



HM Graduate School Curriculum Model (Working Paper)

The mission of the HM Graduate School is “to develop teachers who have the knowledge and skills to support their students’ ability to thrive in a rapidly changing world.” Such teachers must be able to succeed in the schools of today, as well as adapting to (and helping to create) the schools of tomorrow. The HM Graduate School lays out the necessary knowledge and skills in 20 competencies that encompass what a teacher must know and be able to do to teach all students now and in the foreseeable future. These include specialized competencies, which are specific to the field of teaching (e.g. assessing progress, relating to students, individualizing learning), as well as cross-cutting competencies that apply to other fields beyond teaching (e.g. thinking like a designer, learning to improve, collaborating for change). From this list, we have identified a subset of core competencies that we believe are so central to effective teaching that we set a higher bar for competency, asking teacher candidates to demonstrate them multiple times and in multiple contexts as they progress through the program. These competencies are:

1. Thinking like a designer
2. Grounding instruction in the science of learning and development
3. Teaching for justice
4. Relating to students
5. Creating a community of trust

We posit that a high level of competence in these core competencies, along with proficiency in the other 15 competencies, will enable our graduates “to design for rigorous, responsive, and equitable learning environments” wherever they teach.

The HM Graduate School’s success in carrying out its mission depends on its curriculum model. This working paper proposes a curriculum model for the HM Graduate School that is aligned with its mission and vision and its competencies. Throughout, it explains how the curriculum model is designed to foster the development of the core competencies as well as other specialized competencies. It connects the model to existing research and theory, illustrating how the HM Graduate School is drawing from and remixing practices that are used in other

teacher preparation programs as well as other professional education contexts, to create a model that will foster the development of “extraordinary teacher leaders.”

Curriculum Model

In order to realize the HM Graduate School’s mission, we are developing a curriculum model (see figure 1) that interweaves challenge-based learning, practice-based pedagogies, and critical consciousness development. A description and rationale for each of these components is provided in the sections that follow.

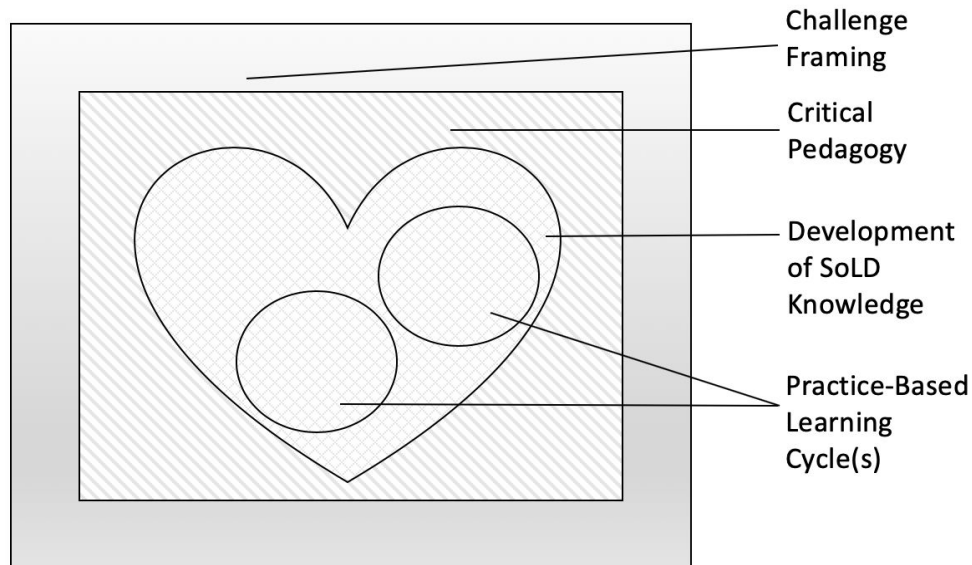


Figure 1. HM Graduate School Curriculum Model

Challenge-Based Learning

The HM Graduate School employs challenge-based learning, which is “a pedagogical approach that actively engages students in a situation that is real, relevant and related to their environment, which involves defining a challenge and implementing a solution” (Tecnológico de Monterrey, 2015). As students work on understanding and solving the challenge, they acquire the skills and knowledge necessary for their solution through engaging in just-in-time learning experiences that are available when the need arises. Challenge-based learning has been found to help students acquire both discipline specific skills and knowledge, as well as cross-cutting competencies, such as design thinking, systems thinking, communication skills, collaboration skills, leadership, and adaptability (Apple, 2010; Martin, Rivale, & Diller, 2007; Malmqvist, Radber, & Lundqvist, 2015; Tecnológico de Monterrey, 2015). In studies comparing the effectiveness of challenge-based courses with more traditional, lecture-based courses, college students and engineers who engaged in challenged-based learning were found to demonstrate gains in innovation skills (Martin et al., 2007), better synthesis of learned concepts (O’Mahoney et al., 2012), and greater command over difficult course material (Roselli & Brophy, 2006).

