critique of evaluation, but a play of how we engage in a politics of public spheres built on dissensus. It could become an exercise, built on a democratic politics, where anyone can describe and have a say on what they see as part of education.

Second, the rubric could be filled out traditionally, but rather than a dead form to be filed away in a cabinet, it could become some type of performed work. This hack is perhaps most similar to Poitras' work. In one way, nothing changes. The form still carries the standards, repetitious language, and evaluative tone of the rubric. Its private creation and privately bestowed authority remain. Yet, imagine a snarky, overly dramatic performance where a teacher reads their evaluation to a public audience at an open mic. Or, imagine an earnest public reading of the form, placing the performer bare and vulnerable before an audience in sharing sensitive information. Such an act could make teacher surveillance practices public and disrupt the singular authority to define teachers and their teaching.

An Invitation

These examples are the products of collaborative work using only a single set of documents. The play of scholars, though potentially disruptive and hopefully fun, is only one component of the act of making these private acts of discipline into public displays of resistance. These hacking events are part of a larger project of reclaiming the commons within education, of occupying it to remind ourselves and larger publics that this is *our* education[1].

So What?

For us, the act of hacking documents of teacher surveillance produced enjoyment, helped challenge the authority bestowed on certain technologies of power, and presented possibilities for teachers and educators to civilly disobey the logics that dominate educational systems where privately dictated surveillance prevails. The strangeness of looking at hacked documents produced an uncertainty. This uncertainty, however, opens a space for an education that is intentionally not quite knowable. It brings feelings and qualities of aporia into an education system built on persistent positivism. Rather than an education built on acquisition and mastery of standards and ideals for teaching, hacking then suggests that encounters and events might produce open possibilities.

For teacher education, this approach presents a repositioning of teachers as political and pedagogical agents. Hacking and tinkering are not skills for teachers to acquire. They are only possibilities to engage. It may also be a disruption of certain strains of teacher education, where a teacher's education is simply traveling along a singular path toward perfection or failure.

Other challenges to privatizing practices have been made, but through its absurdity and strangeness in comparison with the original documents, hacking produces a particularly jarring sensation. By making these documents public, and by altering their functions, teachers are no longer positioned as solely recipients of discipline but as agents in public educational structures. Returning to Rancière, to hack is also to blur the lines between the experts (policymakers and the like) --those who supposedly know and think--and the ignorant (teachers, students, families) --those who act. Teachers do not become exempt from surveillance or accountability systems, but hacking is one way in which they might refuse to accept them and become political thinkers contributing to the ongoing making of a public education. This is a different -complimentary, maybe- way of answering the eternal question heard in multiple ways after any theoretical provocation: "Yes, but what do I do Monday morning"? It is a waste of time that owns that waste. It is an attempt at disarming a disciplinary technology, with unknown consequences, by reclaiming the public in public education.

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[1] As part of a collective of educators, we are in the process of creating the CATCH website, or the Center for the Advancement of Tinkering and Curricular Hacking. This space will host this and many more experiments, while tinkering with the format of the corporate website itself. See catch-ed.org.

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Sites of Possibility: Digital Stories as a Means of Making Reflective Practice Visible

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Introduction

Teacher identity development is a critically important component of the learning-to-teach process (Alsup, 2005; Atkinson, 2001; Beauchamp & Thomas, 2009), as it is linked to teacher growth and performance. Bullough and Baughman (1997) have emphasized, "teacher identity, the beginning teacher's beliefs about teaching, learning and self-as-a-teacher, is a vital concern to teacher education as it is the basis for meaning making and decision making" (p.21).

One way of promoting the development of a teaching identity is through reflection. Ghaye and Lillyman (1997) suggest that reflection can "act as a bridge from tacit knowledge to considered action"; "enhance the quality of action (as professionals)"; and act "as a much-needed counter discourse" to enable us to question established professional "wisdom" (p. 19-20). Larrivee (2008) reports advocates of reflective practice "take the position that teachers should not only reflect on behaviors and events within the confines of the classroom but should include the influence of the larger social and political contexts" and "therefore consider critical reflection to be imperative for teaching in a democratic society" (p. 344). This broader view enables teacher candidates (TCs) to move reflectively between their current understanding of what is and work to create what might be as they place themselves in their own classroom.

Thus, the current study aims to contribute to the literature on the role reflective practice can play in examining how TCs develop their professional identities as reflective practitioners. More specifically, this study examines the potential of digital storytelling as a tool to enhance reflective practice and make visible the development of TCs' own reflective practice. To situate this work, we begin with an overview of the current literature on teacher identity development, how that is served by reflective practice, and finally the digital composing process as reflective practice before describing the context of our study, data collection and analysis procedures, and our findings.

Review of the Literature

Teacher Identity Development

Teacher candidates enter teacher education programs with prior experiences and beliefs about what it means to be a teacher. Their apprenticeship of observation (Lortie, 1975), the 13,000 hours they spend as students observing the day-to-day work of teachers, greatly impacts mental framework/schema in which their own professional identity begins to form. By the time one begins to see her/himself as a teacher, there already exists strong beliefs about what that means. Research has suggested that beliefs cannot be changed by the "weak intervention" of several years in a teacher preparation program (Richardson, 1996, 2003). Additionally, it has been shown that the socialization into the profession that occurs once a TC enters the classroom beyond the preparation program, the learning that occurs in it are "washed out" (Kagan, 1992; Zeichner & Liston, 1987).

Levin and He (2008) found that based on participants' self-reporting of the sources of the personal practical theories (PPTs), "empirically warranted claims-to-know about their own

teaching practice" (Cornett, Yeotis, & Terwillinger, 1990; Marland, 1988) 28% of TCs participating in the study attributed their PPTs to their apprenticeships of observation. Comparatively, Levin and He found that 66% of the PPTs had their foundation "in either explicit curriculum of their teacher education program or the learning experiences offered by being placed in schools and classrooms for pre-student teaching field experiences" (p. 62). Further, their study provides data that show that teacher education can and does influence teacher beliefs, particularly related to instruction, professional development, planning and organizing, classroom management, the qualities of good teachers, and beliefs about who students are as learners. Like beliefs, identity appears to be fluid, changing constantly shaped by social, cultural, political and historical contexts, as well as positional and socially constructed (Pajares, 1992).

Reflective Practice

Because teacher beliefs and identity are fluid, it is important to support TCs to develop a reflective practice in order recognize the influences on their beliefs and identity. Further, Larrivee (2000) asserts there is a clear distinction between "what we profess to believe in and our values in action" (p. 295). It is the values in action that determine day-to-day practice. Incongruence between the two are only noticed, and potentially remedied, when one engages in reflective practice. Reflective practice refers to one's ability to reflect on her/his own actions to engage in continuous learning (Schön, 1983). According to Dewey (1933, 1938), reflective thinking requires constant evaluation of beliefs, assumptions, and hypotheses against existing data, and against other plausible interpretations of the data.

Without reflection, teachers can "latch onto techniques without examination" of their beliefs in conjunction with the context in which they teach. Similarly, teachers might connect beliefs about the learning process and expectations for themselves and their students, thus leaving them with only "isolated techniques". Therefore, critical reflection is key to continued learning and development of beliefs. (Larrivee, 2008)

In teaching, this requires focusing on the beliefs and values that inform practice. Experience alone does not lead to learning and growth. Rather, careful and conscious consideration of experience is critical in order to learn from it (Loughran, 2002; Cochran-Smith & Lytle, 1999). Schön's (1983) seminal work on reflective practice introduced concepts of reflection-on and in-action to explain how professionals might learn from experience and improve practice through reflection.

Larrivee (2000) expands on the notion of reflecting on one's own teaching by including that reflective practice should also involve examination and reflection upon the organizational, social, and political contexts in which teaching takes place. This critical reflection brings commonly-held beliefs into question. This can be an unnerving process as beliefs are at the core of identity. Questioning and subsequently shedding beliefs can reveal "uncertainty and vulnerability" (p. 295). Larrivee continues, "To be critically reflective is to act with integrity, openness, and commitment rather than compromise, defensiveness, or fear" (p. 295).

Becoming a reflective practitioner requires teachers to critically examine their own deeply-held beliefs, attitudes, and values. As Holland, Lachicotte, Skinner, and Cain (2001) suggest, "Humans are both blessed and cursed by their dialogic nature – their tendency to encompass a number of views in virtual simultaneity and tension, regardless of their logical compatibility" (p. 15). Reflective practitioners must continuously challenge assumptions and question practice. It is these beliefs that guide decision-making in classrooms. Without intentional and critical examination, these beliefs go untested and unchallenged.

Reflection is generally viewed as an incremental process, with varying levels (Larrivee, 2008). Drawing from previous works that explore levels of reflection (Day, 1993; Farrell 2004; Handal & Lauvas, 1987; Jay &

Johnson, 2002; Van Manen, 1977), Larrivee developed an assessment tool that details practice indicators at each of four incrementally more complex levels of reflection: pre-reflection, surface reflection, pedagogical reflection, and critical reflection. It was designed to serve as a means of determining current levels of reflection to create action plans to facilitate movement to higher levels of reflection.

Digital Composing Process as Reflective Practice

Digital stories are first person video narratives created by combining recorded voice, still and moving images and music to relate and reflect upon a personal story or experience (Hull & Katz, 2006; Robin, 2008). Digital compositions can serve as a way of representing ever-evolving contradictory beliefs as their creation invites TCs to self-reflect on their own histories and current experiences in classrooms as students and observers. The digital storytelling project described in this article serves as a means of bringing to the forefront TCs' core beliefs. They make visible the negotiation of competing ideals as they are asked to envision beliefs meeting practice in their future classrooms. Ladson-Billings (2000) argues that when TCs use their 'autobiography' it creates an opportunity to "reflect on their practicum experiences in diverse classrooms" (p. 209).

In teacher education, digital stories have been used to foster both technology integration and as critical participatory literacy practices (Albers, 2011; Beach, 2014; Matias & Grosland, 2016; McVee, Bailey, & Shannahan, 2012; Pandya, 2014; Rish, 2013). In the process of creating a digital story, the author literally uses her/his own voice to make explicit her/his own thoughts and actions thus fostering reflection (Hull & Nelson, 2005). Hull and Katz (2006) expand the notion of how composers use digital stories to articulate and reflect on life trajectories that "as instances of verbal performance, do not simply reflect social life, but have the capacity to comment critically on it as well" (p. 69).

Across education, digital storytelling expands the notion of reflection in which technology can be used to create a space that supports both re-imagining and reflecting on practice (Matias & Grosland, 2016; Paliadelis & Wood, 2016; Authors, 2015, 2017). Using digital storytelling as a pedagogical method, Pandya (2014) and Rish (2013) found that most TCs' videos were more complex and cognitively demanding than the written papers the digital storytelling assignment replaced in their courses. Matias and Grosland (2016) illustrate how digital storytelling itself promotes critical self-reflection by placing the burden on the narrator to self-reflect in her/his study of digital storytelling as racial justice in teacher education. Through choices of images, music, and voice-over narration, Rish (2013) contends the TCs' digital compositions are shaped not only by the medias they used to create the video but also by their histories and relationships to people, places, and discourses involved in the composing process.

Situating Our Study

This study explored our TCs' reflective practice through the analysis of digital stories they composed to allow them to reflect on what they learned during their teacher education program to inform their vision of their future classrooms. The following question guided our study:

What can be understood about our TCs' reflective practice by examining their digital stories?

This examination allowed us to begin to understand how digital stories can reveal insights about TCs' reflective practice. Based on Pandya (2014) and Rish's (2013) research and our experiences as teacher educators, we expected the digital stories our TCs created to be more complex and cognitively demanding than the written papers the digital storytelling assignment replaced in our courses.

Methods

This study developed from a larger qualitative study in which our team jointly explored a project we each assigned in our

literacy methods courses. We asked our TCs to compose digital stories in which they reflected on their learning and experiences as they envisioned their future literacy classroom. Within this digital story, they were asked to "consider potential interpretations of their design choices" (Pandya, 2014) including images and narration that would allow their audience of this first-person narrative to realize the theoretical rationale for their instructional, material, and assessment choices in their future classrooms. Below we provide the details of our research design, context, data collection, and analysis.

Design, Participants and Data Collection

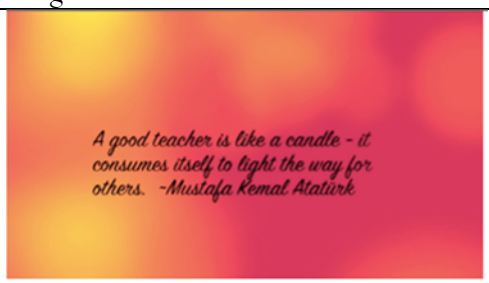
Our study adopts a qualitative design. In selecting digital stories to analyze for this study, we used purposeful sampling (Creswell, 2005) to select ten digital stories produced by TCs enrolled in literacy methods courses we taught over the course of many semesters. In particular, maximum variation sampling (Glesne, 2006) was used to select digital stories from each of the three research sites, representing participants at various stages of their teacher education course work. In each of the programs, most of the TCs are White, middle-class females whose first language is English, and in their early twenties. Data were collected under an approved exempt protocol from Instructional Review Boards (IRB) at each university. All students enrolled in the courses created a digital story as an assignment in those courses. IRB permission was granted for analysis of consenting participants' digital stories who, to prevent coercion, were not identified to the researchers until after each researcher had submitted final grades.

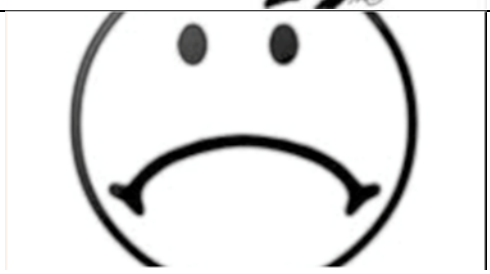
Analysis of Data

Each of the digital stories was transcribed to reflect time anchor, image and paired voice-over performance (See Table 1) as a "multimodal ensemble" (Jewitt, 2008). Recursively, we watched each digital story and reviewed the transcriptions to consider how levels of reflection were evident in images, action, and narration. For our initial coding of the data, we crafted data analysis questions (see figure 1) indicative of Larrivee's categories of pre-reflection, surface reflection, pedagogical reflection, and critical reflection found in *Survey of reflective practice: A tool for assessing development as a reflective practitioner*.

