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Executive Summary

New technologies are transforming the teaching of history. Traditional history assessments often ask learners to showcase their knowledge of memorized events, facts, and figures, which now can be looked up at a moment’s notice. This shift can lead one to critically examine the purpose of a history education, and recalibrate its utility in the modern age.

This critical examination and recalibration is the objective of this paper.

In Section 1, this paper examines from first principles what is the purpose of teaching history at all, and identifies two goals of a history education: Collective Storytelling (Goal #1) which enables Problem Solving (Goal #2). To create classrooms oriented toward these goals, a distinction is identified between learning the content of history, and working with others to interpret the lessons from history.

In Section 2, a literature review and synthesis highlights the similarities and differences between some of the world’s most influential history curricula. With this synthesis in hand, a common taxonomy is identified that separates a curriculum into content, concepts, and competencies, allowing for apples-to-apples comparisons across curricula. This taxonomy is detailed in the following three sections.

Section 3 details the design process behind the Center for Curriculum Redesign’s World History website, a content database of synthesized events and artifacts which enables a methodical display and playspace of history. Section 4 highlights core concepts, the distilled lessons from history with which a learner can use to “think like an historian” and transfer learning from one context to another. Section 5 showcases how 4-Dimensional Competencies (like critical thinking, ethics, and metacognition) can be most effectively infused into a history curriculum and classroom.

Section 6 demonstrates sample ways these content areas, core concepts, and competencies can come together in classroom learning experiences, highlighting effective pedagogical techniques for bringing all of these pieces together.

Finally, Sections 7 and 8 conclude by underscoring how, much like history itself, the project is a living one, and calls upon the global community to come together in pursuit of providing a history education for our children which is relevant in modern times.

The story of history is the story of humanity, a group that as of this writing comprises around 8 billion people. As the problems and challenges of today often transcend national borders, a global community is needed which has the capability to learn from its successes and mistakes and collaborate in pursuit of a positive future. The story of humanity is one that must be fathomed by all 8 billion of its members. Let’s collaborate on that story together.
Section #1: Why Teach World History

“There who cannot remember the past are condemned to repeat it.” George Santayana

The world is becoming increasingly more volatile, uncertain, complex, and ambiguous (VUCA). Technology creates changes in years and decades that used to require centuries, and fuels increased political polarization and socioeconomic disparities. The stress of this VUCA world on humanity’s collective wellbeing is tangible. To be human is to feel the weight of this collective stress on the collective human consciousness.

Education serves as one of the most powerful tools to bolster the collective human spirit against the challenges of living in a VUCA world. In this world’s often uncharted waters, a history education serves as a map for humanity to see where it has been, and a compass to orient toward where it might be going.

History itself tells us of power behind this map and compass, as controlling the narrative of history dates back as long as history has been written, and surely longer than that. George Orwell identified, “Who controls the past controls the future: who controls the present controls the past.” With humanity’s capability for global disruption - artificial intelligence, biotechnology - and destruction—nuclear weapons, climate disaster—increasing to the point in which it is God-like, it is necessary to empower the collective humanity to control its past, present, and future.

It is toward this end that the Center for Curriculum Redesign’s (CCR) 4D World History (4DWH) orients itself. It seeks to make progress toward this end through the following two goals:

The first goal, collective storytelling, is a necessary piece for all of humanity to establish a shared reality. Due to curricular differences emerging both internationally and intranationally; mass media’s curation, omission, and distortion of news to suit economic or political agendas; and ideological filter bubbles isolating individuals through algorithms which push the radical; humanity’s collective reality is factionalizing.

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Activating collective storytelling enables empathizing, engaging, and sharing stories with those who are different from us—which is everybody—and allows the breaking down of barriers and the establishment of a shared reality.

As the first step toward solving a problem is to recognize it, collective storytelling enables humanity to collaboratively recognize the challenges of the present, and anticipate the challenges of the future. If collective storytelling enables humanity to trust its knowledge of history, then humanity can learn from history to solve big problems.

To achieve the two goals of a strong history education, collective storytelling and problem-solving, we then can dissect what can be learned, specifically, in a history class:

The content of history is the knowledge of what has happened. With history encompassing the origin of the universe to over five millennia of recorded human history, it is of course impossible to know all of the content of history. A history class, then, must curate its content. To enable collective storytelling, content must be impactful enough to warrant being worthy bricks in building humanity’s shared reality.

A lesson from history is the knowledge of how and why something happened, or didn’t happen. History classes are a space in which learners interpret the content of history into these lessons, dissecting happenings and drawing conclusions. Some of humanity’s challenges resemble the challenges of the past, and when they do, the lessons from history can be applied to help solve the problems of today and tomorrow.
When applicable, the content of history also can facilitate problem-solving, as it can be necessary to know the content of how humanity got to a current problem in order to know how to solve it.

CCR’s framework of a 4-Dimensional Education\(^8\) establishes dimensions of Knowledge (“what we know and understand”), Skills (“how we use what we know”), Character (“how we behave and engage with the world”), and Meta-Learning (“how we reflect, adapt, and learn how to learn”) as the necessary pieces of a modern education, across all disciplines. The content and lessons from history fit in the Knowledge dimension, what is taught in a traditional education. However, a modern education necessitates the infusion of 4D Competencies spread across the remaining three dimensions, which include skills like critical thinking and communication, character traits like ethics and mindfulness, and learning how to learn through metacognition and a growth mindset. In a history class, these 4D Competencies might manifest through students using their critical thinking to interpret historical content into historical lessons, demonstrating mindfulness to deal with the emotional toll of reading about historical atrocities, or using metacognition to consider their own identity in relation to the world and its past. The embedding of these 4D Competencies into curricula are covered more in Section 5 (Embedding Competencies).

Impactful and applicable content and lessons from history, paired with 4D Competencies, then serve as the foundation for a history class which can build collective storytelling to enable the problem-solving necessary for the challenges of the present and future. However, the content and lessons from history which are impactful and applicable differ depending on a person’s perspective. What impacts or applies greatly to one person may not impact or apply to another. They are relative to a person’s collective group:

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\(^8\) Fadel, Bialik, Trilling, *Four-Dimensional Education*. 2015
These collective groups serve as lenses through which one can judge the impactfulness and applicability of historical content and lessons. A person simultaneously is a citizen of a household, a town, a nation, and the entire human species, in addition to having a series of sometimes overlapping, sometimes contradicting identities and identity markers. Shifting the lens shifts the impactfulness and applicability of historical content and lessons.

4DWH seeks to create a landscape upon which collective groups can compare and collaborate, in the design of history education that builds collective storytelling and enables problem solving. It establishes tools through which curriculum designers can build the robust curricula necessary to empower the collective humanity to control its past, present, and future.

