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Content selection in advanced courses

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ABSTRACT

Advanced high-school courses, such as Advanced Placement (AP) courses in the United States, present a content selection conundrum of major proportions. Judicious content selection is necessary if students are to learn subject matter meaningfully, but the sheer breadth of tested material in these courses promotes nearly the opposite: "test-prep" teaching and mere "coverage" of the curriculum. This paper contributes elements of a theory of content selection that is aimed at meaningful learning (Bransford) and centered on the ideas of agency and constraint (Giddens), curricular structure (Bruner and Schwab), and knowledge and power in curriculum practice (Young). We also present the practical tool we used to select content for emphasis in a high-school government and politics course – an "advanced" course where selecting anything for emphasis is perceived as costly.

KEYWORDS

Curriculum development; curriculum studies; student and teacher experiences; educational practices; educational theory; school/educational reform

To learn structure, in short, is to learn how things are related

Jerome Bruner

We ask three questions: (1) Can meaningful learning occur in "advanced" courses known for breadth, a fast pace, and high-stakes tests? (2) Which sample of knowledge (substance) and skills (syntax) can be prioritized as core subject matter for meaningful learning in these courses? That is, which few ideas and skills might be worth learning in depth while supporting the learning of the other topics? (3) What strategy or tool (in the Weberian sense) might help teachers and curriculum developers identify that core? We respond to the first question with a cautious "yes," which is based on a series of studies conducted in urban and suburban classrooms since 2007. We answer the second by presenting elements of a theory of content selection that is aligned with meaningful learning. Here we draw from the mid-century "structure of the disciplines" movement as well as a critical sociology of curriculum that gained momentum in the 1970s. We answer the third question with the curricular tool we used to actually select content for an advanced high-school course: iterative deliberation.

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A multi-disciplinary research team formed in 2007 around the first of these questions. We planned a "design experiment" (Brown, 1992) with the aim of developing, implementing, and investigating a project-based learning (PBL) approach to advanced high-school courses. Why PBL? This framework was already preferred by our teacher-collaborators in the school district that was our initial partner. They preferred it because of its reputation for real-world authenticity, active student engagement, and collaborative learning. We began, also at their request, with the *AP US Government and Politics* course and have continued with it, aiming to improve it through successive rounds of implementation, data-gathering, analysis, and revision. Gradually, we have applied the same design principles to two additional courses: *AP Environmental Science* and *AP Physics I*.[1]

This paper features our content selection work in the first course, which we call *PBL-APGOV* and for which we have completed six years of research and development. Like other AP courses, and perhaps "advanced" courses more generally, students in this course face a daunting topical load, which can encourage a kind of teaching and learning best described as "test-prep" or "coverage." The superficial learning that too often results belies, we believe, the meaning of "rigorous" and "advanced" that are ascribed to these courses. We question the assumption that broad coverage at a fast pace followed by a high-stakes test amounts to rigor, and we do so on the grounds that it leaves too much aside, namely, meaningful learning, which we define as deep, lasting, and adaptive: learning in the present that will support learning in the future.

Background

Before proceeding, we provide background information on our research-and-development approach and our and progress to date. Broadly, we are conducting a mixed-method, quasi-experimental study using design-based implementation research (DBIR). Methodological resources initially were Brown's (1992) seminal work on "design experiments" and a review of DBIR by Cobb, Confrey, diSessa, Lehrer, and Schauble (2003). More recent resources were works by Penuel, Fishman, Cheng and Sabelli (2011) and Fishman, Penuel, Allen, Cheng, and Sabelli (2013). We designed an intervention – teachers, curriculum scholars, learning scientists, and political scientists working together on a PBL approach to APGOV course – and then iteratively implemented, investigated, and revised it. Our sites were classrooms in suburban and then urban high schools in three cities. It is important to note that the course was designed *within* DBIR; therefore, this was not an evaluation study. Rather, a collaborative research team was formed, and then the course was designed, implemented, investigated, and re-designed with the goal of improving the implementation year by year. Penuel et al. clarify that DBIR is committed to using research and theory to solve practical problems, which requires the research to be plainly practice-centered. Hence, the title of this paper highlights a common problem of practice in "advanced" courses.

We began this work in a relatively well-resourced suburb with a robust AP culture. In the third year, we "migrated"[2] to three poverty-impacted urban systems in three states: Washington, California, and Iowa. The research goals are (1) same or better pass rates on the AP test as students in traditional versions of the course, (2) meaningful learning of the

core ideas and skills of the course, and (3) engagement and success in the course (not merely enrollment) for the diverse array of students now being encouraged to take AP courses in the United States. Progress toward the three goals has been reported elsewhere (Parker et al., 2011, 2013). Results have been mixed but promising, suggesting that involvement in this kind of PBL can generally achieve same or better pass rates on the AP test while deepening learning and helping nontraditional AP students succeed in the course.

We recruited comparison schools to help gauge our progress on goal 1. Comparative results are needed in a context like this one where passing the high-stakes test is of paramount importance and the risk of reducing pass rates looms as a decisive threat to innovation or experimentation. If an alternative pedagogy is attempted, stakeholders want to know "What were your students' pass rates in comparison to students in traditional courses?" In conversations with administrators and teachers at AP conferences, this is routinely the first question put to us. We now can reply that, generally speaking, our students do as well or better than comparison groups on the AP test. At the same time, goal 2 required us to develop and test a measure of meaningful learning. We call it the complex scenario test (CST), and it is administered in addition to the AP test. Unlike the AP test, it asks students not only to recall but to apply or transfer what they have learned to a current political controversy. In early iterations, the CST proved too difficult for students, resulting in "floor effects" where most students, in both PBL and comparison classrooms, received a low score. Subsequent iterations have seen an improvement in score variability, but we continue to improve the test's sensitivity and further refine the construct – deep learning – that it aims to measure. Once this assessment is fully developed, we want PBL-AP students to outperform students in traditional AP classrooms. To address the third goal, we created an engaging course that features experiential learning in dramatic, political simulations. A good number of nontraditional AP students describe the course as "fun" while veteran AP students comment on how different it is from other AP courses. It involves role-playing and performing, acting and debate, and community involvement as local officials, journalists, and attorneys enter the classroom to serve as judges, interlocutors, and advisors.