Table 1

Data Organization Table

Time	Image	Spoken Text
0:03		[No Text]

0:08		From a very young age, I knew I wanted to teach. My sister and I spent many hours, when we were young, playing school. I was always the teacher, of course.
0:21		Throughout elementary, middle, and high school, I had some good experiences and some not so good experiences in school.
0:28		The good experiences always inspired met to be just like those teachers.
:35		The bad experiences made me want to be a better teacher than them and to give my students a better experience than what I had.

Recursively, we watched each digital story and reviewed the transcriptions to consider how levels of reflection were evident in images, action, and narration. For our initial coding of the data, we crafted data analysis questions (see figure 1) indicative of Larrivee's categories of pre-reflection, surface reflection, pedagogical reflection, and critical reflection found in *Survey of reflective practice: A tool for assessing development as a reflective practitioner*.

To further understand and classify how TCs used their digital stories reflectively, we individually coded the stories utilizing Larrivee's definitions below to guide our coding along with the clarifying data analysis question we composed.

Pre-reflection Larrivee (2008) defines pre-reflection as a non-reflective, reactionary level in which classroom situations are interpreted without connection to other events. There is no conscious consideration of alternative responses. At this level, teachers frequently see themselves as victims of circumstance with little to no agency. It is particularly important for those current and aspiring educators who are at this level to be supported to develop their reflective practice. The data analysis question we used to confirm this code was, "Do these data indicate an absence of agency for the TC?"

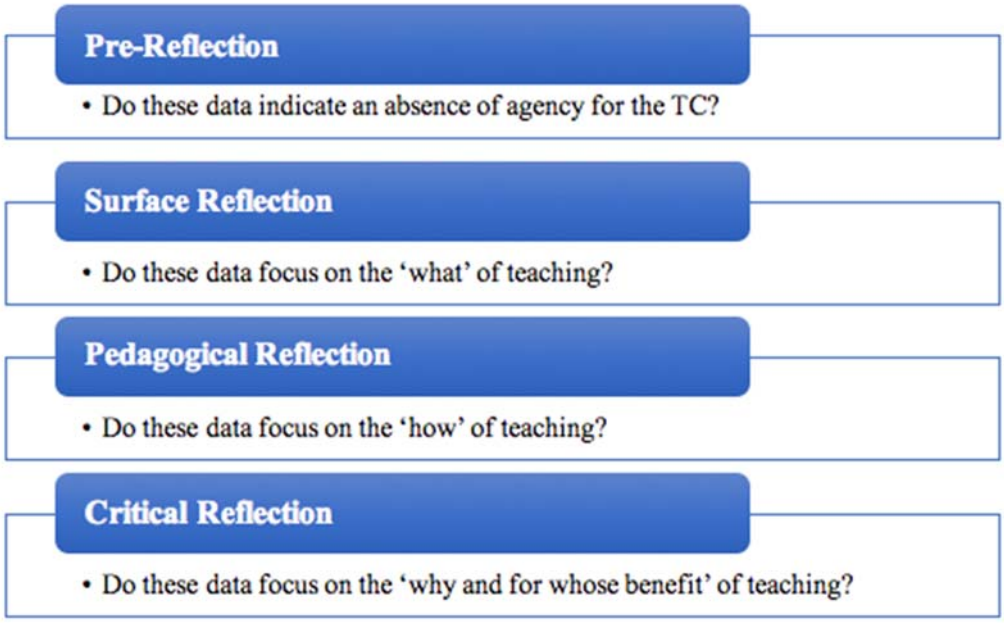


Figure 1: Data analysis questions

Surface reflection Surface level reflection is similar to what has been previously referred to as 'technical' reflection in research (Day, 1993; Farrell, 2004; Schön, 1983). At this level, teachers are able to reflect on what strategies and methods work, but with no consideration for the values beliefs, and assumptions that underlie those strategies and methods. This level of reflection relies on experience alone, without regard for theory and/or research. The data analysis question we used to confirm this code was, "Do these data focus on the 'what' of teaching?

Pedagogical reflection Pedagogical reflection suggests an application of teaching knowledge, theory, and/or research. At this level, teachers seek to understand theory underpinning practice as they work toward consistency between their beliefs/what they claim to believe and those beliefs in practice. In previous research, Larrivee points out that this level of reflection has been labeled in many different ways including "practical (Van Manen, 1977), theoretical (Day, 1993), deliberative (Valli, 1997), comparative (Jay & Johnson, 2002), and conceptual (Farrell, 2004)" (p. 343). There is a goal of continuous improvement and reflection guided by a pedagogical conceptual framework. The data analysis question we used to confirm this code was, "Do these data focus on the 'how' of teaching?

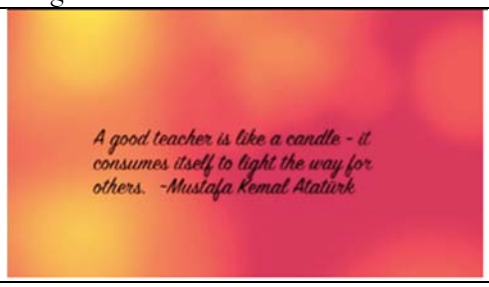
Critical reflection Critical reflection is the most complex level of reflection. It involves viewing one's teaching practice within the larger social and political context and recognizing the moral and ethical implications of practice. This level of reflection requires careful examination of one's one personal and professional beliefs to be aware of the range of potential consequences of one's actions. The data analysis question we used to confirm this code was, "Do these data focus on the 'why and for whose benefit' of teaching?"

Each transcript was coded paying attention to conceptual breaks rather than sentence by

sentence to delineate the core meanings. We attended carefully to the notion that "reflective practice is generally viewed as developing in stages, although an individual teacher's progression is not necessarily linear, hence teachers may reflect at different levels simultaneously, interweaving various levels" (Larrivee, 2008, p. 344).

Next, we came back together for discussion during which we confirmed like coding or reached consensus on differing codes. Additionally, in this round we gave each story a holistic title related to Larrivee's levels. For example, Irma's (all names are pseudonyms) story was coded as pre-reflection and Allison's story was coded at the pedagogical level. We did this because digital stories are actually multi-modal ensembles (Jewitt, 2008) that allowed us to not only code by time-stamped frames, which included the spoken narrative with images but to consider each digital story as a whole performance (see Table 2).

Table 2
Data Organization Table with Coding and Holistic Title

Overall Holistic Code: Pre-Reflection Stretching to Surface		
Time	Image	Spoken Text
0:03		[No Text] Pre-Reflection
0:08		From a very young age, I knew I wanted to teach. My sister and I spent many hours, when we were young, playing school. I was always the teacher, of course. Pre-Reflection…
0:21		Throughout elementary, middle, and high school, I had some good experiences and some not so good experiences in school. …

0:28		The good experiences always inspired me to be just like those teachers. …
:35		The bad experiences made me want to be a better teacher than them and to give my students a better experience than what I had. Surface

Finally, to look across stories we created a visual representation, which we describe in the findings, to allow us to view the movement and frequency of levels of each story. To accomplish this, we quantified each level of reflection (1-4) and then plotted each time-stamped frame on a graph to allow us to visualize the TCs' movement across levels of reflection.

Role of the Researchers

To ensure internal validity in our qualitative research, we ascribed to Lincoln and Guba's (1985) tenets by employing prolonged engagement, peer debriefing, and triangulation. Having four researchers involved in the study added an intentional layer of validity to the aspects of peer debriefing. Because we were the TCs' instructors when they created their digital stories, we were cognizant of including theoretical and methodological measures to strengthen the validity of our study.

Findings

Levels within Digital Stories

The findings from our analysis of TCs' digital stories indicated that, within each of their stories, they reflected at various levels. This aligned with Larrivee's (2008) statement that, "teachers may reflect at different levels simultaneously, interweaving various levels" (p. 344). Our TCs affirmed this interweaving of various levels when they moved back and forth between reflective levels within their digital stories. This interweaving was apparent when we plotted the levels of reflection within one TC's story. (See Figure 2).

Figure 2 is an example of the interweaving of levels within one TC's digital story. Dana's reflection included surface level, pedagogical level, and critical level of reflection. All TCs exhibited similar interweaving within their own stories. Figure 3 demonstrates the overall variability of levels of reflection across the seven digital stories.

Figure 2. Levels of reflection within one digital story.

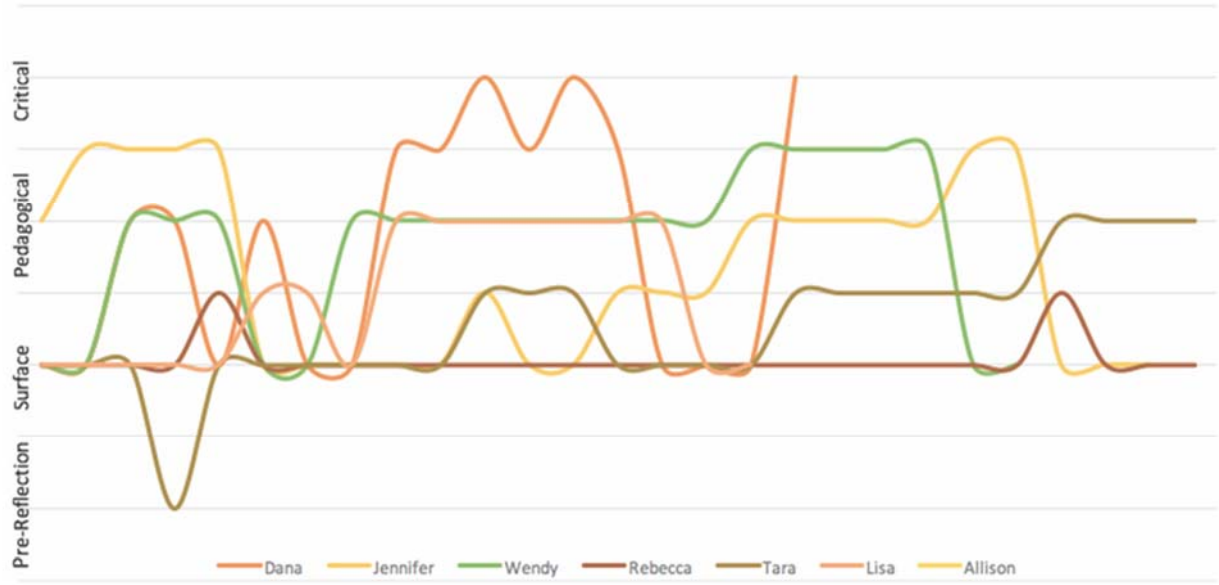


Figure 3. Levels of reflection across digital stories.

In the sections that follow, we describe instances of the various levels of reflection that were made visible within TCs' digital stories. Figure 4 denotes the data analysis questions we used to guide decisions about these levels of reflection.

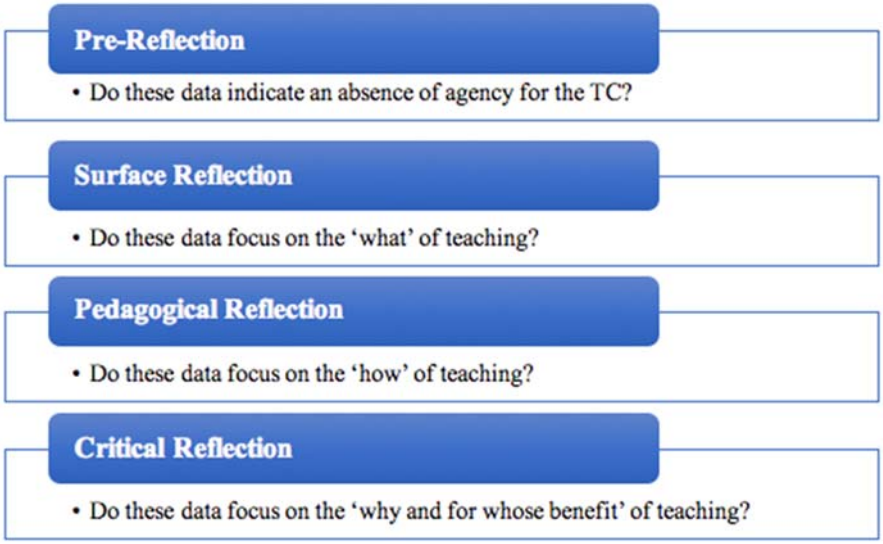


Figure 4. Questions that guided determination of reflection levels.

Pre-reflection. At the pre-reflection level, we saw TCs "tak[ing] things for granted without questioning and … not adapt[ing] their teaching based on students' responses and needs" (Larrivee, 2008, p. 342). For example, Rebecca stated, "In order to be an effective teacher, you must be prepared and organized in all you do." The image Rebecca paired with this statement included craft sticks with students' names printed on them in a small, metal bucket and another showing bookcases with baskets of books and labeled with bright signs (See Table 3).

