

Team 2: Group Project: US History to 1875

Selected Course for Analysis and Rationale

We selected the course [US History to 1875](#), a public-domain college-survey course created by Andrew Harrison of Union County College (May 2021). Our rationale is that this is a core course with a high enrollment of many neurodiverse learners. Typically, US History survey courses such as this are required for first-year students to take; therefore, many “plus-one” opportunities are present to help a large and diverse student group. The course is available at the following hyperlinked text, followed by the full URL below: [U.S. History to 1875](#)

Course Overview & Purpose:

US History to 1875: This course is a study of the pre-1875 history of the United States. The course draws on texts published by Stanford University Press, as part of the *American Yawp* project, a “Massively Collaborative Open U.S. History Textbook.” This is an introductory history course for undergraduate students. It features modules on Native American and First Peoples' cultures, Colonial Society, The Early Republic, and The Cotton Revolution, among others. The course provides a broad coverage of American history prior to 1876.

Target learner demographic:

The target learner demographic is undergraduate college students in high-enrollment core classes, including neurodiverse learners from a range of backgrounds.

Course Structure

The course is structured chronologically starting with pre-Columbus North America and concluding with the Reconstruction Era in US History. Modules are structured thematically, e.g. the *Week Five - The American Revolution*. Each week, students have a reading assignment, a reading quiz, a discussion topic, and a review assignment for each module.

Logic of topics within course

- Week One: Indigenous America
- Week Two: Colliding Cultures
- Week Three: British North America
- Week Four: Colonial Society
- Week Five: The American Revolution
- Week Six: A New Nation
- Week Seven: The Early Republic

- Week Eight: The Market Revolution
- Week Nine: Democracy in America
- Week Ten: Religion and Reform

Initial Plan for Module Focus

We will focus on *Week 6 - A New Nation*. This module covers the creation of the US Constitution and the US government, which is a pivotal point in the chronology of this course. This is also a topic that may interest students who normally dislike history. Many current events and “real-world” scenarios can be linked to this module—a great way to increase engagement and motivation.

Initial Questions and Comments

We have tentatively selected a visually impaired learner, an English-language learner, and a digital mobile learner as our three learner demographic perspectives.

Among our anticipated challenges, we first need to educate ourselves regarding our three learner types. We are not intimately familiar with the challenges of learners with visual impairment, or ESL, or digital mobile learners. We must explore how these learners typically feel included and excluded from the undergraduate learning environment, for us to properly address their pedagogical preferences and requirements.

Resources/support needed

We will need to identify resources that are accessible to our three learner demographics. The open-source textbook online has a high Lexile level and small type. We would either need technology to help our learners access the textbook, or find a different resource that meets the learning objectives. Learners with visual impairments will need access to screen-reader technology, or similar tools that enable them to participate. As instructional designers, we must be aware of a range of learner types in order to provide adequate materials for these students.

Module 5 Milestone One Template

Course Context

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Target learner demographic:

The target learner demographic is undergraduate college students in high enrollment core classes, including neurodiverse learners from a range of backgrounds. We have selected three specific demographics as the focus of this report:

- A. Learner Demographic A: Student with Visual Impairment (**Ethan Crawford**)
- B. Learner Demographic B: Digital/Mobile Learner (**David Owens**)
- C. Learner Demographic C: English as a Second Language (ESL) Learner (**Rick Goldsmith**)

Section 2: Module Overview

Module 1 and 2, plus the mid-term and Final Assessments

- Learning objectives:
 - Explain the origins of Native American peoples
 - Describe the diversity of Native America
 - Analyze the motivations for European colonization
 - Describe the Spanish involvement in the Americas
 - Describe the competing European attempts to colonize the New World
 - Analyze the differences among the strategies of the various European powers.
 - Describe the English settlement processes as well as their near failure.
 - Explain why Native groups responded in varying ways (resistance, accommodation, partnership, etc.)
- Types of materials:
 - The course relies on a single textbook called the [American Yawp Project](#), published by Stanford University Press, known as a “Massively Collaborative Open U.S. History Textbook.” This text is was created by community of volunteer historian/teachers, representing a collection of diverse voices and perspectives.
 - PowerPoint Slideshow Presentations
 - Online Discussion Platform
- Activities:
 - Lectures

- Reading Assignments
- Discussion board post
- “Overview” and “Review” Pages
- Assessments:
 - Weekly Discussion (10 points)
 - Multiple choice and true/false 10 question quiz (Modules 1 and 2) (10 points)
 - Multiple choice and true/false 35 question midterm (200 points)
 - Multiple choice, matching, and true/false 50 question final (200 points)
- Engagement strategies:
 - Introduction post: Introduction post to the US History course: The learner makes an introduction to the class.
 - Overview and Review Pages
 - General Coffeeshop discussion
 - Weekly web-based discussions
 - Weekly lectures on Mondays and Wednesdays
 - Weekly textbook readings
 - Weekly chapter assessments

Section 3: Learner Perspectives

Analyze ways in which the module design works well and how the module design presents obstacles for at least three learner demographic perspectives, citing the UDL framework for each strength and opportunity.