PBL takes numerous forms but generally it interrupts the classroom routine where students sit and take notes while the teacher conducts recitations and gives homework readings from the textbook. This routine has deep cultural roots, a long institutional history, and a comfortable place in the popular imagination; it is what Tyack and Tobin called a "grammar" of schooling (1994, p. 85). Projects in PBL are typically "authentic" (i.e., the tasks have a real-world feel and ready application outside school) and generally require collaborative work of students. This is standard (Ravitz, 2009). But two additional principles undergird our particular approach to PBL. First, the course is project-centered: projects are the main course, not dessert (Larmer & Mergendoller, 2011). The whole course is taught and learned through projects. This means that projects are not activities that come at the end of an instructional sequence preceded by a teacher lecturing on "background information." Instead, and this takes us to the second principle: students are engaged immediately in project activity. Participation in project work, such as taking the role of a legislator with the

task of advancing a legislative agenda, *precedes* listening to a lecture or reading a homework assignment (e.g., on what legislators do). This principle is based on Schwartz and Bransford's (1998) studies of *when* to use texts and lectures within an instructional sequence. They concluded that there is a readiness for learning from these after some understanding and interest has been generated in more experiential and engaging ways. There is a readiness for listening/reading, they found, when students need that information for making progress in a project that already has begun. The "telling" has somewhere to go because there already is something going on – a situation is underway. Students are engaged in an action arena to which the telling is of service. "When telling occurs without readiness," Schwartz and Bransford conclude, "the primary recourse for students is to treat the new information as ends to be memorized rather than as tools to help them perceive and think" (p. 477).

We call the first principle "projects as the spine of the course," and the second "engagement first." We attempt to realize these principles on a pedagogical platform where doing so seems impossible: AP. We do this because our teacher-collaborators find this as an urgent problem of practice (building meaningful learning into a course whose breadth of content would seem to prevent it), but also because attempting to innovate on a constraining platform brings into sharper relief both the problems and potential solutions. *Content selection* itself becomes a glaring problem-in-search-of-solution. Sobriety about constraints, we believe, can facilitate innovation by clarifying where there might be space for agency and activism (Giddens, 1984). Finally, as mentioned earlier, an increasing number of students is being encouraged take such courses, and we want them be successful rather than only admitted (goal 3).

We conclude this introduction with brief descriptions of the projects themselves. They are five political simulations each lasting a number of weeks. Students immediately take roles as political actors (e.g., legislators, campaign managers, justices, journalists, lobbyists, members of the President's cabinet) and work with classmates who take complementary roles. Generally, students are working together to solve a problem (e.g., deciding the constitutionality of a law; proposing federal immigration or health policy). The projects have been revised annually and currently are as follows:

Founders' Intent. Students are delegates to the constitutional convention of 1787 in Philadelphia, deciding whether they should ratify the new constitution of the United States and considering the founders' thinking on the course master question: What is the proper role of government in a democracy? (3 weeks)

Elections. Students take roles in an election (candidates, interest groups, media, political party), organizing and executing a presidential campaign. (6 weeks)

Supreme Court. Students are Supreme Court justices, petitioners, or respondents, interacting in landmark cases involving questions of constitutionality, precedent, rights, and compelling government interest. (4 weeks)

Congress. Students are legislators in Congress, developing an agenda, writing legislation, and working to pass it consistent with the interests of their state or district. (4 weeks)

Government in Action. Students are advisors to interest groups involved in immigration policy reform. As advisors, they create intelligent political action plans to help advance their client's cause. (5 weeks)

Problem

We turn to the focus of this paper. It is a central problem of curriculum making: content selection. This was the subject obliquely of Dewey's *The Child and the Curriculum* (1902) but directly of Taba (1945), Oliver (1957), and the several strands of the "structure of the disciplines" movement at around the same time, notably by Bruner (1960) and Schwab (1964). We are concerned here in particular with content selection in what are considered to be advanced high-school survey courses. Around the world,[3] and clearly in the United States, these courses are built on a discourse of "rigor" defined as broad coverage of many topics at an accelerated pace and culminating in a high-stakes exam. We have dubbed this formula "breadth-speed-test" (Parker et al., 2013). Despite its administrative efficiencies, the formula may contribute to superficial learning. Indeed, a blue-ribbon committee concluded thusly and recommended that AP courses be redesigned to reduce coverage and better reflect contemporary research on how students learn and, as important, what will count as learning. "The inclusion of too much accelerated content can prevent students from achieving the primary goal of advanced study: deep conceptual understanding of the content and unifying concepts of a discipline" (National Research Council, 2002, p. 1). "Well-designed programs," by contrast, "help students develop skills of inquiry, analysis, and problem solving so that they become superior learners" (p. 12).

We believe content selection is best considered a curricular, not instructional, problem. A number of scholars underscore this distinction today (e.g., Deng & Luke, 2008; Young, 2013). To review, a curriculum is concerned with subject matter – *what* teachers choose for instruction and *what* students, therefore, have the opportunity to learn. Instruction is concerned with *how* teachers teach the curriculum and how they relate to students in the process of teaching – for example, how teachers help students of diverse life experiences and interests to develop a curricular concept such as *political party* or *ideology*. Curriculum is the subject matter (both substance and syntax; information, ideas, skills, and dispositions) that schools and teachers want students to learn. Content selection is the act of choosing from a universe of possibilities a sample of subject matter judged suitable for teaching and learning in the circumstances of a course or subject in a school, and it includes the arguments over what is worthy of inclusion. Any group of school subjects (social studies, science, math, art, language, literature) contains an almost limitless body of potential subject matter; however, limited instructional time means that only a little of it can be taught. Even less can be taught meaningfully. Since not everything can be taught, or taught meaningfully, choices are made and priorities established. This choosing involves expertise, ideology, power, exigency, bureaucracy, tradition, serendipity, error, and more. It is anything but neutral, as Young (1971) and Apple (1979) demonstrated decades ago. It is practical work, as Schwab argued, involving "choice and action" (1969, p. 2).[4]

Of course, curriculum and instruction are closely related. The two overlap, and their boundaries are porous and ambiguous. Much has been made of this.[5] Still, the basic what/how distinction holds, and for good reason: it is consequential in theory and practice. Without it, educators, perhaps progressive educators especially (as Dewey learned [1939]), too easily emphasize instruction while skirting the curriculum. They stress meaningful learning, learning by doing, communities of learners, and culturally relevant pedagogy, for example, but not the particular knowledge and skills that are worthy of such pedagogy. These are the knowledge and skills that, as Young (2013) invoking a social

justice rationale puts it, students are "entitled" to learn at school. If teaching were likened to juggling, these two balls, curriculum and instruction, need to be kept in the air at the same time. One does not preclude or obviate the other, and keeping only one in motion is not juggling at all.

At times the selection of one topic means that a second topic is not taught; the latter remains in Eisner's "null curriculum" (2002). But while content selection implies that one topic is selected instead of another, it can also refer to a relationship: that some topics are prioritized over others. In this sense, content selection is more a matter of emphasis than replacement. This is our meaning here because none of the tested material can be removed. By emphasizing *federalism* in the APGOV course, for example, a host of other topics (e.g., *devolution, interstate commerce)* are sent into orbit around it but not removed. They are given peripheral positions in relation to gravitational centers rather than serving as so many additional centers themselves. Content selection becomes a matter of relative emphasis; lesser topics (planets and moons) are taught in relationship to greater ones (suns). Accordingly, perhaps particularly given our AP context, content selection is more a matter of how to organize a curricular space than how to reduce its overall size. Sociologist and popular history writer James Loewen (2009) likens this relationship to trees and their branches. Another metaphor popular in the social studies community is the relationship of fence posts to the wire strung between them (Scheurman, 2008). Choosing an emphasis is called post-holing. A history course might be periodized into nine or ten eras, each with a case study of each era for depth (the post), and then a broad survey (the wire) carries students to the posthole for the next era. A relationship of center to periphery is the organizing principle across these metaphors, hence the epigraph of this paper by Bruner.