Table 3
Examples of Pre-reflection within Digital Stories

Level of Reflection	Spoken	Image
Pre-reflection	In order to be an effective teacher, you must be prepared and organized in all you do. - Rebecca	

We also work on math every day… - *Irma (Frame 1)*	
… and I try to incorporate social studies or science each day. Or… - *Irma (Frame 2)*	
…at least a few times a week. – *Irma (Frame 3)*	

Rebecca's narrative showed "no conscious consideration of alternative responses" (Larrivee, 2008, p. 342). Rebecca foregrounds organization, through her images and narration, as an imperative to being an effective teacher. Her image, which is accompanied by other images reflecting organization, "enforces preset standards of operation without adapting or restructuring based on students' responses" and indicated that she is "preoccupied with management control and student compliance" (p. 350). Irma stated, "We also work on math every day…and I try to incorporate social studies or science each day. Or…at least a few times a week." This narrative statement was matched with a three clip art images representing math, social studies and science. In the same vein as Rebecca, Irma also accepted without question that teaching these subjects, separately, is a necessity with no mention of student needs or interests and "fails to consider differing needs of learners" (p. 350). In analyzing these frames, we considered our data analysis question, "Do these data indicate an absence of agency for the TC?" (See figure 3). We found Rebecca and Irma's narration and images indicated a focus on overall effectiveness and the need to teach subjects separate from student interests or needs, respectively, rather than a focus on instructional strategies and methods. It was as if they simply set up an organized classroom or included various subjects in their daily schedule, their students would learn, regardless of their own instructional decisions.

Surface Larrivee defines the surface level of reflection as, "teachers' reflections focus on strategies and methods used to reach predetermined goals" (Larrivee, 2008, p. 342). In the digital stories we examined, Dana said, "My classroom will be a learning community. I don't want to be a dictator but a team captain. In the end, I am going to call the plays where we are all working together for everyone's success." Dana combined this portion of her narrative with a photograph taken during a whole school convocation at one of her field experience sites (See Table 4).

Table 4

Examples of Surface Reflection within Digital Stories

Level of Reflection	Spoken	Image
Surface	My classroom will be a learning community. I don't want to be a dictator, but a team captain. In the end, I am going to call the plays where we are all working together for everyone's success. - *Dana*	
	…room and supply the room with a variety of resources for my students to use. I want to have a classroom… - *Felicia*	

Dana's image and narrative here illustrated the surface level of reflection because she "fails to connect specific methods to underlying theory" (p. 253) since she did not refer or even allude to any specific theory regarding creating a classroom culture of teamwork. Felicia also demonstrated the surface level of reflection when she stated, "and supply the room with a variety of resources for my students to use." While making this statement, Felicia displayed an image of a white board with a map and an agenda. This also illustrated surface reflection because Felicia "limits analysis of teaching practice to technical practices about teaching techniques" (p. 253) when she only showed and talked about the physical environment of her future classroom. When we analyzed these frames, we considered our data analysis question, "Do these data focus on the 'what' of teaching?" In these data clips, Felicia commented only on ensuring her students have supplies and resources (the "what"), not how or why this would impact her students' learning, which could have indicated a more complex level of reflection. We considered Dana's reflection surface level because she focused on her role as a team captain, without allusion, within the images or narration, to the importance or impact of collaboration on student learning.

Pedagogical Larrivee (2008) defined pedagogical reflection as applying "the field's knowledge base and current beliefs about what represents quality practices" (p. 343). Over the course of three frames, Wendy stated, "I want my students to be exposed to many different kinds of texts. In order to achieve this, I plan to have a classroom library full of many different kinds of fiction and nonfiction. I feel that this exposure to text will promote a more positive interaction with reading." These statements are paired with three different images showing students raising their hands in a classroom, a girl reaching for a book on a bookshelf, and a girl gazing at a pile of books (See Table 5).

Table 5
Examples of Pedagogical Reflection within Digital Stories

Level of Reflection	Spoken	Image
	I want my students to be exposed to many different kinds of texts. – *Wendy (Frame 1)*	
	In order to achieve this, I plan to have a classroom library full of many different kinds of fiction and non-fiction - *Wendy (Frame 2)*	
	I feel that this exposure to text will promote a more positive interaction with reading – *Wendy (Frame 3)*	
	To make learning worthwhile you have to engage your students. The key to engage students in your lesson is to make things relatable to their lives. Allow time for them to use their imagination and let their creativity flow and let them fuse their interest in their learning so that it's not just a lesson, it's fun too. – *Lisa*	

This narrative paired with the images demonstrates Wendy analyzed the "relationship between teaching practices and student learning" (p. 354) by thinking about how she would achieve this exposure. In her digital story, Lisa demonstrated the pedagogical level of reflection when she said,

To make learning worthwhile you have to engage your students. The key to engage [*sic*] students in your lesson is to make things relatable to their lives. Allow time for them to use their imagination and let their creativity flow and let them fuse their interest in their learning so that it's not just a lesson, it's fun too.

In Lisa's digital story, the viewer sees a photograph of two children under a banner bearing the word "Learning". This statement, in conjunction with the image, showed that Lisa sought "ways to connect new concepts to students' prior knowledge" (p. 354).

In returning to our data analysis question for pedagogical reflection, "Do these data focus on the 'how' of teaching?", we found both Lisa and Wendy explained, via their narration and images,

their understanding of the connection between teaching practice and student learning. Lisa's explanation of how she would activate her students' prior knowledge by making lessons "relatable to their lives" demonstrated consideration of student engagement. Additionally, Wendy's statement that she would expose her students to a variety of genres by creating a print-rich environment in her future classroom illustrated an understanding of the "how of teaching".

Critical Larrivee (2008) states, "Critical reflection involves examination of both personal and professional belief system. Teachers who are critically reflective focus their attention both inwardly at their own practice and outwardly at the social conditions in which these practices are situated" (p. 343). As an example of critical reflection, Dana stated, "We'll also learn how to persuade. To write letters that matter about issues that matter to us and be a working part of our community." In her digital story, this statement was accompanied by an image of President Obama seated at a desk (See Table 6).

Table 6

Example of Critical Reflection within a Digital Story

Level of Reflection	Spoken	Image
Critical	We'll also learn how to persuade. To write letters that matter about issues that matter to us and be a working part of our community - *Dana*	

In combining this narrative and this image, Dana described how she would encourage "socially responsible actions in" her future students (p. 354) when she combined persuasive writing with taking action around issues "that matter to us". Guided by our data analysis question, "Do these data focus on the 'why and for whose benefit' of teaching?", we concluded Dana exhibited critical level reflection at this point in her digital story because her image of President Obama and assertion that engaging her future students in activist behavior would be part of her future classroom. This illustrated her focus on why her students' involvement in the community, for the benefit of others, would be a part of her writing curriculum and instruction.

Stretching within Digital Stories

While Larrivee's levels served as a valuable framework for examining TCs' digital stories, there were instances within these stories that did not fit neatly into only one level. In these instances, TCs demonstrated practice indicators that fit into more than one level of reflection and/or displayed glimpses of reflection at a more complex level. Therefore, we developed the concept of *stretching* which allowed us to acknowledge TCs' movement toward more complex levels of reflection. For example, a TC *stretched* from the pedagogical level to critical level, within a single frame in a digital story. Our data analysis question for considering whether TCs were stretching was, "Do these data approximate characteristics from more than one level?"

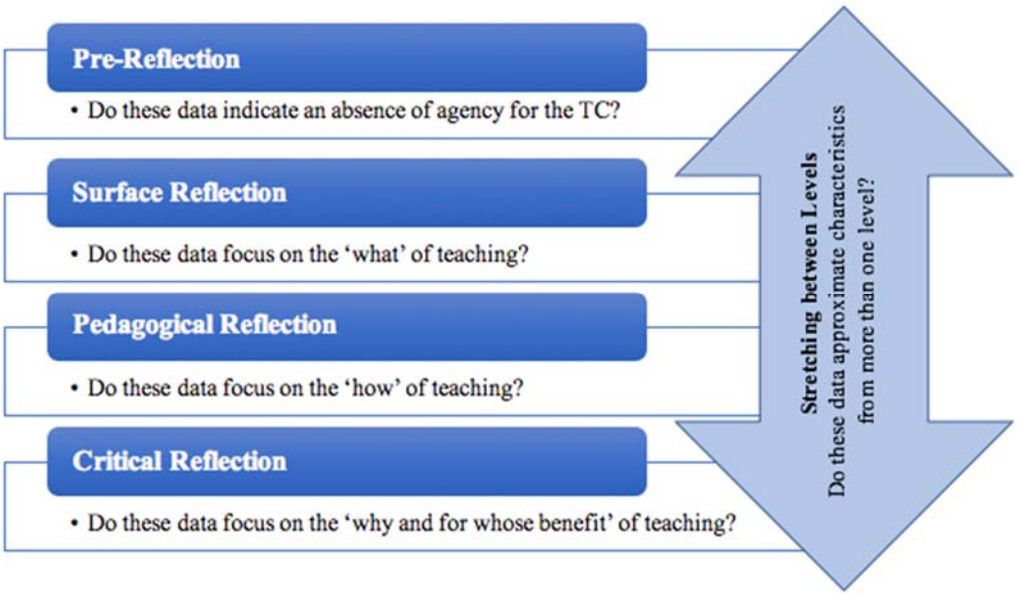


Figure 5. Questions that guided determination of reflection levels, including stretching.

Surface level stretch to pedagogical level In Lisa's digital story, she displayed images of a bulletin board she would create that included photographs of her future students' families as she said, "But most of all, I want my classroom to feel like a second home because we are there as a school family that is there to support them through the journey of self-discovery." Here, she described specific pedagogical action she planned to take (creating a bulletin board), however her rationale for the pedagogical action was grounded in evidence from experience only, without a connection to theory or research (See Table 7).

Table 7

Examples of Surface-level Reflection Stretching to Pedagogical

Level of Reflection	Spoken	Image
	But most of all, I want my classroom to feel like a second home because we are there as a school family that is there to support them through the journey of self-discovery. - *Lisa*	

	Our classroom layout will reflect this by having a reading corner – *Tara (Frame 1)*	
Surface stretch to pedagogical	An area for writers' workshop – *Tara (Frame 2)*	
	And a large rug for us to come together – *Tara (Frame 3)*	

Lisa's comments were not quite at the level of pedagogical reflection in which the teacher considers how teaching practices affect student learning, are guided by a pedagogical conceptual framework, and are supported by experience as well as being grounded in theory and research (Larrivee, 2008).

Tara stated, "Our classroom layout will reflect this by having a reading corner… an area for writers' workshop…and a large rug for us to come together." These statements were accompanied by three frames of still images. The first frame contained an image of a classroom library with pillows on the floor and posters on the walls; the second frame included an image of a bulletin board with genre names; while the third frame showed a large blue rug, with colorful polka dots, in front of a white board (See Table 7). Tara stretched from surface level to pedagogical level of reflection when she mentioned how she and her students would use these areas ("for writer's workshop" and "for us to come together"). These frames of her digital story showed glimpses of the pedagogical level, rather than fully embodying all characteristics of that more complex level since she did not allude to nor mention the theory or research undergirding these practices.

Pedagogical level stretch to critical level In her digital story, Jennifer stated, "Ultimately, I want my students to be able to become anything they want to be. I want to inspire my students to cultivate a love for learning. I want to be a resource for my students." Jennifer combined this statement with an image of a teacher talking to a young student (See Table 8).

Table 8

Examples of Pedagogical-level Reflection Stretching to Critical

Level of Reflection	Spoken	Image
Pedagogical stretch to critical	Ultimately, I want my students to be able to become anything they want to be. I want to inspire my students to cultivate a love for learning. I want to be a resource for my students. - *Jennifer*	
	Take away what is really important in a student's learning. Instead I will evaluate my students – *Wendy (Frame 1)*	
	by assessing their work as learning is still taking place. This could be a writing journal or – *Wendy (Frame 2)*	
	a presentation given to the class. I feel that students' work such as this is more often than a test score – *Wendy (Frame 3)*	

Jennifer showed flashes of critical reflection when she acknowledged the "social…consequences of one's teaching", which is only one characteristic of critical reflection (Larrivee, 2008, p. 354). In her digital story, Wendy combined three frames that demonstrated stretching from pedagogical to critical reflection. The first frame showed an image of a student presenting information in front of a poster board, the second frame included a photograph of a student showing a recycling poster, while the image in the third frame showed a young student looking directly into the camera (See Table 8). While these images were displayed, Wendy stated,

> *…take away what is really important in a student's learning. Instead I will evaluate my students by assessing their work as learning is still taking place. This could be a writing journal or a presentation given to the class. I feel that students' work, such as this, is more authentic than a test score.*

Wendy expressed the ways in which she would use assessments in her future classroom, which is indicative of pedagogical reflection. In her description of the importance of authenticity in assessment, she hints at some of the moral and ethical implications of testing within the larger social and political context when she stated students' work "is more authentic than a test

score." In these frames of her digital story, Wendy's words and images also approximated, or stretched, to the critical level.

Holistic Titles of Digital Stories

Given the multimodal nature of digital stories, it was necessary for us to return to the whole story to give each digital story a holistic title that represented the overall complexity of reflection demonstrated by each TC. Figure 5 provides a visual overview of the holistic titles.

Figure 6. Holistic titles.

Of the ten digital stories, Irma's demonstrated an overall pre-reflection level. Rebecca's, Lisa's, and Brittany's digital stories were at a surface level of reflection when viewed holistically. We titled Felicia's digital story surface stretching to pedagogical reflection. Allison and Tara's digital stories were at the overall pedagogical level of reflection. Finally, Dana's, Jennifer's, and Wendy's were primarily pedagogical reflections with stretches into the critical level.

Discussion and Implications

Through our analysis of TCs' digital stories, we identified instances in which they traversed levels – stretched between two levels. It was these instances that provided sites of possibility in which we could take steps in our own practice to promote and support the development of reflective practitioners. Previous research has shown that through strategic and multifaceted facilitation of reflection, preservice and novice teachers can be supported to reflect at more complex levels (see, for example, Brookfield, 1995; Cole & Knowles, 2000; Fox, Campbell & Hargrove, 2011; Griffin, 2003; Hoover, 1994; Pultorak, 1996; Rhine & Bryant, 2007; Russell, 2005; Lalor & Rami, 2014; Dervent, 2015; Gungor, 2016). This project has spurred us to think about future research projects that could extend our own learning about reflective practice.