We view challenge-based learning as an optimal approach through which teacher candidates can develop the specialized competencies that are necessary for teaching effectively, while becoming skilled design thinkers. The approximately one dozen challenges that constitute the teacher education program represent the types of challenges that teachers face in their classrooms daily. For instance, in the Classroom Culture challenge, teacher candidates must figure out how to develop a classroom environment where all students feel respected, valued, and confident that they will be treated fairly. In order to create a solution to this challenge, teacher candidates must develop specialized competencies (relating to students and building a community of trust), while using design thinking skills to generate solutions that are appropriate for their students in their specific clinical contexts. As they develop and test their solutions, they have multiple opportunities to learn from formative feedback, in the forms of faculty and peers' responses to their prototypes, as well as observations of their students' reactions when they implement their solutions. Over the course of engaging in all the challenges, teacher candidates have one or more opportunities to develop each of the specialized competencies, as well as repeated opportunities to hone their design thinking skills.

Critical Consciousness Development

The HM Graduate School is committed to preparing educators who can design “responsive and equitable learning environments,” in order to foster a “better life for students of today and tomorrow.” We acknowledge that many widespread school practices and policies work against these aims, serving to reproduce injustices, rather than increase equity (Paris, 2016). We believe educators cannot hope to design responsive and equitable learning environments unless they have developed critical consciousness. Critical consciousness refers to an in-depth understanding of the world, allowing for the perception and exposure of social and political contradictions. The HM Graduate School seeks to foster the development of political and ideological clarity in teacher candidates (Bartolomé, 2004), supporting them to understand and critique damaging mainstream ideologies, such as White supremacist culture, deficit views of students of color, and the concept of meritocracy, and to gain more awareness of different cultures and their worldviews. It also seeks to help them develop more awareness of their own social and biological identities and consider how their identities are implicated in their curriculum and instruction (Gomez, Black, & Allen, 2007), as well as to understand the perspectives of those from different identity groups (Cochran-Smith, 2010).

In order to foster the development of critical consciousness, the HM Graduate School's model of learning draws from critical pedagogy, a concept first developed by Freire (1968). Critical pedagogy is essentially a problem-posing model, which encourages students and teachers to find and examine problems in history and the present, through dialogue. The line between teacher and students fades, as everyone learns aside one another, creating equality and emancipating learners from oppression.

At the HM Graduate School, critical consciousness development is a consistent thread throughout the program, weaving through every challenge, Studio session, and beyond. It begins in orientation, which includes some learning experiences that encourage teacher

candidates to reflect on their identity, and others that develop/deepen teacher candidate awareness of flaws in dominant ideologies about school and schooling. Throughout the program, teacher candidates use a design thinking process based on the innovator's compass (Ben-Ur, 2016), which supports the development of ideological and political clarity. As they unpack a problem and work towards designing a solution, teacher candidates are prompted to reflect on their assumptions and seek alternative explanations, at every step along the way. Furthermore, the challenges include just-in-time learning experiences that expose candidates to different perspectives, helping them to develop more critical interpretations. For instance, when working on the Classroom Culture challenge, teacher candidates read *The Hate U Give* (Thomas, 2017), a novel told from the perspective of Starr, a Black teenager from an innercity neighborhood who attends a predominantly White, private school. The novel illuminates how sociopolitical factors, including racial violence and discrimination, profoundly impact Starr's experiences in school, including her readiness to learn and her social relationships. Finally, challenge completion requires teacher candidates to submit both evidence of their solution, as well as a separate Teaching for Justice addendum, in which they are prompted to think critically about the schools where they work, about their students, and about themselves. Through these numerous experiences, teacher candidates are supported to gain the knowledge and dispositions necessary to teach for justice, including awareness of the necessity to keep growing in this area.

Learning about Learning and Learning How to Teach

The HM Graduate School vision statement reads:

We believe that education holds the promise for a better life for students of today and tomorrow. To achieve this goal, we need educators who have deep knowledge of their subject matter and who can prepare their students to be agile and collaborative learners, to work in diverse environments, to persevere under stress, and to independently learn and grow. We need educators who will prepare their students to flourish in the economies of the future, and to develop in them the knowledge and skills to create just and caring communities and a sustainable world.

Achieving this vision necessitates that our graduates attend to the whole child, fostering not just their students' academic development, but their social, emotional, cognitive, physical, and psychological development as well. To do so, they benefit from a strong understanding of the science of learning and development (SoLD) and the ability to incorporate SoLD insights in their classrooms (Darling-Hammond et al., 2019).

As teacher candidates engage with the challenges, they have just-in-time opportunities to engage with the science of learning and development. Some learning experiences are intended to foster an understanding of how students learn and develop, while others help teacher candidates use this understanding to learn how to teach effectively. Teacher candidates are encouraged to use their developing critical consciousness as a lens to evaluate research on

learning and development and reflect on the implications of this research in light of larger sociopolitical and historical contexts.