Of course, content selection can be contentious. There are competing interests, ideologies, and values. Witness the perennial litigation between religious parents and public school officials in the United States[6] and between elite and middle class parents jockeying for their children's school placements and college admissions.[7] There is also continual struggle over the canon – what Raymond Williams called "the selective tradition…that which is passed off as *the* tradition, *the* significant past" (quoted in Apple, 1979, p. 6). Yet, content selection is not always ideological nor even newsworthy but bureaucratic and mundane. Even then it is consequential, however, because, first, some subject matter candidates are judged to be more worthwhile, more relevant, more central, and more generative – in a word more "powerful" (Young, 2013, p. 108) – than others. Second, some topics will win more curricular space than others. The space is limited; courses have endings. There are winners and losers. Content selection, therefore, has real effects, and they matter because children will be taught some things rather than, or more meaningfully than, other things.

Let us state the crux of our problem: What should be the curriculum, and on which principles and by which procedures should it be decided? The broad question intensifies as it descends from abstraction to the constraints and affordances of a particular secondary school course in a particular community, and further when that course is located on an "advanced" curricular platform such as AP where a vast amount of content has been selected in advance, before a teacher even enters the scene. On this stage, content selection seems to be already finished. There is an official course outline, available at the College Board AP website, and there is a high-stakes standardized test at the end of the

course. Together, the course outline and test dominate the curriculum and constitute what we call a "hard constraint" for teacher-agents wishing to work creatively with AP courses. The curricular effect is extraordinary. The topography of the course is flattened, making the many topics exist in an ersatz relationship of equality, like the flash cards arranged alphabetically in a box. "One card, one point!" Any topic could well be on the test. Democrat, Devolution, and Donkey become three equals among hundreds of vocabulary words, none more important than another. Worse, they lose their standing as concepts – as ideas.[8] They become mere terms. This double whammy (the number of tested topics and their equalized status) underwrites a nearly indiscriminant process of curriculum coverage and test-prep instruction. One of our teacher-collaborators referred to the vastness of the topical array as "the hundred million things." Another calls the instructional model that it sponsors "duck and cover" and asks, "Seriously, is there an option?"

Our work proceeded on the assumption that, yes, there is an option. There are ways of selecting and teaching content, even on a crowded "breadth-speed-test" platform, such that meaningful – deep, lasting, adaptive – learning can obtain. AP courses present a content-selection problem of major proportions, and we hoped to work toward a solution.

Theoretical Framework

The primary aim of DBIR is to solve practical problems, but a complementary goal is theory-building. This includes problem-redefinition as the work proceeds and the refinement of central categories in light of a problem of practice. This paper focuses on the problem of content selection in relation to the goal of meaningful learning in the so-called advanced courses that operate on the breadth-speed-test formula. In this section, we present our understanding of the following categories: meaningful learning, agency and constraint, the structure of a course's subject matter, curriculum deliberation, and the relationship between knowledge and power (curriculum and ideology). We already have addressed the relationship of curriculum and instruction and do not address it further except to suggest that the selected core curriculum will require a suitable mode of instruction if it is to be learned meaningfully.

Meaningful learning of an overcrowded school curriculum is an old problem. As Taba wrote in 1945:

> That the curriculum is overcrowded is such a time-worn criticism as to appear trite. The content in many subject areas…has been expanded to the point where only superficial knowledge is possible, and little or no time is available for thoughtful reflection and generalization. (p. 93)

Our specification of this "thoughtful reflection and generalization" comes from the contemporary learning science of our colleague John Bransford and associates (Bransford & Schwartz, 2000; Bransford, Brown, & Cockling, 2000; Bransford et al., 2006) as well as Hatano and Inagaki's (1986) category, *adaptive transfer*. If "advanced" study is to result in deeper, lasting, and adaptive understandings of powerful subject matter, then skimming across the surface of a great many topics will need to be replaced with a skillful orchestration of depth and breadth. A first step is to treat subject matter depth/breadth not as a binary but a tension. Binaries cannot logically occupy the same space; tensions can, although not without strain (Greimas, 1987). An opposition such as depth/breadth is

thereby loosened from the dichotomous negation of *versus* to various possibilities of *and* or *with:* Depth versus breadth is opened to coordinations of depth and breadth or depth with breadth. Practically, this necessitates a limited number of judiciously-selected ideas and skills studied in considerable detail and in relationship to one another. Furthermore, this kind of study, if it is to result in learning that is both lasting and adaptive (i.e., flexible enough to be transferable to novel circumstances in the future), needs a kind of instruction that allows for cyclical repetition or spiraling – revisiting a topic in different contexts to know it better and variably. Our collaborating teachers call this "looping," as in the statement, "Once we teach *federalism* in the context of the original debate over the Constitution, we need to loop back to it in contemporary contexts, like the current debate over immigration policy or same-sex marriage." Meaningful learning occurs, then, at the intersection of curriculum and instruction. (Quasi-repetitive cycling without deliberate decisions about which subject matter is worthy of iteration would be instructional flair without curricular significance.)

The second category is the interdependence of agency and constraint as understood in structuration theory (Giddens, 1984). Briefly, actors do not simply follow rules and use resources; they create and select them, too, and these acts in turn shape and constrain their agency. "Structure", Giddens explains, is always both constraining and enabling. "Analyzing the structuration of social systems," he writes, "means studying the modes in which such systems, grounded in the knowledgeable activities of situated actors who draw upon rules and resources in the diversity of action contexts, are produced and reproduced in interaction." (p. 25). Human actors, in this view, are not ventriloquated by social structures; they are not epiphenomena. Rather, they have "wiggle room" (Erickson, 2004, p. 196; also Parker, 2011). Wiggle room is space to act within, to use, and to negotiate movement around constraints. Such a model not only accommodates individual adaptation and improvisation but requires it. Agency, alongside social structure, becomes a driving force in the social construction of reality. "This is the world as it is. This is where you start," wrote activist Saul Alinsky (1989, p. 14) in his *Primer for Realistic Radicals*. Here, in contrast to a deterministic model of social systems, is a meeting point of bottom-up human agency and top-down social forces, of hermeneutics and structuralism, if you will, or activism and acquiescence. We are left with a more holistic, lively, and less predictable process in which dominance is given neither to structure nor agency. Structure (social organization) retains its reproductive force – its power to form social practice – but human actors knowledgeably and willfully engage it, everyday and on every "stage" (Goffman, 1959, p. 15).