Stretching Between Levels within Digital Stories as Sites of Possibility

As the TCs created their digital stories, they imagined their future classrooms and made visible their reflection at various levels and stretches between levels. These stretches serve as sites of possibility for growth as reflective practitioners for TCs and for facilitation for us, as teacher educators. This stretching highlights for us places in TCs' digital stories in which they were beginning to reflect at more complex levels, which can also serve as launching points for discussions to facilitate movement. These sites of possibility, spaces in which TCs approximate higher levels of reflection are similar to Vygotsky's (1978) Zone of Proximal Development. We can see instances of TCs beginning to approximate characteristics of the more complex level while not being quite there themselves, thus the need for a "more

knowledgeable other" to support them while they stretch between levels. These sites of possibility can be leveraged as we differentiate our instruction to meet the needs of TCs.

Implications

Given that reflection is clearly a dynamic and developmental process in which the TCs in our programs are often engaged, it is vital for teacher educators to recognize this and facilitate and support their movement to deeper more complex levels of reflection than the holistic titles of their digital stories may indicate. The imagining that takes place in the creation of a digital story can allow TCs to verge on these more complex levels of reflection and promote critical self-reflection (Matias & Grosland, 2016). Because digital stories are shaped by both the media used to create them as well as the experiences and beliefs of the author, they can serve as an effective mode for teacher educators to notice and subsequently facilitate and support movement between various levels of reflection (Pandya, 2014; Rish, 2013).

Implications for practice In response to our work, we recognize the need to differentiate instruction in order to meet the needs of TCs in developing their own reflective practice. Additionally, we suggest establishing protocols for small group instruction in courses that will allow TCs to interact and support each other in their development. Differentiated instruction better supports students in learning since it is a more focused way to deliver instruction (Tomlinson, 2014). Differentiated instruction allows an instructor to consider students' current understanding of a topic and moving the students forward from there. This also allows instructors to take advantage of students' background knowledge, prior experiences, and in our case, their own beliefs as demonstrated through the digital stories. By differentiating instruction for TCs, teacher educators can recognize and support the dynamic process of becoming a reflective practitioner. TCs who are already demonstrating reflection at the pedagogical level need to engage in conversations that are different than TCs reflecting at the pre-reflection level. They need to be asked questions and engage in conversations with peers that are markedly different than the conversations involving TCs who are stretching from pedagogical level and critical level. In other words, by differentiating instruction teacher educators can take full advantage of the stretches as sites of possibility within groups as the key to moving them to more complex levels of reflection.

To achieve this differentiation, teacher educators can create small groups in which conversations regarding TCs' reflection, as exhibited in their digital stories, and scaffold them as they create their own action plan. "The generally accepted position is that without carefully constructed guidance, prospective and novice, as well as more experienced, teachers seem unable to engage in pedagogical and critical reflection to enhance their practice" (Larrivee, 2008, p. 345). This setting allows TCs to see examples of their peers' reflection and gain an understanding of the type of thinking that led to those levels of reflection.

Implications for research Based on these findings, further research on ways in which one might most effectively facilitate movement to more complex levels of reflection is needed. Additionally, it is important to examine to what degree TCs are able demonstrate complex levels of reflection on their own teaching practice in their actual rather than imagined classrooms. This may take place by asking them to reflect on recordings of their own teaching. It would also be beneficial to include a longitudinal aspect in this research to examine whether the complexity of reflection increases over time. This further research would contribute to the research on digital storytelling as reflective practice.

Conclusion

As researchers, we recognize that examination of these digital stories provides only small glimpses of TCs' reflective practice and is

not meant to be generalized. These glimpses, however, have allowed us to recognize the importance of noticing the reflective practices of TCs to guide instruction in teacher education courses. This study underscores Larrivee's (2008) assertions that reflection is a complex and interweaving developmental process that is not necessarily linear. Based on our findings, we developed the concept of stretching between levels of reflection as potential sites of possibility for facilitated movement to more complex levels of reflection, as an addition to Larrivee's work. As Larrivee and others, we take the position that "even novice teachers can deepen their level of reflection with powerful facilitation and mediation within an emotionally supportive learning climate" (p. 345). We recognize the importance of teacher educators supporting TCs in becoming critically reflective practitioners

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A Practice-Based Approach to Teacher Educator Learning: The Foundation for Innovation in Teacher Education

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Introduction

In November 2010, a group of prominent leaders and scholars in teacher education issued a dramatic statement concerning the state of the field. The Panel, which was specially commissioned by the National Council for the Accreditation of Teacher Education (NCATE) to examine the current state of clinical preparation and partnerships, declared in their report that teacher education needed a "dramatic overhaul" (p.2). They noted that the current approach to teacher education is poorly defined and inadequately supported, resulting in great unevenness of quality (Darling-Hammond, 2006; Lashley & Applegate, 1985). Often, field experiences are unguided, fragmented, and lacking in coherence between field and coursework. Thus, regardless of the quality of the instruction, teacher candidates often have difficulty applying what they have learned in a college classroom to a P-12 setting. In the words of the Panel, the education of teachers should be turned "upside down" by placing "practice at the center of teaching preparation" (p.3).

The Blue Ribbon Panel report accomplished three important purposes. First, it delineated problems that are central to the field of teacher education and set a direction for moving the field forward. Second, it offered ten principles for guiding the design and implementation of clinically-based teacher education. Third, the vigorous rhetoric employed in the report was clearly intended to produce a dramatic impact on its audience, thus reinforcing the need for teacher educators to undergo a revolution in thinking. Since the release of the Blue Ribbon Panel's report, there has been little disagreement with NCATE's endorsement of the Panel report, the design principles articulated by the Blue Ribbon Panel, or the call for a paradigm shift in teacher education. In fact, a number of other groups have endorsed the need for such changes (American Federation of Teachers, 2012; CAEP Commission on Standards and Performance Reporting, 2013; National Council of Research, 2010).

Nonetheless, moving to a clinically-based model of teacher education poses several challenges. First, the Blue Ribbon Panel report provides limited guidance about how to conceptualize clinically-based teacher education. Although the report provides ten design principles and acknowledges the existence of exemplar programs, it does not specifically state to what degree these principles should be implemented nor what distinguishes a clinically-based program from a program with clinical experiences (NCATE, 2010). Thus, it is not clear to what degree changes need to be made or on what basis teacher preparation programs could distinguish their program as clinically-based. Since the release of the report and despite the clear need for additional work in this area, little has surfaced to further define what constitutes a clinically-based teacher education program.

Furthermore, despite the numerous policy mandates for moving to clinically-based teacher education (e.g., NCATE, 2010), there have been few recommendations concerning *how* to design and implement such changes in individual teacher preparation programs and limited discussion of

how to foster such a large scale change in teacher education. The ten design principles provided some guidance concerning the desired outcomes, but limited assistance in regards to prioritizing, motivating, or sustaining changes. The lack of a conceptual framework for making such changes may cause design and implementation to be episodic and any resulting model of teacher education to be limited in its conception. Further, clinically-based teacher preparation programs must necessarily be designed to accommodate local purposes and circumstances. This will be a difficult task for teacher educators without a clear understanding of clinically-based teacher education, how to use that understanding to design a clinically-based teacher education program, and how to implement a clinically-based teacher education program through continuous improvement.

Third, the bold change implied by the language of NCATE's call to move to a clinically-based model implies that teacher educators must also change dramatically – their beliefs, dispositions, conceptualizations, and practices. This poses a tremendous challenge for teacher educators, given the lack of exemplars, the individual differences among locally-designed programs, and the complex nature of learning how to teach. Teacher educators must not only conceptualize, design, and implement a new paradigm of teacher education, they must also prepare themselves for the continuing evolution of further changes that will inevitably be required in this new paradigm. Without a principled approach to guide this transformation, teacher education programs will find it difficult to create an environment and process that supports the dispositions, imagination, and energy needed to conceive, design, and implement innovations in teacher preparation.

The purpose of this paper is to show how a practice-based approach to teacher educator learning can facilitate the design and implementation of clinically-based teacher education. The article begins with a discussion of three important principles of teacher development: 1) how teachers learn in context, 2) how teacher thinking develops from practice, and 3) how practice evolves towards complexity through recursive learning. Understanding how teachers learn through practice provides a basis for showing how teacher educators can develop their capacity to successfully design and implement clinically-based teacher education. Recommendations for fostering the following three skills are given: 1) cultivating intuitive thinking by designing new contexts for learning, 2) cultivating analytical thinking through reflection and research, and 3) and cultivating design thinking through a recursive interaction between the intuitive and analytical thinking.

Traditionally, teacher education programs have been designed to introduce foundational theories of teaching and learning in college classrooms so that prospective teachers can apply them in P-12 school settings. This course-based approach affirms and sustains a theory-to-practice orientation for teacher learning. Teacher candidates acquire generalizations (theories and principles) about teaching in campus-based courses and then try to apply them in school settings. Experiences are extensions of individual courses with assignments that direct teacher candidates to apply concepts acquired in a college classroom their clinical setting. Redesigning a teacher education program to reverse this historic tendency requires overcoming three significant challenges.

First, implementation of clinically-based teacher education will necessarily vary by program to accommodate shared interests in a local context. Thus, it is difficult to design and predict the impact of specific changes within a local context.

Second, many teacher educators lack the experience to understand this new paradigm of teacher learning. The current understanding is based primarily on an abstract and unrealized conception of clinically-based teacher education, thus making it difficult to conceptualize and design.

Third, teacher education programs are enormously complex, often comprised of various networks of partnerships, clinical experiences, and coursework. Therefore, it is hard for any single person or even a group of people to reconceptualize and redesign an entire program based on a single set of design principles.

Designing and Implementing Clinically-Based Teacher Education Programs

The theory-to-practice relationship typical of a traditional teacher preparation is reversed in a clinically-based program. In clinically-based teacher preparation, the practice of teaching is the foundation upon which theoretical knowledge is constructed, and learning to teach through practice becomes the centerpiece of the program (Ball & Cohen, 1999; Ball & Forzani, 2009; Korthagen, Kessels, Koster, Lagerwerf, & Wubbels, 2001; Korthagen & Kessels, 1999). To successfully design and implement clinically-based programs, teacher educators must first understand how teaching develops through practice. Second, they must understand how practice influences their development as a teacher educator and their ability to redesign their programs to serve a clinically-based approach to teacher education. The following three sections describe how teacher candidates learn through practice and reflection in a specific context over time.

The Context for Teacher Development

The context for learning to teach is a critical influence on the learning process. It includes the time and place for the teaching activity, and the types of activities, dialogue, and social organization that occur within the classroom and school setting (Borko and Putnam, 1996). According to sociocultural theories, development originates in social and cultural interactions, which gradually become internalized as thought processes (Vygotsky, 1986). It is through these interactions that teacher candidates integrate perceptions, cognitive processes, emotional responses, and behaviors, into a unique teaching identity (Kolb, 1984).

For example, consider the differences in the following two contexts for learning how to lead a discussion. In the first, the teacher candidate observes the teacher use the Inquiry-Response-Evaluation method of conducting a discussion. The teacher stands at the front of the room, asks questions that are predominantly at the lower end of Bloom's taxonomy, and elicits brief, factual responses from students. Compare that to the second environment in which the larger group discussion is preceded by an inquiry-based activity, small group discussion in cooperative groups, and during which the teacher asks higher level thinking questions and responds in multiple ways to diverse student answers. The interactions are much more complex in the second scenario, involving an integration of cooperative learning, inquiry-based learning, and discussion-based teaching. Associated with the instructional strategies is a subtle and integrated approach to student motivation that include both intrinsic and extrinsic strategies (Henning, 2008).

In the second example, there is a much greater opportunity for tacit learning, which occurs unconsciously through practice. Tacit learning is acquired directly from the context of teaching, is often understood on a sensory level beyond words, and "can provide valuable information for teachers to interpret the nuances of human behavior, teacher/student interactions, and the pedagogical and emotional needs of students" (Cianciolo et al., 2006, p. 113). Tacit thinking processes have a tremendous potential for greater capacity, speed, and processing power in comparison to explicit thinking processes (Sadler-Smith, 2008). Often, no explicitly given explanation could cover all the information in a context or describe all the possible interactions. Tacit knowledge is very closely related to practical intelligence and is important for success in professions that require the handling of complex practical problems (Cianciolo et al.,2006, p. 622). It is also a great source of creative inspiration.

The Development of Teacher Thinking

As teacher candidates become more experienced within a context of teaching, single episodes morph into recognizable and more predictable patterns. Korthagen's (2001, 2010) three-tiered, theoretical accounting of learning to teach describes how concrete experiences acquired while teaching can lead to more generalizable knowledge through reflection and more theoretical knowledge through further organization. At the first level, concrete experiences in teaching lead to the formation of gestalts, which are constellations of "momentarily triggered images, feelings, notions, values, needs or behavioral inclinations" (Korthagen, 2010, p. 101). At this initial level, the elements or relationships in the gestalt may remain partially or largely unconscious to the teacher.

At the second level, these relationships can be brought to consciousness through reflection in the form of a cognitive schema, or a mental "network of concepts, characteristics, and principles, and so on, helpful in describing practice" (p. 102). Schemas rise to theories at the third level of Korthagen's model. Because theories should be logically consistent with the data at hand and other theories, theory generation requires a "deep and generalized understanding of a variety of similar situations" based on a familiarity with the literature in the field (p. 102).

Internalizing teaching practice is enhanced through reflection. Two distinctly different types of practitioner reflection should be considered when designing clinically- based teacher education. Reflection-in-action, the first type, occurs when making on-the-spot decisions during the act of classroom teaching (Schon, 1983). Reflection-in action is closely associated with the development of intuition, a type of thought that is very fast, uses various forms or sources of information, has a low degree of awareness, and is rarely precisely correct or dramatically wrong. Reflection-in-action can be enhanced by the questions mentor teacher teachers pose to their mentees.