Section #2: Surveying the Field

Best In-Class Curricula
In attempting to create a landscape for the design of effective history learning experiences, it was necessary to start with existing history curricula and programs. Content reviews were conducted for twelve different curricula and history books to determine how these programs were designed, including their identification of global areas and historical periods, composite events and historical trends worth learning about, and historical themes and thinking skills. These curricula were selected based on their ubiquity of use (e.g., AP World History and the International Baccalaureate), their placement as top-tier curricula within their jurisdiction (e.g., Australian Curriculum and France’s Programme d’ Histoire) or because they represent recent innovations in history instruction (e.g., Big History Project and Ross Spiral Curriculum).

* A History of Knowledge, C. Van Doren
* AP History: Modern
* Australian Curriculum (Years 7-10)
* Big History Project
* International Baccalaureate
* Programme histoire (6ème through 3ème)
* Ross Spiral Curriculum
* The History Book, Dorling Kindersley
* UCLA History: Public History Initiative
* World History Commons

In the review and comparisons of these curricula, two primary challenges were identified:

1. **Different curricula define historical events according to different orders of granularity.** Some curricula are broad in identifying what should be covered (i.e., World War II), others are more precise in determining events to be covered (i.e., D-Day). 4DWH addresses this challenge in Section 3 (Content Ontology).

2. **There is inconsistent naming of themes, concepts, and “historical thinking skills.”** Most history curricula recognize that a history education comprises more than just the learning of events—the content of history—but also the thinking necessary for converting this content into the lessons from
history. Some curricula emphasize concepts like relationships between cause and effect or the difference between primary and secondary sources, others the need for broader skills like critical thinking or analysis. 4DWH addresses this challenge in Sections 4 (Core Concepts) and 5 (Competencies).

**A Systematic, Synthetical Approach**

A systematic approach to historical learning was therefore necessary in order to address these challenges, which are not unique to history education. The approach of 4DWH is to create a consistent taxonomy for categorizing all of the components of a history education, to facilitate decision-making and comparisons. That taxonomy is highlighted in the following framework diagram:

This framework is the centerpiece of CCR’s work, not just in history education, but across all disciplines. It is the intersection of content, core concepts, and competencies that create powerful and relevant learning experiences. By relating best-in-class curricula to this framework, apples-to-apples comparisons can be made when teachers and curriculum designers face the difficult challenges of what to include in finite class time.

A sample showcase of the power of this synthetical work comes from the challenge of determining a starting point for categorizing time periods and areas of the globe to focus on. A review was conducted of all of the different time periods and areas used to categorize the content of history, according to the above best-in-class sources. Some curricula and historians grouped historical content into ten-plus precise categories (such as UCLA History), others just a handful of bigger and broader chunks of time (World History Commons). In terms of global areas, fourteen different global areas were identified, ranging from regions (such as Oceania), to subregions (Australasia), to continents (Africa), to amalgamations (Afro-eurasia). This comparison is contained in Appendix B.
Upon reviewing, comparing, and synthesizing these sources, an ontology was designed to prioritize function and ease of memory for learners, seeking a simple and concise format in order to make the categories more memorable for students.\textsuperscript{9,10} The synthesis defines the following divisions of four time Epochs studied across five global Areas were defined:

<table>
<thead>
<tr>
<th>Historical Epochs</th>
<th>Ancient (Up to 500 C.E.)</th>
<th>Medieval (500 - 1450 C.E.)</th>
<th>Pre-Modern (1450 - 1950 C.E.)</th>
<th>Modern (1950 C.E. - Present)</th>
</tr>
</thead>
</table>

| Global Areas      | Africa                  | Americas                   | Asia                         | Europe                       | Oceania                     |

These historical epochs and global areas serve as the starting axes of the 4D History Project’s database. This systematic, synthetical approach is similarly utilized in the building of relevant content with which to fill the database.

**Section #3: Content Ontology**

**What constitutes significance?**

Upon reviewing the best-in-class curricula, 4DWH sought to determine what heuristics could be employed to determine the significance of historical content.\textsuperscript{11} In building a database of historical content, a challenge emerges that is consistent in the design of any history curriculum or collection of resources: there is an infinite amount of history which could be covered. As soon as some pieces of content are included or not, human judgment and biases influence the selection of content.

Since no project can be free from the biases of its designers, the goal of 4DWH is to create a landscape upon which collective groups can compare and collaborate, in the design of history education that builds collective storytelling and enables problem solving two mechanisms exist for orienting the project toward this goal.

1. **Inclusion of experts diverse in expertise.** 4DWH was launched by a team with interdisciplinary expertise, to build the “landscape” upon which collaboration could happen. To reach its goal of serving a global community, it will need to tap on peoples and experts from a rich variety of collective groups

\textsuperscript{9} As per recommendations in Mike Maxwell’s *Future Focused History Teaching*.

\textsuperscript{10} An unintentional bonus of this decision is that the “Epochs” - Ancient, Medieval, Pre-modern and Modern - form the easy-to-remember acronym “AMPM.”

\textsuperscript{11} References: [Center for the Study of Historical Consciousness](https://wwwCENTERFORCURRICULUMREDISEIGN.ORG); [History Skills](https://www.HISTORYSKILLS.ORG)
to collaborate upon this landscape, and in doing so, iterate the landscape. This critical next step is detailed in Section 7 (Next Steps).

2. **Criteria for establishing historical significance.** These criteria for establishing the significance of historical content were established in Section 1, with content that is *impactful* enough to enable collective storytelling, and *applicable* enough to problems to facilitate their solutions. When considering what warrants significance, these two metrics—impact and applicability—are also considered across an additional axis of time:

<table>
<thead>
<tr>
<th>Impactful Content enables Collective Storytelling</th>
<th>“Then” Impact (the past)</th>
<th>“Now” Impact (the present)</th>
<th>“Future” Impact (the future)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Then” Impact over a lesser or greater amount of people, or territory in the days, months, and years of the event</td>
<td>“Now” Impact recognizing the novelty of content and its effect on the present, noticing the influence to the decades and centuries after the event</td>
<td>[Not relevant, as the impact has yet to happen]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applicable Content enables Problem Solving</th>
<th>“Now” Applicability (to present-day challenges)</th>
<th>“Future” Applicability (to anticipated challenges, indicative of larger trends which may reveal something important)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Not relevant, as past problems can’t be solved]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This approach naturally prioritizes content relevant for today, while still being mindful of the past, and looking ahead to the future. This approach is detailed further through a rubric in Appendix C. These metrics of impact and applicability remain relative to collective groups, as highlighted in Section 1. 4DWH places its focus on creating a landscape that serves all of humanity, and the content within it seeks to apply impact and applicability to the global collective group. Additional resources to apply these criteria to other collective groups, such as local history or the history of different identity groups, are included in Section 6 (Sample Pedagogical Techniques).

**Events and Artifacts**

The 4D History Project features an online database which tags events to areas and epochs, in addition to a variety of other categories (such as branches of history, related events, curricula which feature the event, and the taxonomy described in the rest of this section). The database was populated with historical events, taken initially from the table of data provided from the curriculum review, and then elaborated upon through further research and discussion.