Content selection exemplifies the tension. Content is not chosen independently of institutional realities, of intellectual fashions, of custom and law, of school schedules. As is well-known by now, curriculum is embedded in them (e.g., Pinar, 2004). In advanced courses like AP there is also the constraint of the impending test and the college-level content that is specified for passing it. These are structural restrictions on what can be taught. Our interest in this study resides in, first, improving the quality and "power" of this course for the increasing number and diversity of students now gaining access to it and, second, increasing the likelihood of success in the course (rather than admission followed by failure) for underserved students. We accept, for purposes of this study, the constraints of working on the AP platform and do not try to alter the topical array of the course. What we do instead is try to organize it for meaningful learning.

This takes us to the third category, the "structure of the disciplines." This was an intellectual movement of the 1950s and 60s, forged in the caldron that was the Cold War, the Civil Rights Movement, the Sexual Revolution, and more. Among its principal actors were Bruner (1960), Morrissett (1967), Phenix (1962), and Schwab (1964). It drew adherents and critics at the time (e.g., Kliebard, 1965) and since (e.g., Cherryholmes, 1988). Its reliance on the academic disciplines as sources for school subject matter was uncontroversial for its leaders, themselves academics. The scientific revolution of the seventeenth century had gradually replaced the church with the university and dogma with observation as the legitimate authority for interpreting nature and society. This occurred to greater and lesser extents in different places (and not at all in some), but today the International Astronomical Union, not the Pope, decides whether Pluto is a planet. Accordingly, in the modern era of science and rationality, content selection for schools draws largely on the practice communities known as the academic disciplines (Baker, 2014). The disciplines, then, are a structural constraint on content selection in schools. Schwab went so far as to conflate the two: "To identify the disciplines that constitute contemporary knowledge and mastery of the world is to identify the subject matter of education, the material that constitutes both its resources and its obligations" (1964, p. 11).

Considered more modestly, as we prefer, and recognizing their contingency and mutability, we can say that the disciplines are *resources* for school subjects. Moreover, they are generative, not static; they are "a society's primary source of new knowledge" (Young, 2013, p. 114) because their central ideas stimulate additional inquiry. "They lead on and out" (Phenix, 1962, p. 278). The disciplines are vibrant and competitive cultural arenas suffused with expertise, argument, and, of course, power, interest, and politics. They are discursive arenas where making skillful sense of some portion of the world is a formal priority and where norms such as peer-review, transparency, criticism, and fallibility are institutional conventions. Nonetheless, the academic discipline is a resource for the related school subject, not a mandate. Furthermore, it is only one resource. Others include the learner's experience and interests, the perceived needs of society (e.g., international competitiveness; social justice), parents' fervent demands (e.g., for and against exposing their children to beliefs and customs that run counter to their own), and so forth. Furthermore, we cannot assume that a nation's schools draw for their curricula from the academic disciplines more than from the need for nation-building or the contemporary neoliberal juggernaut.[9] At any rate, school subjects and academic disciplines cannot simply be equated. Deng and Luke (2008) clarify: "The school subject, not the academic discipline, is the operational unit that defines the intellectual and cognate substance of the school curriculum" (p. 72). Academic disciplines and school subjects are related but distinct knowledge formations. They are distinct social fields each with unique practitioner communities, purposes, literatures, and constraints.

To identify the structure of our PBL-APGOV course, we employed two of the movement's emphases: relationships among subject matters and differentiation of substantive and syntactical knowledge. As Phenix (1962) noted, both are simplifying moves. One prioritizes while the other recognizes only two domains: conceptual and epistemological. Further, we intersected these with structuration theory in order more directly to historicize or de-naturalize disciplinary "structures," peopling them with knowledgeable agents who use, choose, reject, and revise them. In the process, as will become apparent later in this paper, deliberation plays a role as a decision-making strategy. As Reid stated, "curriculum

problems are practical problems and deliberation is the method of the practical" (2006, p. 77). It is the preferred method of the practical realm because practical problems are about improving actual states of affairs, not theoretic or scientific problems. A number of alternatives for improving the situation are considered by stakeholders, and these people will have competing interests. For this reason deliberation requires consideration of "the widest possible variety of alternatives," and each of them in "the widest variety of lights" (Schwab, 1969, p. 21).

We further intersect the structure of the disciplines with Michael Young's critical sociology of curriculum. We reference both his paradigm-shifting earlier work, *Knowledge and Control* (1971), and his lesser known, recent work on "powerful knowledge" (2008, 2013). The earlier effort decades ago launched what Giroux (1979) called the "new sociology of curriculum." It was focused on the role of school knowledge in the social reproduction of inequality and domination. Young's recent work brings "powerful knowledge" into relationship with "knowledge of the powerful," thereby focusing on *both* the epistemic and the social dimensions of knowledge. The latter signals the earlier work on school knowledge *qua* the knowledge of elites. "Powerful knowledge," by contrast, is the subject matter that students are entitled to learn at school. Identifying this curriculum is a social act, perforce; but this insight (that knowledge is socially constructed) does not make content selection any less necessary. Young believes that more than a few curricularists who took up his earlier work got this wrong and indulged in an overly simplistic form of social constructionism. They side-stepped the task of curriculum making in light of this insight and threw the curricular baby out with the ideological bathwater. His current argument is that schools need to identify and teach a powerful curriculum even though its selection is entangled (always and already) in privilege and interest-group politics.

Young's earlier work was influenced by the sociology of Bernstein (e.g., 1971) and Durkheim (e.g., 1961), and he now returns to their work alongside Vygotsky's (1962). He uses them to help identify which knowledge might count as powerful knowledge and to differentiate the knowledge students learn at home, work, and on the street – Vygotsky's "everyday" knowledge – from the specialized or disciplined knowledge they can learn only at school – Vygotsky's "theoretic" knowledge. In the process, Young identifies a third space between what he calls under-socialized and over-socialized theories of curriculum. In the former, knowledge is treated naïvely; it is naturalized and considered neutral. In the latter, it is treated dismissively, as doing little more than mirroring power relations. Both are reductions that leave too much aside and too much undone – namely, selecting a school curriculum that is worth going to school for.

These categories will be elaborated as we proceed. We will expand upon meaningful learning because it is the aim of our problem of practice, and on structuration because doing innovative work on the AP platform is about finding wiggle room for agency in the face of formidable structural constraints, namely goal 1: achieving same or better pass rates on the AP test. Further, we will expand on curricular "structure" because its identification is crucial to our problem of practice, and on deliberation because it is the content selection tool that was used to identify that structure. Of course, numerous debates pulsate steadily in the background here. There is contention over the legitimacy of the academic disciplines in the formation of school subjects and canons. (The progressive possibilities of these curricular resources – disciplines and canons – are dismissed out of hand in some quarters. See Pinar's [2015, chapter 3] helpful discussion of the

phenomenon.) And, this debate imbricates others about the objectivity and contingency of knowledge, the role of power in schooling, and the tension between making and understanding curriculum. We do not join those critics of critical curriculum studies who contend that it became overly politicized and self-absorbed in the wake of Young and Apple's pioneering work in the 1970s (e.g., Jackson, 1980; Wraga & Hlebowitsh, 2003); rather, we embrace the critical project but join Young in pointing out its incompleteness. Both theoretically and practically, it is good and useful as far as it goes but it has slowed and sputtered short of the curricular mark.