To help teacher candidates develop necessary knowledge of student learning and development, we employ a whole child development framework, based in SoLD, that includes six interrelated areas that teachers should consider in their work with students: adolescent development, supportive learning environments, productive instructional strategies, social-emotional development, systems of supports, and sociopolitical & historical contexts. Teacher candidates are introduced to this framework at the beginning of the program and return to it repeatedly as they engage in the challenges. We have identified important SoLD concepts for each area of the framework, and we have mapped these concepts to the challenges in order to create just-in-time learning experiences that support teacher candidates learning about SoLD, in order to apply it to the particular challenge on which they are working. For instance, during the Classroom Culture challenge, candidates will engage with SoLD research on topics such as sense of belonging, developmental relationships, and psychological safety. They will be prompted to connect SoLD concepts to each other, making connections between the new concepts that they encounter in each challenge and concepts they considered in previous challenges, thus deepening their understanding of how students learn and develop.

At the same time as they build their knowledge of student learning and development, teacher candidates learn how to put their knowledge into practice in the classroom. We employ practice-based learning cycles to foster the development of particular teaching skills, which are consistent with the implications of SoLD research. Practice-based teacher education is an approach to teacher preparation that involves studying the critical activities of the teaching profession (Ball & Cohen, 1999). The goal of our practice-based approach is for novice teachers to have a deep understanding of how, why, and when to use specific teaching practices to foster student learning, as well as the skills to employ these practices in their own classrooms. Practice-based pedagogies include the use of: 1) representations, in which specific aspects of practice are made visible to novices; 2) decompositions, in which practices are broken down into their component parts; and 3) approximations, in which novices have opportunities to simulate certain aspects of practice in a low-stakes environment (Grossman et al., 2009). Building on Grossman et al.'s work, McDonald, Kazemi, and Kavanaugh (2013) proposed a pedagogy of practice that consists of iterative cycles of learning about an instructional activity through analyzing representations, preparing and rehearsing it, enacting it with students, and analyzing the enactment. We used design-based research to study this learning cycle in the context of our Facilitating Collaborative Learning challenge. We found that it supported teacher candidates' ability to plan and facilitate group discussions.

We are embedding a modified version of McDonald, Kazemi, and Kavanaugh's learning cycle, that builds on teacher candidates' previous teaching experiences, into many of the challenges. Practice-based learning cycles help teacher candidates to develop specific teaching practices that are necessary to solve a particular challenge. For instance, in the Facilitating Collaborative Learning challenge, teacher candidates must figure out how they can engage their students in learning with and from each other. In order to solve the challenge successfully, teacher

candidates must become skilled at designing groupwork and facilitating discussion. They have the opportunity to develop these skills through engaging in a series of learning experiences that follow a practice-based learning cycle. Teacher candidates analyze each of these teaching practices to understand why and how they work, rehearse these practices in low-stakes situations, enact the practices in real classrooms with real students, and analyze their enactment, in order to improve. Throughout the practice-based learning cycles, teacher candidates consider why, how, and when specific practices work, in light of their deepening understanding of the science of learning and development.

Future Directions

This paper offers a description and rationale of the proposed curriculum model for the HM Graduate School. This model pulls together some of the disparate threads that currently exist piecemeal within the graduate school's written and enacted curriculum, and weaves them into a coherent whole that should enable the Graduate School to better carry out its mission of developing teachers who can support their students' ability to thrive in a rapidly changing world. It will take significant effort during the coming year(s) to make this model a reality. Redesign efforts will address:

- Reshaping our existing challenges to use a [challenge-based learning model](#). This includes:
 - framing each challenge as a problem of practice
 - using the term “solution” only for efforts to solve design problems. Other of our current, so-called “solutions” should be more accurately labeled as learning experiences, formative assessments, or reflections.
 - Moving towards a more learner-directed model
- [Integrating SoLD](#) concepts into [every challenge](#), along with opportunities to revisit the SoLD concept map.
- Reorganizing learning experiences around [practice-based IPEA learning cycles](#), when teacher candidates need to develop the ability to enact a specific practice (e.g. eliciting student thinking) in order to successfully solve a challenge.
- Incorporating [critical pedagogy](#) into every challenge. While our coaching staff already brings critical perspectives into their work with teacher candidates, we can more systematically incorporate resources and design learning experiences that foster critical consciousness.

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Appendix

Mission and Vision of the High Meadows Graduate School of Teaching and Learning

Mission

The High Meadows Graduate School of Teaching & Learning is reinventing educator preparation in order to develop teachers who have the knowledge and skills to support their students' ability to thrive in a rapidly changing world.

The HM Graduate School's competency-based model of teacher education prepares educators to design for rigorous, responsive and equitable learning environments. We educate extraordinary teacher leaders and serve as a laboratory for innovation in teacher preparation.

The HM Graduate School prepares its graduates to understand systems and structures of racism and injustice and equips them with the knowledge and skills to ensure that their students have equal access to the opportunities and supports that will empower them to succeed.

Vision

We believe that education holds the promise for a better life for students of today and tomorrow. Moreover, education is the vehicle to build a more just and equitable society where all students are supported to achieve their potential as individuals and to work collectively to create just and caring communities and a sustainable world.

We seek to develop educators who can prepare their students to be agile and collaborative learners, to work in diverse environments and to independently learn and grow. We aspire to prepare educators who will prepare their students to flourish in the economies of the future, and to acquire the knowledge and skills to create just and caring communities and a sustainable world.