While designing the database, it became apparent that historical events and people are not the sole drivers of historical change, nor are they always efficient mechanisms for demonstrating historical continuity. For this reason, an additional category was integrated into the database: “artifacts.” Artifacts are material objects

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12 https://worldhistory.curriculumredesign.org/
13 Branches allow us to tag whether an event was sociocultural, technological, political or economic, or a combination of these elements.
(e.g., structures, currencies, modes of transportation, texts) which have served as the influential inventions of and building blocks of history. Like events, artifacts are linked to a variety of other categories, enabling a user to see the ways in which history is interconnected, reflecting a goal to demonstrate historical trends and articulate to learners the links between the ancient human past, the modern world, and the future in which they will live.\(^{14}\)

**Groupings and Clusters**

The curriculum comparison produced many results, one of which was the difficulty in comparing curricula because of the difference in granularity with which different curricula address historical data. In order to solve this problem, a method was developed for organizing events within the database according to different levels of granularity: Events, Groupings and Clusters.

“Events” are individual occurrences (e.g., the flooding of the Yellow River in 1448 CE). “Groupings” are larger groups within which individual events can be organized (e.g., the Ming Dynasty, which lasted from approximately 1368-1664 CE). Groupings are then further organized into even larger “Clusters” (e.g., Medieval Empires: Asia). These levels of granularity allow for further facility in targeting the level of depth to which a historical topic will be explored. The database therefore provides the possibility of teaching history, or sections of history, in lesser or greater detail.\(^ {15}\)

![Taxonomizing Content of Similar Granularity](image.png)

An initial count of events for each area, epoch and grouping was established to determine how choices are distributed across these categories, and to identify gaps for future research and development.

\(^{14}\) Additionally, artifacts are an element of physical learning, as these can be viewed over the internet, in museums or in their own homes. Students can see ancient objects, past technologies or texts of law, whereas they cannot witness past battles or dynastic leaders.

\(^{15}\) This is also a potential area for student involvement according to their interests. Educators may propose individual projects that explore a particular area of interest for a student in greater detail using the database.
<table>
<thead>
<tr>
<th>Area: # of Events</th>
<th>Epoch: # of Events</th>
<th>Grouping: # of Events (examples from the 61 total Groupings)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa: 86</td>
<td>Ancient: 123</td>
<td>Ancient Egypt: 7</td>
</tr>
<tr>
<td>Asia: 224</td>
<td>Medieval: 139</td>
<td>Viking Age: 11</td>
</tr>
<tr>
<td>Americas: 109</td>
<td>Pre-Modern: 250</td>
<td>Enlightenment: 12</td>
</tr>
<tr>
<td>Europe: 179</td>
<td>Modern: 62</td>
<td>World War I: 12</td>
</tr>
<tr>
<td>Oceania: 27</td>
<td></td>
<td>Globalized World: 24</td>
</tr>
</tbody>
</table>

Once the database was populated, a second comparison was undertaken between the CCR World History database content versus the content of six of the curricula for which content reviews had been conducted during initial research. To quickly identify similarities and differences between CCR World History content and that of other mainstream curricula (e.g., AP World History, International Baccalaureate), references by each of the curricula below were integrated into the database.

* AP History: Modern
* Big History Project
* OER Project: Origins to the Present
* OER Project: 1750-Present
* OER Project: 1200-Present
* Ross Spiral Curriculum

This design process reflects CCR’s goal of creating ways of thinking about how to shape all curricula, not just single year courses. The construction of the database, containing far more material than could be studied within a single year course, reflects this goal. The database allows for curriculum construction based on the multiple threads with which have been tagged and cross-tagged for every piece of data. History courses can be tailored using the database and accompanying website according to any combination of the threads (e.g., Artifacts, Areas, Epochs) and their granularity. Additionally, these threads create interdisciplinary connections between history and other subject areas (for instance English, Environmental Science, Political Science).

**Adaptations and Developments**

Rather than a thematic-based curriculum (as proposed in curricula such as AP World History), we have chosen to create a framework based on "Developments," or axes of historical change. The four developments we have identified are:

- Communities and Networks
- Literacy and Collective Learning
- Industry and Work
- Belief Systems and Ideologies
These developments were determined based on scholarship in the social sciences proposing that historical change occurs through the harnessing of knowledge and/or energy. These four developments can be considered as 'strands' of human history, in that each of these adaptations permits humans to harness more knowledge and/or more energy.

We propose a model of human "adaptation" rather than "evolution" or "progress." There are no "stages" of sociocultural evolution, but varying ways and directions (i.e., multilinear development). Cultures must adapt to their environments, therefore cultures change according to a changing relationship with a changing environment. These adaptations can be studied through examining:

- Resources exploited by a society (a form of "Industry and Work")
- The technology relied upon for this exploitation (a form of "Industry and Work" and "Literacy and Collective Learning")
- Organization of human labor (a form of "Communities and Networks" and "Belief systems and ideologies").

This model emphasizes the tendency of cultural and social systems to increase in complexity, organization and adaptiveness to the environment and demonstrates how cultures are not isolated in these processes, but interact, exchange and diffuse their qualities. The Adaptations and Developments framework further emphasizes human adaptations and innovations and allows for a concrete demonstration of how historical events and innovations have culminated in the present world, and propel us into the future.

Section #4: Core Concepts

Core concepts complement content knowledge in the 4-Dimensional Framework. While content can be memorized, core concepts are internalized and transferred to other circumstances, and facilitate complex tasks like analyzing, evaluating, and creating. They are the “big ideas” of a discipline that can drive lifelong modern learning, and serve as disciplinary lenses through which a learner can see the world, enabling them to “think like an historian.” Learners will not be able to memorize all of history, but if they can recognize and work with the core concept that “history is constructed by the winners,” they will have a framework for analyzing and evaluating events throughout their lifetime.

Each core concept has a concise “tagline” intended to facilitate learning and conversation. These taglines trade nuance for brevity and “stickiness,” as their purpose is to provide learners with a memorable sentence. The description fills in this gap of nuance with additional detail. Then, accompanying examples provide teachers with contexts for how these core concepts have emerged in the unfolding of history.

A history class enables collective storytelling and problem solving by creating a space in which students learn the content of history, and interpret this content into the lessons from history (see Section 1).

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18 Emmanuel Todd (2015), L'invention de l'Europe.
concepts relate directly to these historical lessons, as well as to questions of identity, community and coexistence. In this way, the core concepts for history reinforce the goals of teaching history. The 4D History Project also features systematic tagging of core concepts to relevant content, allowing for the same lessons to be connected to different events and artifacts across time and space. The designed core concepts reflect the historical significance criteria's orientation toward the present and future. The following core concept serves as an example:

**Ripple Effect**

*Throughout history, small changes can create big impacts.*

**Description:** Historical change can be catalyzed by small acts, events, groups or individuals. These changes can be positive or negative and can be caused by people who adhere to a larger cause or shared belief (e.g. doctors or monks) or outliers in thought, behavior or practice (e.g. an inventor or a serial killer). It is useful to note that sometimes it is what a person does not do, rather than their action that engenders historical change. Micro (in)actions can have macro effects that ripple into the future.