Let us outline what is to come in the rest of the paper. First we provide a brief on the *US Government and Politics* course in the American high-school curriculum where it has a bimodal formation. One is bound by the constraints of the Advanced Placement (AP) program's course description and test; the other is not but, instead, by local custom, local curriculum standards, and teacher agency. AP courses, we will note, are further constrained (and their enrollments fueled) by a strong policy discourse in the United States that has been called "excellence for all" (Schneider, 2011). We turn next to our focal problem of practice: content-selection in the APGOV course. Here we situate the course within the constraints of AP and then outline the substantive and syntactical structures that we identified for the course. These were developed in design meetings with our teacher-collaborators over time, and we describe the tool with which they were developed. It is both an analytic category and a practice, which we call "deliberative content-selection." It entails discussing and deciding, collaboratively and iteratively, on the core ideas, skills, and texts of a course. A second tool we discuss tangentially is instructional rather than curricular, but it, too, is aimed at meaningful learning. This, mentioned earlier, is "looping." Deliberative content selection addresses the *what* of meaningful learning, and looping addresses the *how*.

The High School *US Government and Politics* Course

The *US Government and Politics* course, whether or not the AP version, is a staple in the American high-school curriculum. It has been entrenched there for nearly a century (in contrast to England, for example, where it is a newcomer[10]). Approximately four-fifths of high-school graduates take the course (NCES, 2009). It has two central concepts: *politics* (the processes of getting, keeping, and using political power) and *government* (the product of politics). There appear to be two variables shaping different forms of the course. The first is level of government: whether the course concentrates on local, state, or national government and politics, or all three. The AP version emphasizes the national government and, because of *federalism*, its relationship to the fifty state governments. The second is pedagogical approach: whether the course has more of an experiential, active-citizenship goal or more of a political science, scholastic goal. There is overlap, but the emphases are distinct. The former is more likely to engage students in civic action where they identify a public policy problem in their locale, develop a solution, and then propose (and perhaps enact) political action to effect change. The latter, scholastic emphasis involves less doing and more knowing – less participation and more academic study of the structures and functions of the US political system, including its central text, the *Constitution of the United States*, along with elections, the three branches of government, federalism, judicial review, civil rights and liberties, interest groups,

media, and so forth. Advocates of the two emphases argue frequently about the merits of each.

The *AP US Government and Politics* course (APGOV) falls squarely into the latter emphasis on each variable: Its focus is national and its approach is scholastic. According to the course description, APGOV

> includes both the study of general concepts used to interpret U.S. government and politics and the analysis of specific examples. It also requires familiarity with the various institutions, groups, beliefs, and ideas that constitute U.S. government and politics. (College Board, 2010, p. 6)

The popularity of the AP version of this course in combination with the "democratization" of AP courses recently (Lacey, 2010, p. 34) has helped to keep the high-school government course firmly entrenched in high schools across the United States in recent years. Two points need attention here, one related to the democratization trend and the other related to the stability of this course in the current era of "school reform."[11] An "excellence for all" trend gained momentum in the late 1980s in the aftermath of the presidential commission report on education, *A Nation at Risk*. This trend brought social-justice school reformers into an alliance with social-efficiency reformers, thereby resolving somewhat an historic tension between advocates of curriculum tracking (or streaming) for "excellence" and advocates of curriculum de-tracking for "equity." As Schneider writes, "With advocates in government, nonprofit organizations, and philanthropic foundations, these new activists won significant policy victories" (2011, p. 3). These included *No Child Left Behind* under President George W. Bush and *Race to the Top* under President Barak Obama. In both initiatives, "excellence" was to be "democratized." Accordingly, many high schools today, particularly in urban districts, are expanding AP participation by lowering or removing entrance requirements to the courses (such as prior school achievement) and encouraging all or many more students to tackle them (College Board, 2011; Sadler et al., 2010). The rhetorical thrust is that all students, not only elite private and affluent public school students, should have access to the "rigor" of America's most excellent curriculum. For the problem of unequal access to excellence, "AP for all" is presented as a solution.

Deliberative Content Selection

Content selection is the fulcrum of curriculum planning and one of the most important professional decisions educators make. All else is tethered to it, from classroom management to interactions between teachers and parents, because the whole educational enterprise, especially in schools, revolves around teaching and learning something in particular: this or that idea, this or that skill or disposition, this or that way of thinking, being, and knowing.

As we have said, AP courses and exams, owing to their remarkable breadth, present a content-selection conundrum. AP course descriptions are developed collaboratively by scholars and teachers working with the College Board, the association that develops and markets AP and other tests. These courses are not the product of a single teacher working in isolation; rather, each course is the product of a deliberation among disciplinary scholars, high-school teachers, and test developers who serve together on a committee formed by the College Board. AP courses and exams have this important advantage. Their

drawback is that the committee did what committees do: it included too much content for a time-bound course. As mentioned earlier, a blue-ribbon commission concluded as much: across AP courses, there is "too much accelerated content" (National Research Council, 2002, p. 1). While this breadth-speed-test formula is efficient for some purposes, it exacerbates the problem it attempts to solve by draining advanced courses of the kinds of intellectual work they require if they are to be "advanced." The idea of rigorous learning is distorted into its distant cousin: superficial learning.

Let us be specific. The AP test that comes at the end of the course allots 45 minutes to sixty multiple-choice questions and 100 minutes to four free-response questions. It is a "high-stakes" test because students who receive a passing score (3 or higher of 5 points) may have an edge in college applications, and some colleges allow these students to bypass introductory courses, potentially shortening the college experience (and costs) from four to three years.[12] These stakes galvanize teacher and student attention, so much so that it is not untypical for the course to become a test-prep gauntlet aimed at correct answers and high pass rates. The College Board course description includes a list of six topics with percentages of exam questions devoted to each. These six topics, thanks to the impending test, become the curriculum of the course:

1. Constitutional underpinnings (5%−15%),
2. Political beliefs and behaviors (10%−20%),
3. Linkage institutions: Political parties, interest groups, elections, and media (10%−20%),
4. Institutions of national government: Congress, presidency, bureaucracy, federal courts (35%−45%),
5. Public policy (5%−15%),
6. Civil rights and civil liberties (5%−15%).