Reflection-on-action, the second type of reflection, occurs at a later time, often outside the classroom well after a lesson is taught (Schon, 1983). Reflection-on-action can be associated with the development of analytical thinking, which is far slower and more deliberate than intuitive thinking (Kahneman, 2011). In comparison to intuitive thinking, analytical thinking is more explicit, more process oriented, uses a limited range of information, and requires a high degree of awareness (Bastick, 1982, p. 57). During analysis, thinkers use rule-based processes to consciously impose transformation on information. The validity of an analytical process depends on its fidelity to a specified process, which could include the design for the inquiry, the quality of the evidence collected, and the logical steps used to draw conclusions from it.

The Development of Practice Toward Complexity through Recursive Learning

As teacher candidates acquire more experience in a specific context of teaching, they become increasingly fluent in their performance, their intuitive decision-making, and their analytical decision-making. They are also better able to predict student behaviors and to accomplish increasingly more complex tasks. Gradually, teacher candidates gain increasing access to the complex activities and interactions of teachers until the teacher candidate is a full participant in the teaching process so she can experience and begin to master all the complexities of teaching (Lave & Wenger, 1991).

These changes occur because teacher candidates gradually become faster in both their performance and thinking abilities. Increased proficiency allows practitioners to "chunk" individual pieces of procedural knowledge into larger elements, thus enabling them to accomplish tasks more quickly with fewer mental elements and less mental effort (Ericcson, 2006; Saddler-Smith, 2008). As these processes become more automated, additional space in short term memory becomes available for the development of new skills. Thus, experts can process

information more quickly, see solutions from multiple perspectives, and exercise more flexibility in their thinking (Crawford, Schlager, Toyama, Riel, & Vahey, 2005).

These higher level cognitive functions are acquired through cycles of action and reflection, as illustrated by models of experiential learning. For example, Kolb (1984) describes experiential learning as a recursive process that occurs in a four-stage cycle that includes: Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation. In Lewin's model of experiential learning, which is like Kolb's in both conceptualization and purpose, learning is a recursive process that involves experience, reflection, and the development of an abstraction or generalization that provides guidance to the next cycle of learning. It includes four phases: Plan, Do, Observe, and Reflect (1946,1948). Similarly, the new field of improvement science is guided by a recursive learning model of doing and reflection that occurs in the following four steps: Plan, Do, Study, Act (PDSA) (Langley et al., 2009). In all three of these models, learning occurs through iterative cycles of action and reflection that gradually lead to the implementation of high-quality processes and the elimination of unwanted error.

The Development of Teacher Educators

Recent literature suggests that the development of teacher educators is much like the development of teachers. Studies have shown that 1) that new teacher educators are confronted with learning a new practice, 2) that reflection on practice is key to becoming an effective teacher educator, 3) the development of teacher educators occurs over several years, and 4) that mentoring promotes reflection on practice for teacher educators (Bates, Swennen, & Jones, 2011). Typically, it takes several years of experience for teacher educators to construct their professional identities (Boyd & Harris, 2011). They must learn to prepare teachers within a context, develop their thinking through reflection, and evolve towards a more complex practice through cycles of action and reflection (Williams & Ritter, 2011).

It should be noted that the role of teacher educator is far larger than simply learning to function in the existing context of teacher education. Teacher educators are also responsible for the continuous improvement of their programs. Inevitably, this means they must create new program designs that are beyond their present experience. In the absence of experience, it is difficult to visualize how a new design will affect the complex relationships that govern teacher preparation programs. This makes it difficult to anticipate all the potential problems and opportunities that will emerge from the change. The matter is further complicated because every teacher preparation program operates in a unique context; thus, every program requires a unique design to address its specific needs. Consulting the literature is helpful but not sufficient: it roughly is comparable to a teacher learning a new instructional strategy from a book. Further, clinically-based teacher education has not yet been fully conceptualized in the teacher education literature.

The lack of teacher educator experience with clinically-based teacher education constitutes one of the primary challenges to implementation. However, teacher educators can meet this challenge by engaging in new program design that enhances their professional development. The key is understanding that experiential learning is central to their growth as teacher educators. In the next sections of the paper, the author shows how teacher educators can foster their professional development by 1) designing new experiences that foster intuitive thinking, 2) engaging in reflection and research to foster their analytical learning, and 3) using design thinking to foster creativity in new designs. Using this approach, teacher educators can create their own experiential learning experiences, internalize the intuitive and analytical thinking processes associated with those experiences, and then use them as a platform for

developing program innovations. In the following sections, the author uses his own experiences with clinically-based teacher education as examples.

Cultivating Intuitive Thinking through New Experience

The cultivation of intuitive thinking is a critical part of new program design and professional growth. Since intuitive thinking processes occur unconsciously, they must be cultivated indirectly through learning in new contexts. By learning in a new context, teacher educators can acquire a tacit understanding of new relationships. These relationships may not necessarily be evident in the initial, explicit design of the program, but could be realized through the experience of piloting or implementing the program. Introducing new practices causes professors, mentor teachers, teacher candidates, and P-12 students to respond to each other in new and different ways, thus enabling new perceptions, behaviors, thoughts, and emotions.

For example, the author implemented cooperative learning in his eleventh grade English classroom during his high school teaching years. It began with a change in the classroom structure; whole class discussions were preceded by small group discussions. Students were motivated to discuss during the small group discussions by a more collaborative, cooperative approach to instruction. This single modification led to a significant change in the classroom dynamic, which in turn led to changes in the assessment, motivational strategies, interactions with students, and instructional strategies. These changes took place over a two-year time period, each one gradually incorporated after the previous had been addressed. This evolution in practice also changed how the author thought as a teacher, how he interacted with students, and his beliefs about motivation, assessment, and learning. My new understanding was conditioned by the new experiences of working in a classroom motivated by cooperation and collaboration. In summary, implementing a new instructional design in my teaching practice gradually changed the way I thought about teaching and interacting with students (Henning, 2008).

Later, as a teacher educator, I was part of a similar model of change to initiate yearlong experiences at a Midwestern university. The yearlong experience involved spending an entire school year in a clinical setting. During the first semester, the candidates spent from one to three days per week in classrooms while finishing college classes. The second half of the year was devoted to the professional internship (student teaching). In the first year, the pilot program was offered to four graduate students in STEM education. From there, the number of volunteers for the program expanded rapidly. In the second year, the pilot program grew to include 15 graduate and undergraduate teacher candidates. In the third year and fourth years, the program expanded to include 60 graduate and undergraduate teacher candidates per year in middle childhood, secondary, and special education. In year five, the program was fully implemented for all undergraduate and graduate teacher candidates, with the exception of music and physical education majors.

After the fifth year, I moved to a new university on the east coast where we began a pilot program to implement the year long experience. Twenty-two teacher candidates were invited to be part of the pilot program in the first year: nineteen of them accepted. In the second year, the number of teacher candidates expanded to approximately 60, a little less than half the total number of teacher candidates doing student teaching. During the past year we fully implemented the year long experience in our teacher preparation program. It should be noted that the impetus for this pilot was also pushed by recently adopted state code which requires implementation of a yearlong experience within a three-year period.

The rapid expansion of both volunteer programs was due to several unforeseen factors, some of which were counter intuitive to previous thinking. We found that many teacher candidates

were willing to add considerable hours to their schedules without additional credit, simply for the opportunity to work in schools and become better prepared teachers. They were even more enthusiastic after the experience and did an excellent job of recruiting new candidates for the program with their reports on their increased confidence and the favorable comments they received during job interviews. Somewhat surprisingly, we also found that mentor teachers preferred longer over shorter clinical experiences. Mentor teachers noted that the added time led to stronger relationships with P-12 students, a deeper relationship between the mentor teacher and the teacher candidate, and an increased capacity and commitment from teacher candidates to positively affect student learning.

Through these pilots, a new context for learning teacher education had been created. By starting on a small scale, the teacher educators involved had a chance to learn experientially about the new program as it gradually expanded. During that time, potential impediments to full implementation were exposed and unexpected benefits were realized. We discovered how much teacher candidates valued clinical experience and that mentor teachers were not only willing to accept teacher candidates for a longer clinical experience, they actually preferred it over the traditional one semester model of student teaching. These unanticipated discoveries provided tremendous momentum for expanding the pilot.

Cultivating Analytical Thinking through Reflection and Research

Learning in a specific context can become the basis for developing new concepts through analytical thinking. Analytical thinking illuminates experience by transforming tacit knowledge to explicitly held concepts and by linking those concepts to the existing knowledge base. To cultivate the capacity to think analytically, teacher educators can engage in collaborative teams for the purpose of making program improvements. Such teams can provide teachers, instructors, assistant professors, and ranked professors an opportunity to share conversations about the program across different levels of expertise. They can also help faculty to gain perspectives that transcend their individual disciplines; increase the quality of reflection by exposing participants to multiple perspectives; and enable schema building in the new paradigm, thus widening the impact and speeding implementation.

Most teacher educators are already familiar with the types of strategies that foster analytical thinking through collaboration. These strategies can range from casual conversations about a program improvement to research studies with an intent to publish. As the conversations become more formal, more attention is paid to specifying and articulating a systematic, rule-based process to guide thinking. Some examples include the following:

1. Committee work to analyze program data for the purpose of continuous improvement for accreditation or the employment of design teams to create and implement program innovations that address specific needs or program enhancements.
2. Collaborative research projects that simultaneously address program improvement, research, and the development of scholarly products, such as conference presentations and manuscripts.
3. Network improvement communities that address challenging problems collectively across universities and/or states (Byrk et al., 2013).

To maximize effectiveness, the key is to develop a coherent strategy that promotes both informal and formal approaches to systematic program improvement and professional growth. At both of my universities, I have been part of a range of pilot projects and inquiries whose focus has been the design and implementation of clinically-based teacher education. In addition to the yearlong pilot projects described earlier, there have been studies on co-teaching, the development of teacher candidates during the yearlong experience, and the impact of teacher

candidates on P-12 learning (Henning & Duffy, 2017; Hendrickson, Henning, & Spinell, 2013). In addition, we did several descriptive studies that helped us assess teachers' current approach to mentoring, how they facilitated student learning, and how mentoring differed across early field experience, student teaching and first year teaching (Gut et al., 2014). Finally, we have been part of a network improvement community organized by CAEP state alliance to develop and study practices necessary to support clinically-based teacher education. These included development of an appropriate sequence of learning experiences for teacher candidates by developing the *Developmental Curriculum for Clinical Experiences* (Henning et al., 2016), a set of performance-based rubrics for assessing high leverage teaching practices during early field experiences (Henning et al., 2016), and an end-of-program interview study (Henning et al., 2016).

Cultivating Creative Design Work

The previous sections have shown how facilitating intuitive and analytical thinking enhances teacher educators' ability to develop innovative program designs. The most productive use of both intuitive and analytical thinking occurs when they complement one another. Actually, this is part of most people's daily thinking processes, which can be described as an interaction between intuitive and analytical thinking on a continuum of cognitive functioning (Seger, 1994; Sloman, 1996; Sun et al., 2001). This interplay is also present during the creative thinking process (Ochse, 1990). The insights that occur during creative thinking process often begin with a sustained encounter with an explicitly understood problem, followed by a long period of tacit processing that triggers a sudden insight or "aha" moment that is the result of an intuitive thinking. Intuitive insights are often preceded by years of experience, during which time, practitioners acquire increasingly complex mental representations that enable them to see solutions from multiple perspectives (Crawford, Schlager, Toyama, Riel, & Vahey, 2005; Ericcson, 2006). However, the creative process does not end with an insight. The final step of the process involves an extended period of analytical thinking for the purpose of extending, formally articulating, and evaluating the insight in other contexts.

The interaction between intuitive and analytical thinking can be systematically fostered by the employment of design thinking, an increasingly popular process of developing innovations in architecture, industrial design, and product design. Design thinking features an extended, evolutionary process that encourages experimentation and pilot testing during a gradual evolution of a prototype design. Because the approach involves gradually moving towards a finished design, it provides opportunities for the designers to 1) gain experience with innovations that are outside their previous experience, 2) gradually increase the complexity of the design as new and unexpected relationships are discovered, and 3) allow the innovation to evolve in synergy with the local environment (Brown, 2009).

The design thinking process is characterized by three stages: Inspiration, Ideation, and Implementation. During Inspiration the mind encounters a problem, considers it deeply, and is informed by a sudden illumination or intuitive insight (a process that is comparable to the initial phase of creative thinking). This insight is used to create an initial design for a prototype (or model or pilot test) to address the problem. The prototype should include a proposed change or set of changes that are small in scope but potentially large in impact, what is referred to as a leveraged change (Reigeluth, 2006). Running a pilot test enables teacher educators an opportunity to gain experience with the innovation and its context, thus providing a basis for insight and understanding. Starting small helps keep the new learning manageable while simultaneously providing opportunities to expose problems early on, to build on previous successes, and to help participants to gradually move into a new paradigm with a set of shared

experiences and assumptions, thus enhancing collaboration and thinking.

Ideation, the second phase of design thinking, involves a recursive process of redesigning the innovation through a succession of pilot tests. During this phase, designers engage in rapid prototyping, which involves designing, developing and testing prototypes of the innovation for the purpose of refining the original design before final implementation. Ideally, an initial leveraged change will affect an immediate benefit that, in turn, generates impetus for further changes. During these cycles, design criteria are gradually added to refine and expand on the initial design. The goal is to ignite an evolutionary process that leads to a fully implemented innovation. Through successive iterations of the new practice both intuitive and analytical thinking skills are utilized to build increasingly complex schemas. Each new experience with the design encourages teacher educators to generalize from their experience, to make tacit knowledge explicit by clearly articulating goals, new designs, and the findings from inquiries; and to apply the more clearly defined conceptual knowledge to develop the next generation of innovations. These processes all contribute to the type of schema formation described by Korthagen (2010).

The third stage of design thinking is Implementation, which is characterized by the transformation of experiments, pilot tests, and prototypes into fully implemented initiatives. As the design evolves, it typically becomes more complex as new design criteria are added and integrated into the original design. The gradual expansion provides opportunities for refining the design on an increasing large scale, thus allowing opportunities to solve and manage any unexpected problems associated with full implementation. Gradually, the addition of new design criteria become less frequent and the new processes become increasingly predictable and stable, thus positioning participants for full implementation.