**Example** (from Yale National Initiative): Charles Lindbergh’s historic crossing of the Atlantic in 1927, marking him as the first to do so while solo without a stop, changed the world. The capabilities of fixed-wing flight quickly made huge headlines. Lindbergh proved the reliability, safety and ability of fixed-wing aviation. The military quickly realized the airplane had to be developed as a weapon of war. Despite the fact that the dirigible would be the first avenue for crossing the Atlantic, commercial aviation via airplane would soon explode when World War II ended. Companies such as Pan American Airways and Trans World Airlines would start airplane travel across the Atlantic in 1947.

Similar to the course content, 4DWH Core Concepts development was informed by comparisons between other curricula and the resources and the “key concepts” they deploy. Additional core concepts are provided in Appendix D (Sample Core Concepts), and comparisons with other curricula and resources are included in Appendix E (Core Concept Comparison). The full list of core concepts is available at the 4DWH website.

**Section #5: Embedding Competencies**

In addition to content knowledge and core concepts, 4-Dimensional Competencies complete the educational experience of a modern learner. The twelve 4D Competencies—spread across the Skill, Character, and Meta-Learning Dimensions of the framework—all can be embedded in history classes, and many of these twelve competencies show up frequently in the surveyed best-in-class curricula, see Appendix F (Competency Comparisons). However, with the constraints of limited class-time, CCR advocates for an approach embedding competencies into curricula in a deliberate, systematic way. This means explicitly

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matching competencies most conducive to the natural content and methodologies of a discipline to achieve demonstrable learning outcomes. When this approach is conducted comprehensively across disciplines, the twelve competencies are infused meaningfully into learning experiences in synergistic ways.

CCR’s “Embedding Competencies Within Disciplines” paper showcases which competencies are most conducively developed by which disciplines, synthesizing “top-down research” conducted from literature reviews, and “bottom-up research” conducted in partnership with dozens of teachers. This work showcases the following competencies as critical to history learning experiences:

Their justifications follow as:

- **Critical Thinking**: Students learn (particularly through the application of core concepts like “Sources” and “Perspectives”) to assess the validity and quality of historical information, taking into consideration when, where, how, to what end and who produced varying (and sometimes contradictory) historical narratives.

- **Communication**: Students learn to articulate their ideas and positions about historical events (e.g., whether or not an event or innovation had more positive than negative outcomes) and practices in other cultures at other times that often contradict their own current ways of being and believing.

- **Mindfulness**: History is replete with atrocities, conflict and human suffering. When learning about these events, students learn to understand their own emotions and reactions to these occurrences.

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Additionally, learning history, and the different perspectives and contexts of people throughout time, cultivates open-mindedness about others, not only in the present, but the past and future.

- **Ethics**: In part, history is a story about the evolution of human ethics and moral codes that condoned or encouraged particular economic, social and cultural practices throughout recorded history. When learning history, students are confronted with understanding contexts of the times, identifying ethical concepts (e.g., the institutionalization of slavery; women’s suffrage) and the ethical perspectives of others over time. Students also learn to assess values (e.g., civil or human rights) as well as responsibilities (e.g., sustainable environmental practices).

- **Collaboration**: The pedagogical opportunities of a history class—such as simulations and shared research—suit themselves well to learner collaborations, as discussed in Section 6 (Sample Pedagogical Techniques). Understanding history also enables a deep understanding of rich collaborations in history.

- **Curiosity**: Historical learning necessitates inquiry into different perspectives in order to broaden students’ understanding of historical events and their outcomes.

- **Metacognition**: History is an ongoing presentation of different perspectives and alternative ways of being and doing. Learning history requires that students consider these alternatives (e.g., capitalism and communism) and different perspectives (e.g., motivations of the British and the Chinese in the Opium Wars).

A history class that effectively integrates a piece of content knowledge, a core concept, and competency creates space for deeper learning to emerge. Let’s take a look at some ways these go together.

### Section #6: Sample Pedagogical Techniques

CCR’s central mission is to positively impact what students should learn in modern times. Still, the what is not enough—effective teaching requires an identification of how students should learn in the unique circumstances and contexts of their classrooms. Every classroom and every learner is different, and great teaching requires drawing connections between what is taught and the interests and needs of learners, through techniques like fostering deeper learning\(^2\) and culturally responsive teaching\(^2\).

The following sample pedagogical techniques are intended to serve as example methods for how content knowledge, core concepts, and competencies can be infused into classroom experiences. They are not intended to be comprehensive.

**Historical Significance Power Rankings**

Learners work to rank a series of events they have covered in terms of their significance, according to the metrics of “Then” Impact, “Now” Impact, “Now” Applicability, and “Future” Applicability (as detailed in Section


3). A sample historical period can serve as a scaffold for this work, such as “the most significant events of the Cold War.” Learners can create matrices of “impact” and “applicability,” plotting events across axes such as the included worksheet in Appendix G (Impact and Applicability Matrices).

Different competencies can serve as different lenses for this work. Should a teacher wish to focus on critical thinking, learners could develop their own criteria for ranking impact and applicability, to practice the subcompetency applying sound reasoning to decision-making. A teacher who wishes to focus on metacognition may instead emphasize the subcompetency reflecting on processes, achievements, learning and/or identity, prompting students with reflection questions about what they learned about themselves in completing the exercise.

The core concept of unpredictability (history isn’t always significant until it becomes so) can be emphasized by challenging learners to identify an event which had a low “Then” Impact, but scores highly on other metrics (e.g. the sale of Alaska to the United States). Alternatively, the core concept of contact (contact creates consequences) can be highlighted in situations in which a contact event, such as colonization, scores highly across the impact and applicability measures.

**Historical Simulations**

Recreating historical events or the actions of political bodies is a rich space for learners to engage with content in memorable ways, apply competencies, and internalize core concepts. Programming such as mock trials, Model United Nations, or usage of the En-ROADS climate simulator create opportunities for learners to practice competencies of leadership and collaboration, with negotiation situations for practicing subcompetencies like navigating and resolving interpersonal conflict and thinking strategically to best utilize resources. Less formal programming—learning about worker unionization through strike-busting simulations, or treaties through students representing nations with competing needs and wants—creates similar opportunities.

These simulations emphasize the core concept of humanity (history is about real people, not facts and figures) as learners must empathize with the needs and desires of historical figures. Scenarios like Model UN and the En-ROADS climate simulator create opportunities for learners to internalize core concepts like adaptability (adaptation is the key to success), as they grapple with how to contextualize and negotiate their nation’s perspectives with those of other nations, as well as the needs of the planet.