While a list of this kind invites the kind of pedagogy called "teaching to the test," it also involves content selection. It is not as though no selection has occurred; indeed, the universe of possibilities has been narrowed appreciably by the College Board committee to this list of six topical clusters. In the committee setting, proposed topics are discussed and debated, and some reflective distance is afforded because classrooms, students, and parents are not immediately at hand. "Knowledge" achieves a certain objectivity[13] as the committee tries to decide which portions of it will be included in the course description and test. Will the formation of state governments be included, or only the national government? Will President Eisenhower's warning about the "military industrial complex" be emphasized, mentioned, or skipped all together? Even though the committee does select content, the resulting selection is still broad. Topic 1, "constitutional underpinnings," alone requires students to be familiar with many Supreme Court cases (the number of cases one hears from veteran APGOV teachers is fifty) along with the late eighteenth-century ratification debates and the structure of government and politics as outlined in the Constitution's seven articles and twenty-seven amendments.

The breadth of the six topics is a hard structural constraint of teaching and learning on the AP platform; there appears to be no way around it without sacrificing pass rates, which would violate the first goal of this research. The conundrum, then, is finding a way to achieve deep learning on an expressly breadth-speed-test platform.

Before moving to our quest for the conceptual backbone of the course, we introduce looping, briefly, because it complements content selection by addressing how the selected curriculum enters instructional practice. Looping refers to a learning cycles approach – specifically, *quasi-repetitive activity cycles* (Bransford et al., 2000, 2006). This means that students have opportunities to revisit core ideas, skills, and questions as they cycle through the five projects. Looping, we reasoned, was key to deepening their understanding of course topics; and deepening an understanding, we decided, means differentiating, integrating, and elaborating it (Parker et al., 2011, 2013). Expertise in any domain, from cooking to calculus, generally evolves with the right sort of quasi-repetitive practice – or "trying it again" but now under novel conditions and with feedback. Iteration, then, is key not only to our methodology, DBIR, but to our deep learning theory as well. In service to looping, our five simulations are united by a "master course question" (MCQ). As students cycle through the projects, they revisit (loop back on) this question and try again to produce a response, this time a more knowledgeable one that includes what they have learned from prior simulations as well as the simulation at hand. By unifying the projects, the MCQ gives the course just one overarching topic amid "the hundred million things." Furthermore, the MCQ is authentic; it is as relevant outside school as it is to the course subject matter. In our study's first year, the research team and teacher-collaborators settled on the MCQ, What is the proper role of government in a democracy?

The master course question takes us some distance, but alone it does not resolve the conundrum. A finer-grained problem remains that returns us to content selection and the curricular tool we used to accomplish it: deliberative content selection. *Which few ideas and skills in particular should be looped through the simulations in order to deepen students' understanding of them and the MCQ?* As the list grows longer, the scale tips from depth to breadth again. Intensive work on this issue did not begin until the DBIR migrated to a third poverty-impacted urban school system.

Substantive Structure

At an August 2011 design meeting with our teacher-collaborators from that city's high schools, we began formally to examine the core ideas of the APGOV course and whittle down the number of essential concepts to only a handful that would be looped systematically through the five simulations. We began with the College Board's list of six topics (above) plus some of the APGOV websites' vocabulary lists. We tried at this meeting, through the give and take of conversation, argumentation, and negotiation (together "deliberation" [Dillon, 1994; Schwab, 1969]), to reduce the list of core ideas down to a dozen. The effort failed. There were just too many topics, all important, and all tested on the AP exam (recall goal #1). However, *federalism*, the *three branches of government*, and *civil rights* persisted near the top of the list.

Our principal task was this: we needed to find central ideas because they are what would become the primary objects of teaching and learning, the subject matter that would be revisited in subsequent simulations and thereby, according to our learning cycles theory, deeply learned rather than only "covered." To be worthy of looping, the time and study spent on them would need to generate both deeper understanding of these select ideas *and* a grasp of the whole curriculum. This is what defines a core idea: its study accomplishes both depth and breadth; its study facilitates an understanding that is

differentiated, integrated, and elaborated. A differentiated understanding of *federalism* will include multiple cases of federalist/anti-federalist contention in different historical periods (e.g., the central bank debate of the 1790s, which culminated in the Supreme Court case *McCulloch v. Maryland* [1819], and the immigration debate of today, as in *Arizona v. United States* [2012]). But an integrated understanding generalizes; it grasps why the varied cases are of a kind: dividing and balancing power between national and local sovereigns. An elaborated understanding has detailed knowledge of each case.

Needing resources for identifying such a core, we reviewed Bruner's (1960) and Schwab's (1964) work on the "structure of the disciplines."[14] That initiative, as indicated earlier, emphasized *relationships* among subject matters and *differentiation* of substantive and syntactical knowledge. And, for Bruner and Schwab, the disciplines were useful to school subjects precisely because they contain theorizing as to what is a tree and what is a branch, what is central and what is peripheral.[15]

Trying again to arrive at a short list of central concepts, we experimented with a new strategy at a design meeting of researchers and teachers a year later in Seattle (November 2012). At that session, we produced a list not of central concepts but of the course's core *texts* – what we called its "core unavoidable texts." We wanted to see if we could zero in on the core ideas of the course through the curriculum resources that featured them. There was quick agreement on the five texts listed below. Our group could not imagine students learning the course content given in the College Board's course description without learning from these dense and consequential texts. In a subsequent design meeting with teachers (August 2013), the list was tested again through deliberative dialogue and no revisions were made.

1. *Constitution of the United States,*
2. *Federalist 10,*
3. *Federalist 51,*
4. Locke's *Second Treatise on Government,*
5. course textbook.[16]

At that same design meeting, after settling on core texts, we tried again to identify core concepts. We hoped the short list of texts would suggest a correspondingly short list of ideas, the handful that would be the focus of looping. That exercise was fruitful and resulted in a set of candidates that we focused on across the 2012–2013 school year and then revisited at a subsequent design meeting in August 2013. A few revisions – regroupings and the addition of Politics – were made, resulting in the list that follows.

1. Limited government
2. Separation of (divided) powers
   a. Federalism
   b. Three branches of government
   c. Checks and balances
3. Constitutionalism
   a. Rule of law
   b. Precedent
4. Civil rights and liberties

5. Linkage institutions (the four listed above from the AP Course Description)
6. Politics (getting, using, keeping power; opposition; majority and minority; compromise)

Admittedly, the sub-concepts may strike readers as fudging because they increase the overall number of concepts without counting as such. Note that we placed Federalism under Separation of Powers. The latter ordinarily is associated with the division of power across the three branches. Nesting Federalism underneath it allowed us to limit our list to six core concepts while framing federalism as a strategy for separating/dividing power (state from national government) for the purpose of limiting government, which is concept #1. The overall conceptual scheme they represent, however, was satisfying to this deliberative group. The group could imagine saying to a class, "This is the short list of ideas for this course. This is the key vocabulary. Know these well and there is a good chance you will grasp the whole course."