As my experience with the pilot projects and inquiries evolved over a period of several years, I gradually found that designing initiatives to increase P-12 student learning was the driving force for change. Making P-12 student learning central to the school and university partnership united us in common cause and motivated our partnership schools to accept teacher candidates for longer clinical experiences. This discovery should have come as no surprise since increasing student learning is the number one design principle set forth in the ten principles designed by the Blue Ribbon Panel (NCATE, 2010). Yet much like a beginning teacher, my true understanding of that principle really emerged through my lived experiences and my reflections on them.

To foster P-12 learning, we incorporated three major design features in our program design for clinically-based teacher education. The first are design features that have a direct impact on P-12 student learning. These include sustained clinical experiences, co-teaching, and assessing the impact of teacher candidates on P-12 student learning. Sustained clinical experiences enable teacher candidates to build stronger relationships with P-12 students and therefore to try more teaching strategies. The co-teaching approach was added to the professional internship because of its demonstrated potential for improving P-12 student learning (Bacharach, Heck, & Dahlberg, 2010). Current pilot projects are studying the impact of teacher candidates on student learning. By doing so, we are simultaneously providing important feedback to our teacher candidates while building evidence for the effectiveness of our programs.

The second major design feature involves initiatives that address the creation of explicit expectations for teacher candidate performance. This work has been accomplished through the creation of the *Developmental Curriculum for Clinical Experiences*. Clearly articulating the gradual acquisition of practice-based knowledge enables clear communication of program requirements, provides a core around which to

organize other features of the program, and provides a means for formatively assessing the performance of teacher candidates as they develop. "Curriculum" was included in the name because clearly articulating the sequence of teacher candidate experiences is a critical part of a clinically-based teacher education program. We also developed performance assessments based on tasks associated with the high leverage teaching practices and the INTASC standards. These performance rubrics have added another level of program articulation that has provided valuable support for mentor teachers. They use the rubrics as a scaffold for engaging teacher candidates about their performances on tasks that are most likely to have an impact on P-12 student learning.

The third major design feature is related to the support provided to mentor teachers. Our early work indicated that mentor teachers were uncertain about university expectations, commented they needed more direction for mentoring, indicated their biggest reason for not accepting a placement was a previous bad experience, and stated their dissatisfaction with short 30 to 40-hour field experiences, which offered very little time for mentoring and elicited limited commitments from teacher candidates (Henning, Gut, & Beam, 2015; Henning, Falco, Grabowksi, & Esposito, in press). Since then, the program design has been strengthened through more frequent and more structured communications, the development of mentoring tools, and the implementation of a mentoring academy (Gut et al., 2014).

To summarize, the above design principles for clinically-based teacher education provides a framework for learning through experience by 1) lengthening clinical experiences, 2) setting explicit expectations, and 3) supporting mentor teachers. Placing teacher candidates in schools for longer periods of time provides them with an opportunity to acquire more complex teaching behaviors by moving through more cycles of action and reflection within a specific context. Setting explicit expectations provides a sequence of teacher candidate activities that will impact P-12 student learning, ensure the teacher candidate is exposed to all essential teaching tasks, and provide a roadmap for gradually increasing the complexity of teaching behaviors. By supporting mentor teachers, we are strengthening the coaching necessary for teacher candidates to enhance their dispositions, their decision-making, and the judgement necessary to address unprecedented situations and problems.

Discussion

The purpose of this paper was to show how an understanding of teacher educator development could foster innovation in teacher education and more immediately to serve the design and implementation of clinically-based teacher education. Three approaches to facilitate the development of teacher educators were described. These included fostering the development of 1) intuitive thinking, 2) analytical thinking, and 3) the development of both through design thinking. For teacher educators to design and implement clinically-based programs, they need to consider how to create the conditions needed to enhance their professional development.

Development in Context

To cultivate intuitive thinking, teacher educators should constantly design new learning experiences. Through new experiences, teacher educators acquire the tacit knowledge that can serve as a basis for creative inspiration. To do so, it is important to foster a climate that encourages constant experimentation by rewarding risk-taking, independent thinking, and novel solutions so that faculty feel confident about introducing new approaches. Second, it is important to actively search to identify problems and articulate them explicitly. Well-articulated problem statements provide explicit goals that can motivate and provide direction for discovering intuitive insights that lead to innovative program designs. Third, so-called "mistakes" should be viewed as an impetus and opportunity for actively experimenting with or reflecting on new program designs. Mistakes can be eliminated by

treating them as innovations that either did or did not work.

Development in Thinking

Developing analytical thinking enables teacher educators to achieve an understanding of the program design principles, thus enabling them to better articulate the theoretical underpinning of the program. To cultivate analytical reasoning, teacher educators should encourage research and reflection on new experience through collaboration, design work, assessment for program improvement, and research studies. A systematic, rule-based approach to thinking facilitates the development of new concepts that can provide design principles for developing new programs, thus freeing teacher educators from a dependence on intuition or moment-to-moment decision-making. Analytical thinking can also be employed to conduct empirical tests of the design, to determine the effectiveness of the design, and to make inferences about why the design is or is not working.

Moving to Complexity

Teacher educators should move the design of their programs towards increasing complexity. The evolution towards complexity occurs through iterations of practice involving an interaction between intuitive and analytical thinking processes. To design for complexity, teacher educators should start with one or two key design principles, then expand the design as the pilot test findings dictate. New experiences should be generated through pilot projects that introduce big, bold changes on a relatively small scale. Starting on a small scale exposes problems, allows opportunities to revise the design in anticipation of going to scale, and provides needed experience within new paradigms of teacher education. As the design of the innovative practice and the program become increasingly complex, engagement in both the practice and the program become ever richer sources of both tacit and explicit knowledge, thus building the capacity of teacher educators for tacit processing, intuitive thinking, and deeper reflection.

Designing Innovative Teacher Preparation

Teacher educators must understand how they learn experientially in order to design and develop innovative teacher preparation programs, such as the current effort to implement clinically-based teacher education programs. Like teaching practice, the design of teacher preparation programs are specific to a context, develop over time to better serve their environment, and grow increasingly complex as they evolve. The high level of complexity involved in designing new programs makes it challenging to foresee all the possible consequences of the change process. However, by introducing strategically selected changes on a limited or small scale, an evolutionary process can be initiated that leads to system-wide changes. Adopting a practice-based approach to designing teacher preparation programs will move the field forward by providing greater insight into how professional settings learn in clinical settings. An understanding of this process will inevitably lead to further innovations that transcend clinically-based teacher education.

By understanding how teacher candidates learn through experience in specific contexts, teacher educators can design clinically-based programs that serve the multiple goals of their program's curriculum. As an example, consider how a framework for experiential learning can enhance the development of teacher candidates who are committed to a just and equitable society. First, teacher educators can select classroom contexts that will stimulate teacher candidate reflection on the diversity of their P-12 students. Second, they can create experiential learning tasks and reflective thinking assignments that target specific skills sets related to interacting with P-12 students, building relationships, and differentiating instruction. Third, teacher candidates can be gradually guided from simple tasks to more sophisticated and complex teaching behaviors as their skill level and understanding of classroom dynamics unfolds.

Designs for clinically-based teacher preparation should accomplish more than simply developing the teacher candidate's skill level. Exposing teacher candidates to the nuances of highly complex situations with multiple variables also provides an excellent opportunity to foster their instructional decision-making and dispositions. Placing teacher candidates in multiple contexts for teaching will provide them with a breadth of experience by exposing them to the many challenging variables that condition and constrain teacher decision-making. Responding to problems in a wide variety of situations builds the capacity of teacher candidates for flexible instructional decision-making across contexts. Placing teacher candidates in a sustained experience provides an opportunity to continually improve their instruction through cycles of action and reflection within a single setting. It also enables teacher candidates to build deeper relationships with P-12 students, thus engaging them in the important task of cultivating the appropriate dispositions for executing more sophisticated instructional strategies. Engaging teacher candidates with the unprecedented and unforeseen situations that inevitably occur in classroom settings will contribute to the teacher candidates' development of positive dispositions and their capacity for making challenging instructional decisions.

Implications for the Future

Teacher educators have it within their power to design program improvements that foster their learning. We can create the social practices and conditions that will enable us to learn faster and innovate in a systematic fashion. Incorporating these practices in our teacher preparation programs enables a continuous improvement process that will carry us beyond our current conception of clinically-based teacher education and inevitably broaden our understanding of teacher education.

The work completed thus far is a beginning, not an end. It has broadened our horizons, teased our thinking, and given us a peek into this new era of clinically-based teacher education. Lengthening and strengthening clinical experiences enables unprecedented opportunities for piloting new initiatives, redesigning programs, and engaging in groundbreaking research on the development of teacher candidates in clinical settings. This new dynamic in clinical preparation promises to be a generative source for redesigning teacher preparation programs, researching the development of teacher candidates in clinical settings, and building a vehicle for continuous innovation in teacher preparation programs.

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A Practice-Based Approach to Teacher Educator Learning: The Foundation for Innovation in Teacher Education

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Introduction

In November 2010, a group of prominent leaders and scholars in teacher education issued a dramatic statement concerning the state of the field. The Panel, which was specially commissioned by the National Council for the Accreditation of Teacher Education (NCATE) to examine the current state of clinical preparation and partnerships, declared in their report that teacher education needed a "dramatic overhaul" (p.2). They noted that the current approach to teacher education is poorly defined and inadequately supported, resulting in great unevenness of quality (Darling-Hammond, 2006; Lashley & Applegate, 1985). Often, field experiences are unguided, fragmented, and lacking in coherence between field and coursework. Thus, regardless of the quality of the instruction, teacher candidates often have difficulty applying what they have learned in a college classroom to a P-12 setting. In the words of the Panel, the education of teachers should be turned "upside down" by placing "practice at the center of teaching preparation" (p.3).

The Blue Ribbon Panel report accomplished three important purposes. First, it delineated problems that are central to the field of teacher education and set a direction for moving the field forward. Second, it offered ten principles for guiding the design and implementation of clinically-based teacher education. Third, the vigorous rhetoric employed in the report was clearly intended to produce a dramatic impact on its audience, thus reinforcing the need for teacher educators to undergo a revolution in thinking. Since the release of the Blue Ribbon Panel's report, there has been little disagreement with NCATE's endorsement of the Panel report, the design principles articulated by the Blue Ribbon Panel, or the call for a paradigm shift in teacher education. In fact, a number of other groups have endorsed the need for such changes (American Federation of Teachers, 2012; CAEP Commission on Standards and Performance Reporting, 2013; National Council of Research, 2010).

Nonetheless, moving to a clinically-based model of teacher education poses several challenges. First, the Blue Ribbon Panel report provides limited guidance about how to conceptualize clinically-based teacher education. Although the report provides ten design principles and acknowledges the existence of exemplar programs, it does not specifically state to what degree these principles should be implemented nor what distinguishes a clinically-based program from a program with clinical experiences (NCATE, 2010). Thus, it is not clear to what degree changes need to be made or on what basis teacher preparation programs could distinguish their program as clinically-based. Since the release of the report and despite the clear need for additional work in this area, little has surfaced to further define what constitutes a clinically-based teacher education program.

Furthermore, despite the numerous policy mandates for moving to clinically-based teacher education (e.g., NCATE, 2010), there have been few recommendations concerning *how* to design and implement such changes in individual teacher preparation programs and limited discussion of how to foster such a large scale change in teacher education. The ten design principles provided some guidance concerning the desired outcomes,

but limited assistance in regards to prioritizing, motivating, or sustaining changes. The lack of a conceptual framework for making such changes may cause design and implementation to be episodic and any resulting model of teacher education to be limited in its conception. Further, clinically-based teacher preparation programs must necessarily be designed to accommodate local purposes and circumstances. This will be a difficult task for teacher educators without a clear understanding of clinically-based teacher education, how to use that understanding to design a clinically-based teacher education program, and how to implement a clinically-based teacher education program through continuous improvement.

Third, the bold change implied by the language of NCATE's call to move to a clinically-based model implies that teacher educators must also change dramatically – their beliefs, dispositions, conceptualizations, and practices. This poses a tremendous challenge for teacher educators, given the lack of exemplars, the individual differences among locally-designed programs, and the complex nature of learning how to teach. Teacher educators must not only conceptualize, design, and implement a new paradigm of teacher education, they must also prepare themselves for the continuing evolution of further changes that will inevitably be required in this new paradigm. Without a principled approach to guide this transformation, teacher education programs will find it difficult to create an environment and process that supports the dispositions, imagination, and energy needed to conceive, design, and implement innovations in teacher preparation.

The purpose of this paper is to show how a practice-based approach to teacher educator learning can facilitate the design and implementation of clinically-based teacher education. The article begins with a discussion of three important principles of teacher development: 1) how teachers learn in context, 2) how teacher thinking develops from practice, and 3) how practice evolves towards complexity through recursive learning. Understanding how teachers learn through practice provides a basis for showing how teacher educators can develop their capacity to successfully design and implement clinically-based teacher education. Recommendations for fostering the following three skills are given: 1) cultivating intuitive thinking by designing new contexts for learning, 2) cultivating analytical thinking through reflection and research, and 3) and cultivating design thinking through a recursive interaction between the intuitive and analytical thinking.

Traditionally, teacher education programs have been designed to introduce foundational theories of teaching and learning in college classrooms so that prospective teachers can apply them in P-12 school settings. This course-based approach affirms and sustains a theory-to-practice orientation for teacher learning. Teacher candidates acquire generalizations (theories and principles) about teaching in campus-based courses and then try to apply them in school settings. Experiences are extensions of individual courses with assignments that direct teacher candidates to apply concepts acquired in a college classroom their clinical setting. Redesigning a teacher education program to reverse this historic tendency requires overcoming three significant challenges.

First, implementation of clinically-based teacher education will necessarily vary by program to accommodate shared interests in a local context. Thus, it is difficult to design and predict the impact of specific changes within a local context.