**Contextualizing Bad News through Mindfulness**

Twenty-four hour news cycles, social media, and advertising-driven financial models attack our attention with bad news and tragedies. To help learners cope with these challenging stressors, learners can practice the competency of mindfulness while also contextualizing the news events with history. It can be easy to worry that events are “as bad as they have ever been.” By taking a look through history, students can compare some of the bad news of today with the bad news of yester-year, finding events of similarly challenging scope to put challenging days in perspective, whether it is previous pandemics (like the plague, smallpox, and influenza), or the global climate impact of 1816’s “year without a summer.”

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23 https://unausa.org/model-un/
24 https://www.climateinteractive.org/en-roads/
Still, this contextualization work shouldn’t undermine just how challenging it can be for learners—and all people!—to grapple with bad news. Teachers can build habits of mindfulness moments to the start or end of class to practice the subcompetency building effective habits for regulation of inner experience. These moments might be breathing exercises, emotional check-ins, or writing down worries to break obsessive thought patterns. Core concepts like the myth of progress (history is not a straight line towards the ideal) serve as an expectation-setting reminder that life comes with ups and downs, while the core concept of well-being (humanity’s desire for well-being shapes history) can remind students of the powerful influence that goodness has exerted over the centuries.

Section #7: Next Steps

Much like history itself, 4DWH is a living entity. The project’s launch creates a landscape for mapping the events of history with a common taxonomy and shared priorities and techniques, allowing for curricular comparisons and the facilitation of iterative decision-making.

A small sample of the project’s next steps is as follows:

- **Inclusion of additional, diverse experts.** The initial population of artifacts, events, groupings, and clusters was conducted with attention to the prominent curricula and resources as identified in Section 2, as well as identification of other key happenings through research. Still, all decision-making of what events comprise history involves bias. The inclusion of experts representing a variety of places, peoples, and cultures can help mitigate this bias, and further the project’s goal of serving the global collective group.

- **Application of the impact/applicability rubric to different collective groups.** Section 1 highlights how the measures of impact and applicability differ depending on the collective group a person belongs to. Initial usage of the rubric featured the global group, toward the end of effectively selecting key events worthy of study in world history courses. There is additional space to apply the rubric for different collective groups, for example, utilizing it for events in a country’s history, women’s history, ethnic studies, and even other interdisciplinary fields.

- **Iteration and revisions.** As history continues to be written, so too will the curation of the database and the relevant core concepts. The inclusion of additional experts and the use cases of different collective groups creates opportunities for more learning and designing to be done, with new versions and updates to service the global community.

- **Increase the sophistication of the website’s interactivity.** Learning history is an active process. To help learners truly grapple with the events of the past, additional elements of interactivity are planned for the website to allow learners to engage with, sort, and make meaning of the events and concepts in front of them. Rich media resources—from original texts, to videos, to augmented and virtual reality—can bring the past to life.
Section #8: Conclusion

4DWH innovates history curricula for the needs of a modern and future-facing education. The tools created are meant to serve not only students and teachers, but the general public, as they are openly available to anyone via the internet.

Focus on Students and Teachers

The World History Database is intended to help teachers design their classes, allowing them to create courses based on diverse threads (e.g., Artifacts, Mentalities, Areas) and at varying levels of granularity. The database does not just serve for the creation of a World History course, but a multitude of history courses that could be thematically-based, topic-based, epoch-based, adaptation-based, and so forth.

As the CCR review of existing curricula demonstrates, it appears there is an arbitrariness of existing discourse concerning what should be included in curricula. The development of the rubric for historical significance gives educators a tool with which the importance of events and ideas can be debated, rather than included or excluded based on less scientific and often partisan procedures.

The database also provides teachers with an accessible tool in order to balance their curriculum between issues of locality and the necessities of global curriculum. The goal of the database is for a teacher anywhere in the world to be able to construct a course that properly addresses local history as well as major global events. This innovation allows teachers to open up curriculum to address both global and local identities and representations throughout space and time. Research demonstrates that student interest in learning history is shockingly low\textsuperscript{25}, but that this can be mitigated by teaching students history that is immediately relevant to their lives and their futures, and by demonstrating clearly how seemingly irrelevant past events have culminated in the world in which they live.

In this way, CCR’s World History design seeks to change the student experience. Rather than a textbook with a forcibly linear structure, the World History website allows users to visualize connections, threads and trends in history. Users can ‘zoom in’ to obtain more detailed information about the topic that interests them, giving students the opportunity to pursue their individual curiosities, and embed these topics within a larger historical perspective.

Focus on the Public

CCR’s World History Project is not an advisory solution, but a project aimed at creating tools that help others create and pursue their historical interests or inquiries. Historical understanding is crucial to the 21st century and our futures. In light of geopolitical happenings and what seem to be regressions in progress towards positive historical change, understanding history is key. This, as philosophers and historians remind us consistently, has always been the case. The World History website proposes a careful curation of historical

data from which individuals can come to their own conclusions and feed their historical knowledge and perspectives).

**A Living Project**

As with any grand human endeavor, the limitations of time necessitate that, in its present state, the World History database and website are not completely comprehensive sources concerning the history of humanity from 10,000 BCE to the present. CCR’s World History project is ongoing, a living project, designed to be open to continuing data input and links to other resources and adaptable to the future of history learning.

The design process demonstrated gaps in current mainstream history curricula. The “living” World History project permits us to increase awareness of these gaps and to innovate ways of working in international collaboration with historians and educators in order to fill in these gaps over time. Albeit an incomplete history of humankind, the CCR World History project provides unique and effective tools to change the playing field of historical learning.
Appendix A: Case Study - AP World History Comparison

A goal of 4DWH is to synthesize the objectives and content from a variety of sources. To showcase this synthesis work, the following details a case study of mapping AP World History to content areas, core concepts, and competencies.

The AP curriculum defines the main goal of a world history course as “learning to analyze and interpret historical facts and evidence to achieve understanding of major developments in world history.” It divides world history into six periods beginning from 8000 BCE to the present and identifies five major geographical regions: Africa, the Americas, Asia, Europe, and Oceania. Section 2 detailed how these epochs and areas were synthesized across the researched curricula. AP World History then identifies five “core themes” in its course. These are covered by 4DWH core concepts, as highlighted in the following table:

<table>
<thead>
<tr>
<th>AP “Core Theme”</th>
<th>4DWH Core Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction between humans and the environment</td>
<td>Well-being: <em>Humanity’s desire for well-being shapes history</em></td>
</tr>
<tr>
<td></td>
<td>Geography: <em>Geography is destiny</em></td>
</tr>
<tr>
<td></td>
<td>Population: <em>Demographics invisibly impact history</em></td>
</tr>
<tr>
<td>Development and interaction of cultures</td>
<td>Contact: <em>Contact creates consequences</em></td>
</tr>
<tr>
<td></td>
<td>Continuity: <em>The past is present (and often future)</em></td>
</tr>
<tr>
<td></td>
<td>Identity: <em>Where we are influences who we are.</em></td>
</tr>
<tr>
<td></td>
<td>Connectivity: <em>Increasing connection transforms the world.</em></td>
</tr>
<tr>
<td>State building, expansion, and conflict</td>
<td>Population: <em>Demographics invisibly influence history</em></td>
</tr>
<tr>
<td></td>
<td>Acceleration: <em>Population x Technology = Events in faster motion</em></td>
</tr>
<tr>
<td></td>
<td>Conflict: <em>No history without conflict</em></td>
</tr>
<tr>
<td>Creation, expansion, and interaction of economic systems</td>
<td>Expansion: <em>Humans can be greedy</em></td>
</tr>
<tr>
<td></td>
<td>Economies: <em>Economic exchange informs historical landscapes</em></td>
</tr>
<tr>
<td></td>
<td>Connectivity: <em>Increasing connection transforms the world</em></td>
</tr>
<tr>
<td></td>
<td>Coexistence: <em>Time blends ways of being in interesting ways</em></td>
</tr>
</tbody>
</table>

26 AP WH Course Description
27 AP WH Course Description
### Development and transformation of social structures

<table>
<thead>
<tr>
<th>Multilinear Progression: Different civilizations can produce similar outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inherent Instability: Stability requires effort</td>
</tr>
<tr>
<td>Adaptability: Adaptation is the key to success</td>
</tr>
<tr>
<td>Technological Sociability: Society and technology are inextricably bound</td>
</tr>
</tbody>
</table>

The AP World History Curriculum then also is organized around four “Historical Thinking Skills.” These skills map to both core concepts and 4-Dimensional Competencies, as follows:

<table>
<thead>
<tr>
<th>AP “Historical Thinking Skill”</th>
<th>4DWH Core Concepts</th>
<th>4D Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crafting historical arguments from historical evidence</td>
<td>Sources: We don’t know all of history.</td>
<td>Creativity: Connecting, reorganizing, and synthesizing ideas into a cohesive whole</td>
</tr>
<tr>
<td>Chronological Reasoning</td>
<td>Continuity: The past is present (and often future)</td>
<td>Critical Thinking: Identifying, clarifying, and organizing information</td>
</tr>
<tr>
<td>Comparison and Contextualization</td>
<td>Cyclicity: History doesn’t repeat itself, but it rhymes.</td>
<td>Curiosity: Seeking different perspectives to improve understanding</td>
</tr>
<tr>
<td>Historical Interpretation and Synthesis</td>
<td>Context: History doesn’t happen in a vacuum Perspectives: History is constructed by the “winners”</td>
<td>Metacognition: Reflecting on processes, achievements, learning, and/or identity</td>
</tr>
</tbody>
</table>

Finally, the relevant content of the AP World History course is integrated into the database, mapped to the levels of specificity highlighted in Section 3. Differences in attention and focus given to the plethora of historical events that can be covered in a history course are addressed in our approach to dividing content into levels of specificity (also discussed in Section 3). Like the AP curriculum, the world is covered from ancient to present times, focusing on both hemispheres and without a concentration on U.S. history, the history of technology, nor cosmology.\(^{28}\)

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\(^{28}\) Except in cases where these are directly linked to noted historical impact, e.g., the spread of religion, Spanish Inquisition, the invention of the steam engine and the Industrial Revolution.
Appendix B: Area and Epoch Comparison

The following table identifies which areas are included in which resources, through the symbol of an “X.”

<table>
<thead>
<tr>
<th>Area</th>
<th>World History Commons</th>
<th>AP History Modern</th>
<th>Australia</th>
<th>Ross Spiral</th>
<th>Big History Project</th>
<th>The History Book, D. Kindersley</th>
<th>A History of Knowledge, C. Van Doren</th>
<th>UCLA History</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Afro-eurasia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Australasia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Middle East</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>North/Central America</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Central America</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oceania</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>South America</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Americas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Pacific</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Epoch Comparison:

<table>
<thead>
<tr>
<th>Source</th>
<th>Before 10,000 BCE</th>
<th>10,000 BCE - 500 CE</th>
<th>500 - 1450 CE</th>
<th>1450 - 1750 CE</th>
<th>1750 - 1900 CE</th>
<th>1900 - 1945 CE</th>
<th>1945 - Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>World History Commons</td>
<td>Ancient</td>
<td>Medieval</td>
<td>Early Modern (1450-1800)</td>
<td>Modern (1800-1950)</td>
<td>Contemporary (1950 - Present)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AP History Modern</td>
<td>Global Tapestry &amp; Networks of Exchange (1200 - 1450 CE)</td>
<td>Land-based empires and Trans-oceanic connections (1450 - 1750 CE)</td>
<td>Revolutions &amp; Consequences of Industrialization (1750-1900 CE)</td>
<td>Global conflict; Cold War and Decolonization; Globalization (1900 - Present)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Ross Spiral Curriculum | Ancient World (10,000 - 3500 BCE)  
Rise of Riverine Civilizations (3500 - 1450 BCE)  
Prophecy and Cultural Transformation (1450 - 356 BCE)  
World Empires and Universal Religions (356 BCE - 800 CE) | Climax of Hierarchical Civilizations (800 - 1416 CE)  
Emergence of the Modern Perspective (1416 - 1688 CE)  
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Big History Project</td>
<td>Humans (200,000 BCE - 1800 CE)</td>
<td>The Future (1800 - Present)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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| Era 1: The Beginnings of Human Society Giving Shape to World History (10,000 - 4000 BCE) | Era 4: Expanding Zones of Exchange and Encounter (300 - 1000 CE) | Era 6: Emergence of the First Global Age (1450 - 1770 CE) | Era 7: An Age of Revolutions (1750 - 1914 CE) |

- **UCLA History: Public History Initiative**
- **Programme histoire : 6ème au 3ème**
Appendix C: Rubric

Section 1 detailed the importance of applicability and impact to a historical learning experience, and Section 3 detailed ways that the impact and applicability can be applied to the past, present, and future. In pursuit of developing a systematic process for analyzing events across these axes, and to explore how historians research the past and prove the soundness of their arguments, a review was conducted of historical methodologies and historiography. This overview of different perspectives of the historical method and source criticism permit a better understanding of how historians go about deciding what is important. As in many domains of knowledge and individual (sub)disciplines, historians make use of a series of methods to verify and prove the soundness of their work. This methodology is commonly referred to as “the historical method” and refers to techniques historians use to research and write accounts of the past. The “technical skills” of the historian are:

1. Identification of relevant sources
2. Evaluation of validity of sources
3. Research and comparison of valid sources
4. Synthesis of data
5. Construction of “best explanations” for the topic of historical research

The historical method is based on studying primary, secondary, “gray area” sources and material evidence (provided by archeologists or specialist technicians in carbon dating, for example). Historians must first identify which sources are necessary or useful, evaluate the authority of these sources and synthesize the data from these sources in order to construct the most reliable and accurate accounts possible about past events, peoples, environments and civilizations.