These six concepts constitute what Schwab would call the "substantive" or conceptual structure of the course. A discipline's structure, once identified, becomes a resource for looping — and this is its purpose in our DBIR. Following Bruner especially, we focused on relationships (trees and branches; center and periphery). Bruner wrote, "Grasping the structure of a subject is understanding it in a way that permits many other things to be related to it meaningfully. To learn structure, in short, is to learn how things are related" (1960, p. 7). Negotiating an agreement on a textual and then conceptual spine of the course served our effort to deepen learning in this course by giving teachers focal points of concentrated teaching and learning amid the myriad topics to be "covered," and these concepts and texts could then be revisited quasi-repetitively throughout the course. Oliver's (1957) student Newmann (1996) captures our intent: "In-depth understanding requires more than knowing a lot of details about a topic. It occurs as one looks for, tests, and creates *relationships* among pieces of knowledge that can illuminate a particular problem or issue" (p. 25, emphasis added).

Syntactical Structure

We also needed to identify the syntactical structure of the course. Syntax refers to a domain's epistemic conventions: how it verifies truth claims, and on what terms and assumptions its practitioners argue with one another (Schwab, 1964). We were not aiming to decide on the syntax of political reasoning generally but of this AP government and politics course in particular. When students are simulating landmark appellate court cases or legislative debates, or when they are candidates for public office or cabinet heads administering their departments, what are the canons of inquiry and argument — the discourses — they should be learning-by-doing? At the November 2012 design meeting and again at the August 2013 meeting, we settled on the following syntactical structure, again through deliberative discussion.

1. Constitutional reasoning
   a. Precedent
   b. Divided powers
   c. Founders' intent

2. Deliberation (discussion to decide what action to take: weighing alternatives)
3. Perspective taking (e.g., trying on diverse political ideologies and social positions)
4. Evidence-based reasoning (claim, evidence, warrant)
5. Political autonomy (making un-coerced, independent decisions, e.g., consenting to be governed, voting for candidate X, concurring or dissenting from the majority)
6. Close, interpretive reading of core texts

The first skill, *constitutional reasoning*, is the most important. Indeed, the other five orbit around this one center of gravity. (They are branches on this one tree.) It is the particular reasoning form needed for arguing about public policy in this course, for justifying positions on controversial public policy issues, and for formulating a position on the Master Course Question. Researchers and teachers observed that when students are arguing from their assigned roles in the simulations (e.g., as a congressperson favoring *x* policy or a judge favoring *y* interpretation), they often rely on their own values and moral stance rather than knowledge of the assigned role, the law, precedent, and the Constitution. This may be true especially of students who have less prior domain knowledge than others, but youth generally are more familiar with their own opinions and everyday knowledge than they are with the jurisprudential framework of the US Constitution and related court decisions (Flanagan, 2013). They will be inclined to perform their assigned roles from this "personal" stance rather than the stance of the role they are playing or knowledge of prior judicial decisions. Learning to reason on the basis of the Constitution centers the powerful syntax of the course.

Unique to APGOV among the forty-or-so AP courses, and perhaps unique to high-school courses generally, only one text grounds the whole course. It is the *Constitution of the United States*. The US Constitution is famously short, about 20 pages when reprinted in the course textbook. And its textual structure is simple: a brief preamble of fifty-two words, then seven distinct and numbered parts called "articles," followed by a list of amendments (the first ten of which – called the Bill of Rights – were needed to get the Constitution ratified in the first place). The structures and functions of US government are outlined in this text, and it is to the words and phrases of the document that students in this course return again and again to determine the "constitutionality" of laws, policy proposals, and procedures such as elections and jury trials. That reasoning is based on this text, which is to say with Schwab that "the route or pathway by which" students in the course move "through a longer or shorter process of interpretation" is through this text (1964, p 14). Reasoning with this text, then, is the key syntax of the course – or so we decided.

Conclusion

Advanced courses present a content selection problem, which makes them fertile laboratories for theorizing the problem and designing practical solutions. The constraints are clear and hard, not fuzzy or forgiving. Opportunities for teacher agency are limited but not absent. Can meaningful learning obtain? While AP courses appear to leave little wiggle room for content selection, because so much subject matter has been dictated in advance, we believe there remains an important, even heightened, role for that activity: to set priorities and form relationships.

Here, our intent was both to theorize and practice content selection. We presented elements of a theoretical framework for content selection and described a practical tool for deciding, iteratively, which ideas, skills, and texts are the core "structure" of such a course. The categories discussed were as follows:

1. meaningful (deep, lasting, and adaptive) learning,
2. the domains of curriculum and instruction,
3. agency and constraint (structuration theory),
4. the academic disciplines as resources for school subjects,
5. the "structure" (substantive and syntactical core) of a course of study,
6. the relationship of center and periphery as a principle for identifying a course's structure,
7. the tension between "knowledge of the powerful" and "powerful knowledge" (between ideology and curriculum), and the limits of both under- and over-socialized conceptions of curriculum theory and practice.

Our team wanted to identify core substantive and syntactical subject matter for the APGOV course. We were constrained from altering the given curriculum of the course because we wanted our students to achieve the same or better pass rates on the high-stakes test as students in traditional AP classrooms. Instead of altering the curriculum, we organized it. Building on Bruner's emphasis on relationships among subject matters, we developed a center-and-periphery approach for which we used here a number of metaphors: trees and branches, postholes and fence wire, suns and their orbiting planets.

This approach makes a contribution to curriculum theory and practice, we believe, in three ways. First, the objective is worthy: meaningful learning of powerful subject matter rather than superficial familiarity with an array of topics and skills. Second, the approach opens the notions of "advanced" coursework and "rigorous" teaching and learning to scrutiny rather than assuming that the breadth-speed-test formula settles the matter. Third, curriculum decision making is accomplished without resorting to an innocent, under-socialized conception of that work or being dismissed by an over-socialized conception that regards such work as so mired in ideology and domination as to be untenable or unnecessary.

Three curriculum decisions concerning texts, ideas, and skills were presented. These are now available as material resources for others who find themselves planning and teaching on AP's breadth-speed-test platform. These resources were created inside a DBIR study as teachers and researchers grappled with the mass of tested content in an effort to sort through a central problem of practice: how to orchestrate deep learning on a small number of generative ideas and skills, and how to select them. The curricular tool by which they were developed is iterative and deliberative content selection: decision-making discussions conducted over time in a working partnership of researchers, teachers, and curriculum directors until a consensus is reached, which can then be implemented and revised again.