Second, many teacher educators lack the experience to understand this new paradigm of teacher learning. The current understanding is based primarily on an abstract and unrealized conception of clinically-based teacher education, thus making it difficult to conceptualize and design.

Third, teacher education programs are enormously complex, often comprised of various networks of partnerships, clinical experiences, and coursework. Therefore, it is hard for any

single person or even a group of people to reconceptualize and redesign an entire program based on a single set of design principles.

Designing and Implementing Clinically-Based Teacher Education Programs

The theory-to-practice relationship typical of a traditional teacher preparation is reversed in a clinically-based program. In clinically-based teacher preparation, the practice of teaching is the foundation upon which theoretical knowledge is constructed, and learning to teach through practice becomes the centerpiece of the program (Ball & Cohen, 1999; Ball & Forzani, 2009; Korthagen, Kessels, Koster, Lagerwerf, & Wubbels, 2001; Korthagen & Kessels, 1999). To successfully design and implement clinically-based programs, teacher educators must first understand how teaching develops through practice. Second, they must understand how practice influences their development as a teacher educator and their ability to redesign their programs to serve a clinically-based approach to teacher education. The following three sections describe how teacher candidates learn through practice and reflection in a specific context over time.

The Context for Teacher Development

The context for learning to teach is a critical influence on the learning process. It includes the time and place for the teaching activity, and the types of activities, dialogue, and social organization that occur within the classroom and school setting (Borko and Putnam, 1996). According to sociocultural theories, development originates in social and cultural interactions, which gradually become internalized as thought processes (Vygotsky, 1986). It is through these interactions that teacher candidates integrate perceptions, cognitive processes, emotional responses, and behaviors, into a unique teaching identity (Kolb, 1984).

For example, consider the differences in the following two contexts for learning how to lead a discussion. In the first, the teacher candidate observes the teacher use the Inquiry-Response-Evaluation method of conducting a discussion. The teacher stands at the front of the room, asks questions that are predominantly at the lower end of Bloom's taxonomy, and elicits brief, factual responses from students. Compare that to the second environment in which the larger group discussion is preceded by an inquiry-based activity, small group discussion in cooperative groups, and during which the teacher asks higher level thinking questions and responds in multiple ways to diverse student answers. The interactions are much more complex in the second scenario, involving an integration of cooperative learning, inquiry-based learning, and discussion-based teaching. Associated with the instructional strategies is a subtle and integrated approach to student motivation that include both intrinsic and extrinsic strategies (Henning, 2008).

In the second example, there is a much greater opportunity for tacit learning, which occurs unconsciously through practice. Tacit learning is acquired directly from the context of teaching, is often understood on a sensory level beyond words, and "can provide valuable information for teachers to interpret the nuances of human behavior, teacher/student interactions, and the pedagogical and emotional needs of students" (Cianciolo et al., 2006, p. 113). Tacit thinking processes have a tremendous potential for greater capacity, speed, and processing power in comparison to explicit thinking processes (Sadler-Smith, 2008). Often, no explicitly given explanation could cover all the information in a context or describe all the possible interactions. Tacit knowledge is very closely related to practical intelligence and is important for success in professions that require the handling of complex practical problems (Cianciolo et al.,2006, p. 622). It is also a great source of creative inspiration.

The Development of Teacher Thinking

As teacher candidates become more experienced within a context of teaching, single episodes morph into recognizable and more predictable patterns. Korthagen's (2001, 2010) three-tiered, theoretical accounting of learning to

teach describes how concrete experiences acquired while teaching can lead to more generalizable knowledge through reflection and more theoretical knowledge through further organization. At the first level, concrete experiences in teaching lead to the formation of gestalts, which are constellations of "momentarily triggered images, feelings, notions, values, needs or behavioral inclinations" (Korthagen, 2010, p. 101). At this initial level, the elements or relationships in the gestalt may remain partially or largely unconscious to the teacher.

At the second level, these relationships can be brought to consciousness through reflection in the form of a cognitive schema, or a mental "network of concepts, characteristics, and principles, and so on, helpful in describing practice" (p. 102). Schemas rise to theories at the third level of Korthagen's model. Because theories should be logically consistent with the data at hand and other theories, theory generation requires a "deep and generalized understanding of a variety of similar situations" based on a familiarity with the literature in the field (p. 102).

Internalizing teaching practice is enhanced through reflection. Two distinctly different types of practitioner reflection should be considered when designing clinically- based teacher education. Reflection-in-action, the first type, occurs when making on-the-spot decisions during the act of classroom teaching (Schon, 1983). Reflection-in action is closely associated with the development of intuition, a type of thought that is very fast, uses various forms or sources of information, has a low degree of awareness, and is rarely precisely correct or dramatically wrong. Reflection-in-action can be enhanced by the questions mentor teacher teachers pose to their mentees.

Reflection-on-action, the second type of reflection, occurs at a later time, often outside the classroom well after a lesson is taught (Schon, 1983). Reflection-on-action can be associated with the development of analytical thinking, which is far slower and more deliberate than intuitive thinking (Kahneman, 2011). In comparison to intuitive thinking, analytical thinking is more explicit, more process oriented, uses a limited range of information, and requires a high degree of awareness (Bastick, 1982, p. 57). During analysis, thinkers use rule-based processes to consciously impose transformation on information. The validity of an analytical process depends on its fidelity to a specified process, which could include the design for the inquiry, the quality of the evidence collected, and the logical steps used to draw conclusions from it.

The Development of Practice Toward Complexity through Recursive Learning

As teacher candidates acquire more experience in a specific context of teaching, they become increasingly fluent in their performance, their intuitive decision-making, and their analytical decision-making. They are also better able to predict student behaviors and to accomplish increasingly more complex tasks. Gradually, teacher candidates gain increasing access to the complex activities and interactions of teachers until the teacher candidate is a full participant in the teaching process so she can experience and begin to master all the complexities of teaching (Lave & Wenger, 1991).

These changes occur because teacher candidates gradually become faster in both their performance and thinking abilities. Increased proficiency allows practitioners to "chunk" individual pieces of procedural knowledge into larger elements, thus enabling them to accomplish tasks more quickly with fewer mental elements and less mental effort (Ericcson, 2006; Saddler-Smith, 2008). As these processes become more automated, additional space in short term memory becomes available for the development of new skills. Thus, experts can process information more quickly, see solutions from multiple perspectives, and exercise more flexibility in their thinking (Crawford, Schlager, Toyama, Riel, & Vahey, 2005).

These higher level cognitive functions are acquired through cycles of action and reflection,

as illustrated by models of experiential learning. For example, Kolb (1984) describes experiential learning as a recursive process that occurs in a four-stage cycle that includes: Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation. In Lewin's model of experiential learning, which is like Kolb's in both conceptualization and purpose, learning is a recursive process that involves experience, reflection, and the development of an abstraction or generalization that provides guidance to the next cycle of learning. It includes four phases: Plan, Do, Observe, and Reflect (1946,1948). Similarly, the new field of improvement science is guided by a recursive learning model of doing and reflection that occurs in the following four steps: Plan, Do, Study, Act (PDSA) (Langley et al., 2009). In all three of these models, learning occurs through iterative cycles of action and reflection that gradually lead to the implementation of high-quality processes and the elimination of unwanted error.

The Development of Teacher Educators

Recent literature suggests that the development of teacher educators is much like the development of teachers. Studies have shown that 1) that new teacher educators are confronted with learning a new practice, 2) that reflection on practice is key to becoming an effective teacher educator, 3) the development of teacher educators occurs over several years, and 4) that mentoring promotes reflection on practice for teacher educators (Bates, Swennen, & Jones, 2011). Typically, it takes several years of experience for teacher educators to construct their professional identities (Boyd & Harris, 2011). They must learn to prepare teachers within a context, develop their thinking through reflection, and evolve towards a more complex practice through cycles of action and reflection (Williams & Ritter, 2011).

It should be noted that the role of teacher educator is far larger than simply learning to function in the existing context of teacher education. Teacher educators are also responsible for the continuous improvement of their programs. Inevitably, this means they must create new program designs that are beyond their present experience. In the absence of experience, it is difficult to visualize how a new design will affect the complex relationships that govern teacher preparation programs. This makes it difficult to anticipate all the potential problems and opportunities that will emerge from the change. The matter is further complicated because every teacher preparation program operates in a unique context; thus, every program requires a unique design to address its specific needs. Consulting the literature is helpful but not sufficient: it roughly is comparable to a teacher learning a new instructional strategy from a book. Further, clinically-based teacher education has not yet been fully conceptualized in the teacher education literature.

The lack of teacher educator experience with clinically-based teacher education constitutes one of the primary challenges to implementation. However, teacher educators can meet this challenge by engaging in new program design that enhances their professional development. The key is understanding that experiential learning is central to their growth as teacher educators. In the next sections of the paper, the author shows how teacher educators can foster their professional development by 1) designing new experiences that foster intuitive thinking, 2) engaging in reflection and research to foster their analytical learning, and 3) using design thinking to foster creativity in new designs. Using this approach, teacher educators can create their own experiential learning experiences, internalize the intuitive and analytical thinking processes associated with those experiences, and then use them as a platform for developing program innovations. In the following sections, the author uses his own experiences with clinically-based teacher education as examples.

Cultivating Intuitive Thinking through New Experience

The cultivation of intuitive thinking is a critical part of new program design and professional growth. Since intuitive thinking processes occur unconsciously, they must be cultivated indirectly through learning in new contexts. By learning in a new context, teacher educators can acquire a tacit understanding of new relationships. These relationships may not necessarily be evident in the initial, explicit design of the program, but could be realized through the experience of piloting or implementing the program. Introducing new practices causes professors, mentor teachers, teacher candidates, and P-12 students to respond to each other in new and different ways, thus enabling new perceptions, behaviors, thoughts, and emotions.

For example, the author implemented cooperative learning in his eleventh grade English classroom during his high school teaching years. It began with a change in the classroom structure; whole class discussions were preceded by small group discussions. Students were motivated to discuss during the small group discussions by a more collaborative, cooperative approach to instruction. This single modification led to a significant change in the classroom dynamic, which in turn led to changes in the assessment, motivational strategies, interactions with students, and instructional strategies. These changes took place over a two-year time period, each one gradually incorporated after the previous had been addressed. This evolution in practice also changed how the author thought as a teacher, how he interacted with students, and his beliefs about motivation, assessment, and learning. My new understanding was conditioned by the new experiences of working in a classroom motivated by cooperation and collaboration. In summary, implementing a new instructional design in my teaching practice gradually changed the way I thought about teaching and interacting with students (Henning, 2008).

Later, as a teacher educator, I was part of a similar model of change to initiate yearlong experiences at a Midwestern university. The yearlong experience involved spending an entire school year in a clinical setting. During the first semester, the candidates spent from one to three days per week in classrooms while finishing college classes. The second half of the year was devoted to the professional internship (student teaching). In the first year, the pilot program was offered to four graduate students in STEM education. From there, the number of volunteers for the program expanded rapidly. In the second year, the pilot program grew to include 15 graduate and undergraduate teacher candidates. In the third year and fourth years, the program expanded to include 60 graduate and undergraduate teacher candidates per year in middle childhood, secondary, and special education. In year five, the program was fully implemented for all undergraduate and graduate teacher candidates, with the exception of music and physical education majors.

After the fifth year, I moved to a new university on the east coast where we began a pilot program to implement the year long experience. Twenty-two teacher candidates were invited to be part of the pilot program in the first year: nineteen of them accepted. In the second year, the number of teacher candidates expanded to approximately 60, a little less than half the total number of teacher candidates doing student teaching. During the past year we fully implemented the year long experience in our teacher preparation program. It should be noted that the impetus for this pilot was also pushed by recently adopted state code which requires implementation of a yearlong experience within a three-year period.

The rapid expansion of both volunteer programs was due to several unforeseen factors, some of which were counter intuitive to previous thinking. We found that many teacher candidates were willing to add considerable hours to their schedules without additional credit, simply for the opportunity to work in schools and become

better prepared teachers. They were even more enthusiastic after the experience and did an excellent job of recruiting new candidates for the program with their reports on their increased confidence and the favorable comments they received during job interviews. Somewhat surprisingly, we also found that mentor teachers preferred longer over shorter clinical experiences. Mentor teachers noted that the added time led to stronger relationships with P-12 students, a deeper relationship between the mentor teacher and the teacher candidate, and an increased capacity and commitment from teacher candidates to positively affect student learning.

Through these pilots, a new context for learning teacher education had been created. By starting on a small scale, the teacher educators involved had a chance to learn experientially about the new program as it gradually expanded. During that time, potential impediments to full implementation were exposed and unexpected benefits were realized. We discovered how much teacher candidates valued clinical experience and that mentor teachers were not only willing to accept teacher candidates for a longer clinical experience, they actually preferred it over the traditional one semester model of student teaching. These unanticipated discoveries provided tremendous momentum for expanding the pilot.

Cultivating Analytical Thinking through Reflection and Research

Learning in a specific context can become the basis for developing new concepts through analytical thinking. Analytical thinking illuminates experience by transforming tacit knowledge to explicitly held concepts and by linking those concepts to the existing knowledge base. To cultivate the capacity to think analytically, teacher educators can engage in collaborative teams for the purpose of making program improvements. Such teams can provide teachers, instructors, assistant professors, and ranked professors an opportunity to share conversations about the program across different levels of expertise. They can also help faculty to gain perspectives that transcend their individual disciplines; increase the quality of reflection by exposing participants to multiple perspectives; and enable schema building in the new paradigm, thus widening the impact and speeding implementation.

Most teacher educators are already familiar with the types of strategies that foster analytical thinking through collaboration. These strategies can range from casual conversations about a program improvement to research studies with an intent to publish. As the conversations become more formal, more attention is paid to specifying and articulating a systematic, rule-based process to guide thinking. Some examples include the following:

4. Committee work to analyze program data for the purpose of continuous improvement for accreditation or the employment of design teams to create and implement program innovations that address specific needs or program enhancements.
5. Collaborative research projects that simultaneously address program improvement, research, and the development of scholarly products, such as conference presentations and manuscripts.
6. Network improvement communities that address challenging problems collectively across universities and/or states (Byrk et al., 2013).