From this research, a rubric was created to establish historical significance based upon four unequally weighted points. These criteria prioritize historical persons or events which can be linked to larger trends, especially those of growing importance in the 21st century. The axes of “Impact” and “Applicability” are living heuristics that are capable of changing as the importance of historical events changes in light of present circumstances. The rubric more heavily weighs events which are influential throughout time, reveal something about larger historical trends, or are applicable to present-day circumstances. The decision to focus on the significance of an event over time and into the future is a choice that must acknowledge that we can only attribute significance to the best of our abilities, at this time. Many events that may seem insignificant in the historical perspective today, may acquire enormous importance later on. However, the rubric is designed to take this into account and in ten years, five years or five days time, newly acquired historical significance can be weighted using these parameters.


Common gray areas of historic research include: newspapers, magazines, encyclopedias and history texts.

Sources for historical data can vary widely, from eyewitness accounts to anonymous texts.

For instance, the United States’ purchase of the Alaskan territory from Russia in 1867 was referred to at the time as “Seward’s Folly” - the territory was considered a worthless icebox and appreciated only for its potential timber resources. Not only did the U.S. strike gold in Alaska, but decades later vast reserves of crude oil were discovered, making Seward’s “folly” one of the U.S.’s most profitable territorial acquisitions in the nation’s history.
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Minor</th>
<th>Notable</th>
<th>Important</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future-Facing Influence Throughout Time: Links to larger historical trends and stories that reveal something important for us for the future. <strong>Weight: 40%</strong></td>
<td>Sparse links to larger historical trends or the actual state of humanity.</td>
<td>One link to larger historical trends and the actual state of humanity.</td>
<td>Multiple links to larger historical trends and the actual state of humanity.</td>
<td>A keystone event that necessarily shaped the world since its occurrence.</td>
</tr>
<tr>
<td>Applicability to present-day circumstances. <strong>Weight: 30%</strong></td>
<td>Minimal applicability to present day problems.</td>
<td>Applicable to one present day problem.</td>
<td>Applicable or helpful for understanding multiple present day problems.</td>
<td>Integral to understanding and reacting to present day problems.</td>
</tr>
<tr>
<td>Impact over a lesser or greater amount of people, or territory whether immediate or over time (days, months, years, decades, or even centuries afterwards). <strong>Weight: 20%</strong></td>
<td>Minimal impact over large amounts of people, territory or spans of time.</td>
<td>Recorded impact on a large number of people or territory at the time it occurred.</td>
<td>Recorded impact on a large amount of people or territory that continued to impact human life over years or decades.</td>
<td>Continuing impact on a large amount of people and/or territory since the time it occurred into the present day.</td>
</tr>
<tr>
<td><strong>Influence in the Moment</strong>, novel or influential in the shaping of the moment and locality in which it occurred.</td>
<td>Minimal influence or novelty in the time and place it occurred.</td>
<td>Slight influence upon past circumstances/stat es of affairs in the time and place it occurred.</td>
<td>Deemed important or of great novelty in the time and place it occurred.</td>
<td>A crucial change of widespread influence or great innovation or invention in the time and place it occurred.</td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td><strong>Weight: 10%</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D: Sample Core Concepts

Geography

*Geography is destiny.*

**Description:** The geography of a group of people—its climate, proximity to water, access to resources, etc.—has a large influence on the cultural, economic, and political development of that group. Geographical environment and context pose varying constraints to people and civilizations, obligating them to specialize their social structure, labor and technology in different ways.

**Example** (from *Guns, Germs and Steel*, J. Diamond): Compared to other areas in which food production arose indigenously (e.g. New Guinea or the eastern U.S.) Peoples of the Fertile Crescent were able to domesticate local plants much earlier; they domesticated more species, more productive or valuable species, domesticated a much wider range of types of crops, developed intensified food production and dense human populations more rapidly and as a result entered the modern world with more advanced technology, more complex political organizations and more epidemic diseases with which to infect other peoples.

Inherent Instability

*Stability requires effort.*

**Description:** Human systems of all sorts (economic, political, religious, etc) demonstrate a tendency towards instability. It is difficult to maintain a monarchy without insurrection, it is difficult to sustain democracy. Economies are inherently unstable. Religions, national borders, and social groups break down, evolve and take new forms. No human system is permanent (as of yet), but are 'best try' efforts to succeed within particular environments at particular moments in time.

**Example** (from *Historical Dynamics*, P. Turchin): Research indicates that the dynamics of sociopolitical instability in pre-industrial states are not purely random. There is a regular, although dynamically complex pattern involving at least two cycles superimposed on each other. First, there are long-term waves of political instability with durations of a century or more that are interspersed with relatively stable periods. It appears, thus, that a typical historical state goes through a sequence of relatively stable political regimes separated by recurrent waves of internal war. The characteristic length of both stable (or integrative) and unstable (or disintegrative) phases is a century or longer, and the overall period of the cycle is around two to three centuries. These cycles are observed around the world: in China with its dynastic cycles, in the Middle East, and in Southeast Asia. In fact, it is a general dynamic that is observed in all agrarian states for which the historical record is accurate enough.

Movement Towards Abstraction

*History shows that humans transform the concrete into the abstract.*

**Description:** Abstract thinking is considered a key trait of modern human behavior and at the root of human capacities like trial and error thinking, visual aesthetics and the awareness of others’ viewpoints and ability to interpret them. History demonstrates a strong tendency of humans to create increasingly abstract systems, be they sociocultural, technological, economic or political.

**Example** (from *Nature Portfolios*, C. Rosol et al.): Letters and numbers are an almost weightless media, but they provide a means to organize states, move legions and run economies. Since the earliest examples of literacy and calculation, information has given shape to land use and urbanization processes, production
cycles and long-distance transportation. From cuneiform tablets in Mesopotamia, papyrus in the Roman Empire and medieval codices to modern typesetting, telegraph signals in submarine cables or the time-critical data infrastructure created in the wake of automated finance, information media offer ever more discrete ways of signaling and mobilizing ever greater societal and material systems.

Expession

Humans are greedy.

**Description:** Human history, like the history of the universe, demonstrates a tendency towards expansion and greater complexity; of cultural and social systems to increase in complexity, organization, adaptiveness and impact upon the environment. Human curiosity, dissatisfaction with the present and fear (expectations of something better, desire for ‘improvement,’ concerns over change or catastrophe) are drivers for the desire for more (be it territory, resources, liberties, technologies, weaponry, etc).