In this paper, we did not detail the deliberative process itself: how the discussions went, participation patterns, facilitation. We did not take space for it mainly because we have nothing illuminating to add to what others, notably Dillon (1994), Gastil and Levine (2005), and Reid (2006), have said about the process. Suffice it to say that it is dialogic,

face-to-face, and decision-oriented. This is not to suggest that deliberation is unproblematic. In fact, it is laden with competing interests, which make the tool necessary, and with "troubling speech and disturbing silence" (Boler, 2004), which make it difficult. Deliberation requires skillful facilitation to get the necessary voices to the table and then to get them speaking and listening to one another, weighing alternatives, and deciding on a course of action. Deliberation is no panacea, but it can be a broadening and productive undertaking for stakeholders who are facing a problem of practice and who need to decide what to do in concert. The main problem with doing it in schools is getting to it. Here we refer to the difficulty of providing the social and organizational conditions needed to actually deploy a tool like this one. Chief among these conditions are time and support for teachers of the same course to meet together with some regularity, enjoying "sustained engagement with ideas" (Westbury, 2008, p. 2). Most schooling is not made for that, Westbury continues, but "for the routine delivery of services to local constituencies." We take Westbury's point. Nonetheless, we take encouragement from the institutional necessity of content selection in schools, the wiggle room afforded teachers to do it, and the need for it especially in advanced courses if teachers are to do something other than "duck and cover."

We end by noting how striking it is to us that so few curriculum scholars are attending to the problem of what would constitute a powerful school curriculum today. This is part of a broader problem to which Young's newer work aims to draw the attention of the curriculum field. He argues that critical curriculum theory since the 1970s, spurred in part by his own earlier work toward a new sociology of knowledge, has renounced its object — the curriculum — and one of its most central questions: Which knowledge shall we teach, and why? Critical curriculum studies has too often surrendered its object, he contends, to scholars who may have much of value to say about identity, culture, power, consciousness, positionality, and learners' funds of knowledge but little in the way of specific propositions about the concepts, skills, and dispositions students should have the opportunity to learn at school. This renunciation is ironic, to say the least, in an era when "knowledge itself is in transition" (Kelly, Luke, & Green, 2008, p. vii) and when facile rhetoric about "the knowledge society" and "21st century skills" saturates education policy discourse. These matters require curriculum scholars' engagement and expertise, not indifference or "flights to the sidelines" (Schwab, 1969, p. 4). To return to an earlier metaphor, keeping just one ball in the air is not juggling.

We have attempted in this DBIR to focus squarely on that object, the school curriculum, and we hope to have intervened usefully in the theory and practice of content selection today. We worked with a particular course and its structural milieu and a particular problem of practice: faced with the remarkable breadth of the course, its high-stakes culminating exam, and a contemporary policy discourse that is driving more and more students into "advanced" courses, we were compelled to think seriously, with teachers, about the curricular question: What subject matter is core?

Notes

1. Advanced Placement (AP) is the main brand of advanced high school coursework in the United States. AP is similar functionally to the "A-Level" in the United Kingdom, Singapore, and elsewhere, influencing students' college admissions while operationally defining "advanced" study

in pre-collegiate education. AP courses and exams in the USA are developed collaboratively by disciplinary scholars and teachers working with the College Board, an association that develops and markets AP and its tests. AP courses are considered by numerous observers (but not all, e.g., Sadler, Sonnert, Tai, & Klopfenstein, 2010) to be among the best in the American high school. Indeed, they are touted by some as "the gold standard" of the American high school curriculum (e.g., Mathews, 2009, p. 8).

2. This is Ann Brown's (1992, p. 143) approach to scaling an innovation. It signals our understanding that educational interventions rarely survive the translation from research to practice, and that research models for studying interventions often focus on alignment and fidelity rather than mediation, adaptation, and respect for teachers as knowledgeable agents who make local decisions.
3. See Baker (2014) and Spring (2006).
4. The literature on content selection includes these landmarks: Apple (1979), Bernstein (1971), Dewey (1902), Eisner (2002), Fenton (1967), Hunt and Metcalf (1968), Oliver (1957), Schwab (1964), Taba (1945), and Tyler (1949). See also critiques of the role of academic disciplines in the formation of school subjects in Cherryholmes (1988, chapter 7), Deng and Luke (2008), Thornton and Barton (2010), and Whitty (2010).
5. One key way they overlap is captured in Shulman's (1987) influential hybrid, "pedagogical content knowledge" (PCK). This category is useful because it identifies the distinctive bodies of knowledge for teaching. It represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction. (p. 8) Cochran, DeRuiter, and King (1993) define PCK as "the transformation of subject matter for teaching" (p. 264). See also Bernstein (1990).
6. For example, see the conflicts that have moved through U.S. courts over teaching evolution (Kitzmiller v. Dover, 2005), literature (Mozert v. Tennessee, 1987), and reciting the Pledge of Allegiance in classrooms (Newdow v. Rio Linda, 2010).
7. See Labaree's (2012) fine account.
8. We accept the conventional understanding of concepts as small ideas. They are smaller than generalizations, which comprise concepts, and theories, which comprise generalizations. They have, on Young's analysis (2008, 2013), both objectivity (they are objects of study and discursive manipulation in the world) and history (they are contingent and dwell, as constructs, in modes of social organization).
9. See Mitchell's (2003) analysis.
10. British political scholar Elizabeth Frazer, writing before Bernard Crick's group was finished, was one of the first to see that "whereas U.S. school children are told important things about the system of government under which they live, U.K. children for the most part have been told nothing at all" (2002, p. 34).
11. This description of the course draws from Parker et al. (2013).
12. This is a rapidly shifting landscape. See Schneider (2011) and Sadler et al. (2010).
13. Here we rely on Young's "social realist" position on the objectivity of knowledge (2008, 2013), which includes its origin in social organization as well as its materiality as an object of analysis, understanding, and appropriation. In this way, knowledge is similar to other social institutions, e.g., the family and the economy. It is both "constructed" and materially "out there."
14. Resources, recall, are understood as in structuration theory (Giddens, 1984). Agents *use* resources, which exist objectively in the environment, but agents *created* them in the first place, using other resources. Parker (2011, p. 413) comments Using this framework, we can zero in on the ways change agents work in, with, and around powerful social forces, and we are encouraged to avoid both structural determinism and romantic individualism… . Resources are constructed, yes, but they are under construction, too. Recursively, they are received, constructed, remodeled, and given back.
15. It should be clear by now that we do not essentialize or reify a discipline's structure (nor, for that matter, did Bruner or Schwab). Rather, "structure" is a category that signals the project to identify a course's generative core and to construct a meaningful relationship between center and

periphery. It is, like other structures, a social formation that is contingent on relations occurring in and around the activity that produced it. Bruner's and Schwab's work was useful to us not only because it aimed to find priorities and relationships among curricular elements, but also because it did not dismiss the academic disciplines as merely knowledge of the powerful. Bruner and Schwab were able, therefore, to consider disciplinary communities and their outputs as available inputs – resources – for curriculum decision making.

16. Note on these texts: the Federalist Papers were 85 essays written just after the constitutional convention of 1787 by proponents of the new constitution, explaining its principles and rationale. These two celebrated papers, numbers 10 on political parties and 51 on checks and balances, were written by James Madison who later became the fourth President of the United States. Meanwhile, the course textbook varied from one school system to another, but was one of a handful that major publishers develop for this course.

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