To maximize effectiveness, the key is to develop a coherent strategy that promotes both informal and formal approaches to systematic program improvement and professional growth. At both of my universities, I have been part of a range of pilot projects and inquiries whose focus has been the design and implementation of clinically-based teacher education. In addition to the yearlong pilot projects described earlier, there have been studies on co-teaching, the development of teacher candidates during the yearlong experience, and the impact of teacher candidates on P-12 learning (Henning & Duffy, 2017; Hendrickson, Henning, & Spinell, 2013). In addition, we did several descriptive studies

that helped us assess teachers' current approach to mentoring, how they facilitated student learning, and how mentoring differed across early field experience, student teaching and first year teaching (Gut et al., 2014). Finally, we have been part of a network improvement community organized by CAEP state alliance to develop and study practices necessary to support clinically-based teacher education. These included development of an appropriate sequence of learning experiences for teacher candidates by developing the *Developmental Curriculum for Clinical Experiences* (Henning et al., 2016), a set of performance-based rubrics for assessing high leverage teaching practices during early field experiences (Henning et al., 2016), and an end-of-program interview study (Henning et al., 2016).

Cultivating Creative Design Work

The previous sections have shown how facilitating intuitive and analytical thinking enhances teacher educators' ability to develop innovative program designs. The most productive use of both intuitive and analytical thinking occurs when they complement one another. Actually, this is part of most people's daily thinking processes, which can be described as an interaction between intuitive and analytical thinking on a continuum of cognitive functioning (Seger, 1994; Sloman, 1996; Sun et al., 2001). This interplay is also present during the creative thinking process (Ochse, 1990). The insights that occur during creative thinking process often begin with a sustained encounter with an explicitly understood problem, followed by a long period of tacit processing that triggers a sudden insight or "aha" moment that is the result of an intuitive thinking. Intuitive insights are often preceded by years of experience, during which time, practitioners acquire increasingly complex mental representations that enable them to see solutions from multiple perspectives (Crawford, Schlager, Toyama, Riel, & Vahey, 2005; Ericcson, 2006). However, the creative process does not end with an insight. The final step of the process involves an extended period of analytical thinking for the purpose of extending, formally articulating, and evaluating the insight in other contexts.

The interaction between intuitive and analytical thinking can be systematically fostered by the employment of design thinking, an increasingly popular process of developing innovations in architecture, industrial design, and product design. Design thinking features an extended, evolutionary process that encourages experimentation and pilot testing during a gradual evolution of a prototype design. Because the approach involves gradually moving towards a finished design, it provides opportunities for the designers to 1) gain experience with innovations that are outside their previous experience, 2) gradually increase the complexity of the design as new and unexpected relationships are discovered, and 3) allow the innovation to evolve in synergy with the local environment (Brown, 2009).

The design thinking process is characterized by three stages: Inspiration, Ideation, and Implementation. During Inspiration the mind encounters a problem, considers it deeply, and is informed by a sudden illumination or intuitive insight (a process that is comparable to the initial phase of creative thinking). This insight is used to create an initial design for a prototype (or model or pilot test) to address the problem. The prototype should include a proposed change or set of changes that are small in scope but potentially large in impact, what is referred to as a leveraged change (Reigeluth, 2006). Running a pilot test enables teacher educators an opportunity to gain experience with the innovation and its context, thus providing a basis for insight and understanding. Starting small helps keep the new learning manageable while simultaneously providing opportunities to expose problems early on, to build on previous successes, and to help participants to gradually move into a new paradigm with a set of shared experiences and assumptions, thus enhancing collaboration and thinking.

Ideation, the second phase of design thinking, involves a recursive process of

redesigning the innovation through a succession of pilot tests. During this phase, designers engage in rapid prototyping, which involves designing, developing and testing prototypes of the innovation for the purpose of refining the original design before final implementation. Ideally, an initial leveraged change will affect an immediate benefit that, in turn, generates impetus for further changes. During these cycles, design criteria are gradually added to refine and expand on the initial design. The goal is to ignite an evolutionary process that leads to a fully implemented innovation. Through successive iterations of the new practice both intuitive and analytical thinking skills are utilized to build increasingly complex schemas. Each new experience with the design encourages teacher educators to generalize from their experience, to make tacit knowledge explicit by clearly articulating goals, new designs, and the findings from inquiries; and to apply the more clearly defined conceptual knowledge to develop the next generation of innovations. These processes all contribute to the type of schema formation described by Korthagen (2010).

The third stage of design thinking is Implementation, which is characterized by the transformation of experiments, pilot tests, and prototypes into fully implemented initiatives. As the design evolves, it typically becomes more complex as new design criteria are added and integrated into the original design. The gradual expansion provides opportunities for refining the design on an increasing large scale, thus allowing opportunities to solve and manage any unexpected problems associated with full implementation. Gradually, the addition of new design criteria become less frequent and the new processes become increasingly predictable and stable, thus positioning participants for full implementation.

As my experience with the pilot projects and inquiries evolved over a period of several years, I gradually found that designing initiatives to increase P-12 student learning was the driving force for change. Making P-12 student learning central to the school and university partnership united us in common cause and motivated our partnership schools to accept teacher candidates for longer clinical experiences. This discovery should have come as no surprise since increasing student learning is the number one design principle set forth in the ten principles designed by the Blue Ribbon Panel (NCATE, 2010). Yet much like a beginning teacher, my true understanding of that principle really emerged through my lived experiences and my reflections on them.

To foster P-12 learning, we incorporated three major design features in our program design for clinically-based teacher education. The first are design features that have a direct impact on P-12 student learning. These include sustained clinical experiences, co-teaching, and assessing the impact of teacher candidates on P-12 student learning. Sustained clinical experiences enable teacher candidates to build stronger relationships with P-12 students and therefore to try more teaching strategies. The co-teaching approach was added to the professional internship because of its demonstrated potential for improving P-12 student learning (Bacharach, Heck, & Dahlberg, 2010). Current pilot projects are studying the impact of teacher candidates on student learning. By doing so, we are simultaneously providing important feedback to our teacher candidates while building evidence for the effectiveness of our programs.

The second major design feature involves initiatives that address the creation of explicit expectations for teacher candidate performance. This work has been accomplished through the creation of the *Developmental Curriculum for Clinical Experiences*. Clearly articulating the gradual acquisition of practice-based knowledge enables clear communication of program requirements, provides a core around which to organize other features of the program, and provides a means for formatively assessing the performance of teacher candidates as they develop. "Curriculum" was included in the name because clearly articulating the sequence of

teacher candidate experiences is a critical part of a clinically-based teacher education program. We also developed performance assessments based on tasks associated with the high leverage teaching practices and the INTASC standards. These performance rubrics have added another level of program articulation that has provided valuable support for mentor teachers. They use the rubrics as a scaffold for engaging teacher candidates about their performances on tasks that are most likely to have an impact on P-12 student learning.

The third major design feature is related to the support provided to mentor teachers. Our early work indicated that mentor teachers were uncertain about university expectations, commented they needed more direction for mentoring, indicated their biggest reason for not accepting a placement was a previous bad experience, and stated their dissatisfaction with short 30 to 40-hour field experiences, which offered very little time for mentoring and elicited limited commitments from teacher candidates (Henning, Gut, & Beam, 2015; Henning, Falco, Grabowksi, & Esposito, in press). Since then, the program design has been strengthened through more frequent and more structured communications, the development of mentoring tools, and the implementation of a mentoring academy (Gut et al., 2014).

To summarize, the above design principles for clinically-based teacher education provides a framework for learning through experience by 1) lengthening clinical experiences, 2) setting explicit expectations, and 3) supporting mentor teachers. Placing teacher candidates in schools for longer periods of time provides them with an opportunity to acquire more complex teaching behaviors by moving through more cycles of action and reflection within a specific context. Setting explicit expectations provides a sequence of teacher candidate activities that will impact P-12 student learning, ensure the teacher candidate is exposed to all essential teaching tasks, and provide a roadmap for gradually increasing the complexity of teaching behaviors. By supporting mentor teachers, we are strengthening the coaching necessary for teacher candidates to enhance their dispositions, their decision-making, and the judgement necessary to address unprecedented situations and problems.

Discussion

The purpose of this paper was to show how an understanding of teacher educator development could foster innovation in teacher education and more immediately to serve the design and implementation of clinically-based teacher education. Three approaches to facilitate the development of teacher educators were described. These included fostering the development of 1) intuitive thinking, 2) analytical thinking, and 3) the development of both through design thinking. For teacher educators to design and implement clinically-based programs, they need to consider how to create the conditions needed to enhance their professional development.

Development in Context

To cultivate intuitive thinking, teacher educators should constantly design new learning experiences. Through new experiences, teacher educators acquire the tacit knowledge that can serve as a basis for creative inspiration. To do so, it is important to foster a climate that encourages constant experimentation by rewarding risk-taking, independent thinking, and novel solutions so that faculty feel confident about introducing new approaches. Second, it is important to actively search to identify problems and articulate them explicitly. Well-articulated problem statements provide explicit goals that can motivate and provide direction for discovering intuitive insights that lead to innovative program designs. Third, so-called "mistakes" should be viewed as an impetus and opportunity for actively experimenting with or reflecting on new program designs. Mistakes can be eliminated by treating them as innovations that either did or did not work.

Development in Thinking

Developing analytical thinking enables teacher educators to achieve an understanding of

the program design principles, thus enabling them to better articulate the theoretical underpinning of the program. To cultivate analytical reasoning, teacher educators should encourage research and reflection on new experience through collaboration, design work, assessment for program improvement, and research studies. A systematic, rule-based approach to thinking facilitates the development of new concepts that can provide design principles for developing new programs, thus freeing teacher educators from a dependence on intuition or moment-to-moment decision-making. Analytical thinking can also be employed to conduct empirical tests of the design, to determine the effectiveness of the design, and to make inferences about why the design is or is not working.

Moving to Complexity

Teacher educators should move the design of their programs towards increasing complexity. The evolution towards complexity occurs through iterations of practice involving an interaction between intuitive and analytical thinking processes. To design for complexity, teacher educators should start with one or two key design principles, then expand the design as the pilot test findings dictate. New experiences should be generated through pilot projects that introduce big, bold changes on a relatively small scale. Starting on a small scale exposes problems, allows opportunities to revise the design in anticipation of going to scale, and provides needed experience within new paradigms of teacher education. As the design of the innovative practice and the program become increasingly complex, engagement in both the practice and the program become ever richer sources of both tacit and explicit knowledge, thus building the capacity of teacher educators for tacit processing, intuitive thinking, and deeper reflection.

Designing Innovative Teacher Preparation

Teacher educators must understand how they learn experientially in order to design and develop innovative teacher preparation programs, such as the current effort to implement clinically-based teacher education programs. Like teaching practice, the design of teacher preparation programs are specific to a context, develop over time to better serve their environment, and grow increasingly complex as they evolve. The high level of complexity involved in designing new programs makes it challenging to foresee all the possible consequences of the change process. However, by introducing strategically selected changes on a limited or small scale, an evolutionary process can be initiated that leads to system-wide changes. Adopting a practice-based approach to designing teacher preparation programs will move the field forward by providing greater insight into how professional settings learn in clinical settings. An understanding of this process will inevitably lead to further innovations that transcend clinically-based teacher education.

By understanding how teacher candidates learn through experience in specific contexts, teacher educators can design clinically-based programs that serve the multiple goals of their program's curriculum. As an example, consider how a framework for experiential learning can enhance the development of teacher candidates who are committed to a just and equitable society. First, teacher educators can select classroom contexts that will stimulate teacher candidate reflection on the diversity of their P-12 students. Second, they can create experiential learning tasks and reflective thinking assignments that target specific skills sets related to interacting with P-12 students, building relationships, and differentiating instruction. Third, teacher candidates can be gradually guided from simple tasks to more sophisticated and complex teaching behaviors as their skill level and understanding of classroom dynamics unfolds.

Designs for clinically-based teacher preparation should accomplish more than simply developing the teacher candidate's skill level. Exposing teacher candidates to the nuances of highly complex situations with multiple variables also provides an excellent opportunity to foster

their instructional decision-making and dispositions. Placing teacher candidates in multiple contexts for teaching will provide them with a breadth of experience by exposing them to the many challenging variables that condition and constrain teacher decision-making. Responding to problems in a wide variety of situations builds the capacity of teacher candidates for flexible instructional decision-making across contexts. Placing teacher candidates in a sustained experience provides an opportunity to continually improve their instruction through cycles of action and reflection within a single setting. It also enables teacher candidates to build deeper relationships with P-12 students, thus engaging them in the important task of cultivating the appropriate dispositions for executing more sophisticated instructional strategies. Engaging teacher candidates with the unprecedented and unforeseen situations that inevitably occur in classroom settings will contribute to the teacher candidates' development of positive dispositions and their capacity for making challenging instructional decisions.

Implications for the Future

Teacher educators have it within their power to design program improvements that foster their learning. We can create the social practices and conditions that will enable us to learn faster and innovate in a systematic fashion. Incorporating these practices in our teacher preparation programs enables a continuous improvement process that will carry us beyond our current conception of clinically-based teacher education and inevitably broaden our understanding of teacher education.

The work completed thus far is a beginning, not an end. It has broadened our horizons, teased our thinking, and given us a peek into this new era of clinically-based teacher education. Lengthening and strengthening clinical experiences enables unprecedented opportunities for piloting new initiatives, redesigning programs, and engaging in groundbreaking research on the development of teacher candidates in clinical settings. This new dynamic in clinical preparation promises to be a generative source for redesigning teacher preparation programs, researching the development of teacher candidates in clinical settings, and building a vehicle for continuous innovation in teacher preparation programs.

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