**Example:** (from History of International Relations, E. Ringmar): Beginning at the end of the eighteenth century, the development of an industrial economy based on mechanical production in factories radically changed European societies, making them “modern.” As far as the rest of the world was concerned, the modernization of Europe had a number of far-reaching consequences. The Europeans needed raw materials for the goods they were producing and often these resources could be found outside of Europe itself. Moreover, European producers needed to find more people who were prepared to buy all the things their factories were spewing out. The hope was that these consumers could be found in India, for example, or in China. And as people outside of Europe were to discover, the industrial revolution had given the Europeans access to far more lethal weapons than ever before. Armed with these new incentives, and these new guns, the Europeans set out to conquer the world.

Identity

Where we are influences who we are.

**Description:** Identity deals with the question of who we are in relation to others. Identity is both a process of classification and a daily practice. Identities can be multiple, fluid and transcend boundaries but, to a certain degree, they must be stable in order for others to identify one as theirs.

**Example:** (from UCLA Public History Initiative): Constructing accounts of history is one of the most powerful ways of creating an imagined community. Reading and thinking about the history of groups to which you belong is a way of identifying yourself with the other members who came before you and with their ideals and beliefs. To identify yourself as a Roman Catholic during the religious wars of sixteenth-century Europe was to identify yourself as an enemy of Protestantism and its goals. To identify yourself as a citizen of the Soviet Union during the Cold War meant identifying with the ideology of socialism. The individuals who wrote great national histories in the nineteenth or twentieth centuries, such as Thomas Macaulay in Britain or Charles Beard in the United States, helped create in millions of readers a powerful sense of “belonging.” This is why the teaching of national histories has been so important in the modern world. Governments understand perfectly well that the way people think about the past affects the way they think about the present and where they place their loyalties and affections. And in a crisis they know that citizens who have a strong sense of national identity will fight, even die, for the national state.
Appendix E: Core Concept Comparison

A 2019 OECD Report by Dr. Louise Zarmati[^33], entitled “Future of Education and Skills 2030,” synthesized the historical concepts utilized in the curricula of different jurisdictions. The following table showcases the paper’s synthesized concepts, the national curricula which use the concepts (colored in green), and identifies how the concept is covered in the 4D World History Project (core concepts are listed first and italicized, then followed by competencies and a relevant subcompetency).

<table>
<thead>
<tr>
<th>Concept</th>
<th>Appearance in 4DWH</th>
<th>Canada</th>
<th>Netherlands</th>
<th>England</th>
<th>Australia</th>
<th>Malta</th>
</tr>
</thead>
</table>
| Significance                 | *Unpredictability:* History isn’t always significant until it becomes so  
*Creativity:* Reflecting on processes and outcomes  
*Critical Thinking:* Applying sound reasoning to decision-making                                                                                                                                                     |        |             |         |           |       |
| Evidence / Use of Sources   | *Sources:* We don’t know all of history  
*Perspectives:* History is constructed by the “winners”  
*Critical Thinking:* Assessing validity and quality of information                                                                                                                                               |        |             |         |           |       |
| Continuity and Change       | *Continuity:* The past is present (and often future)  
*Multilinear Progression:* Different civilizations can produce similar outcomes  
*Myth of Progress:* History is not a straight line toward the ideal                                                                                                                                              |        |             |         |           |       |
| Cause and Consequences / Effect | *Contact:* Contact creates consequences  
*Geography:* Geography is Destiny  
*Connectivity:* Increasing connection changes the world  
*Ripple Effect:* Throughout history, small changes can create big impacts.  
*Metacognition:* Evaluating one’s actions and their consequences  
*Metacognition:* Considering alternatives and different perspectives                                                                                                                                               |        |             |         |           |       |

| Progress and Decline | **Myth of Progress**: History is not a straight line toward the ideal  
**Cyclicity**: History doesn’t repeat itself, but it rhymes |
|---------------------|---------------------------------------------------------------------|
| Perspective         | **Perspectives**: History is constructed by the “winners”  
Critical Thinking: Considering other points of view  
Curiosity: Seeking different perspectives to improve understanding |
| Empathy             | **Well-being**: Humanity’s desire for well-being shapes history  
Curiosity: Seeking different perspectives to improve understanding |
| The Ethical Dimension | **Cultural Relativism**: Just because it’s different doesn’t make it right or wrong…  
**Temporal Relativism**: “Normal” changes over time  
Ethics: all subcompetencies |
| Argumentation / Contestability | **Perspectives**: History is constructed by the “winners”  
**Sources**: We don’t know all of history  
Critical Thinking: Assessing validity and quality of information |
| Time and Chronology | **Continuity**: The past is present (and often future)  
**Multilinear Progression**: Different civilizations can produce similar outcomes  
**Ripple Effect**: Throughout history, small changes can create big impacts.  
Curiosity: Seeking to understand deeply |
| Similarity and Difference | **Multilinear Progression**: Different civilizations can produce similar outcomes  
**Cultural Relativism**: Just because it’s different doesn’t make it right or wrong…  
**Continuity**: The past is present (and often future) |
| Asking Questions    | **Sources**: We don’t know all of history  
Critical Thinking: Identifying, clarifying, and organizing information  
Communication: Asking questions and
<table>
<thead>
<tr>
<th>Subcompetencies</th>
<th>Description</th>
</tr>
</thead>
</table>
| Contextualization     | Context: History doesn’t happen in a vacuum  
                          Humanity: History is about real people, not facts and figures  
                          Critical Thinking: Reflecting critically on one’s reasoning and assumptions |
| Using substantive concepts | Know-how: Knowledge is power  
                             Growth Mindset: Persevering for deeper expertise and understanding |
| Using meta-concepts   | Identity: Where we are influences who we are  
                             Metacognition: All subcompetencies |
Appendix F: Competency Comparisons

Though often referred to with different names, the competencies of the 4-Dimensional Skill, Character, and Meta-Learning Dimensions also were utilized in reviewed curricula. The following table showcases which competencies were included in curricula, and where there were gaps.

Green identifies competencies that were directly referenced by the curriculum. Yellow identifies competencies which were indirectly referenced by the curriculum, perhaps through similar language or a reference to some of the 4-Dimensional Framework’s subcompetencies. Red identifies competencies which were not identified within the curriculum.

<table>
<thead>
<tr>
<th>Competencies</th>
<th>International Baccalaureate</th>
<th>AP World History Modern</th>
<th>World History Project</th>
<th>Australian Curriculum</th>
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<tbody>
<tr>
<td>Creativity</td>
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<td>Red</td>
<td>Red</td>
<td>Green</td>
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<tr>
<td>Critical Thinking</td>
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<td>Communication</td>
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<tr>
<td>Growth Mindset</td>
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<td>Green</td>
<td>Green</td>
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</tr>
</tbody>
</table>
Appendix G: Impact and Applicability Matrices

The following matrices can be used as both a pedagogical and design tool to determine the relevant impactfulness of events on the past and the present, and the applicability of those events to the challenges of today and the anticipated challenges of the future.

[Diagram of Historical Lesson Applicability Matrix]

[Diagram of Historical Event Impact Matrix]