- Learner Demographic A: Student with Visual Impairment
 - **Description of demographic:** *Demographic A* is a Student with Visual Impairment, who relies on assistive devices and on-screen tools to read, write, and communicate with others. According to the Americans with Disability Act, “Visual impairment including blindness means an impairment in vision that, even with correction, adversely affects a child’s educational performance. The term includes both partial sight and blindness.” [[Sec. 300.8 \(c\) \(13\)](#)]. The impairment can be caused by a range of conditions in human eyes and neurology. Physical and environmental conditions also contribute to vision impairment, such as allergic reactions, and the nature of lighting and color in the learning environment ([Teaching Visually Impaired Students](#), accessed October 2022).
 - **Strengths:** It is difficult to identify strengths of this course in respect to the existing use of UDL strategies for a visual-impaired learner. It's worth noting there are some features that exist, which are less than bare-minimum, but better than nothing. For example, there is some HTML page formatting to emphasize important content that support *UDL Checkpoints 2.1 and 2.2: Clarify*

vocabulary, symbols, syntax and structure. The modules also feature discussion sections to “Involve all participants in whole class discussions,” which aligns with *Checkpoint 7.3, Minimize threats and distractions*. The discussion is a graded assessment, less of an invitation to participate, and more of a coerced collaboration exercise. Still, the discussions allow a degree of student autonomy, with a choice of three prompts that students may respond to (*Checkpoint 7.1 Optimize individual choice and autonomy*).

- o **Obstacles:** The course design leaves plenty of room for improvement to integrate UDL principles, especially for the visual-impaired learner. There’s a lack of diversity in Engagement, Representation, and Action/Expression strategies to be improved. Ideally the course should offer students a range of creative activities and options for physical action and expression. The course can involve learners in the design of classroom activities, as *UDL Checkpoint 7.1* encourages. The course is nearly entirely text-based and could benefit from a makeover with added rich-media presentations and activities to address *UDL Checkpoints 1.1, 1.2, and 1.3* regarding diverse presentations of visual and auditory information; and *Checkpoints 5.1 and 5.2* on Multiple Media & Tools. Above all, the content must be designed with digital accessibility as a priority, which will support the visual-impaired learner and many other learner demographics. For example, rich-media resources and activities must be digitally accessible for both speech-to-text and text-to-speech functionality. Course materials should be designed for students who use a text-to-braille reader, or need to adjust the size of visual content (*Checkpoint 1.1*). The course should be open for all students to engage from a range of entry points that involve learning comprehension, construction, composition, physical action, expression, and communications. Any course modifications made for the visual-impaired learner will also be accessible to benefit able-bodied students, mobile learners, ESL learners, and other diverse demographics that are likely to participate as part of the general enrollment of this course.
- Learner Demographic B: Digital/Mobile Learner
 - o **Description of demographic:** Digital and mobile learners are people between the ages of 20 and 40 that have been labelled the “digital generation” (Rubin, 2014, 75). They tend to access content in “micro moments” through their mobile devices. As of 2014, about 86% of undergraduate students owned a smartphone (Rubin, 2014, 84).
 - o **Strengths:** The module content that is accessible on a desktop or laptop computer is accessible on a smartphone device as well (the PowerPoint links work on neither platform). The CAST UDL Guidelines *Checkpoint 4.2* states that

instructors should optimize access to tools and assistive technologies for students- “All learners should be given the opportunity to use tools that might help them meet the goal of full participation in the classroom (CAST, 2018). Students who want to access the module content through a smartphone can do so.

- o **Obstacles:** The module content is not granular, i.e. none of it is broken down into smaller parts in videos, lecture notes, or podcasts. According to Rubin, “A major benefit of mobile devices is that people can use them to fill in little gaps of time when they are waiting in line at the box office or waiting on a meal in a restaurant” (Rubin, 2014, 94). Creating these granular learning chunks would bolster Checkpoint 7.1- Optimize individual choice and autonomy and Checkpoint 3.3-Guide information processing and visualization (CAST, 2018). Creating granularization would vary the tools that learners are using for information gathering, and the tools would be accessible using a smartphone. It also “chunks” the material into smaller parts, an important aspect of the representation guideline. The modules are not taking advantage of tablet and smart phones’ fluid learning abilities (Fang, 2014). None of the modules offer students who are accessing the course solely through their smartphones any way to create unique content using that device.
- Learner Demographic C: ESL Learner
 - o Description of demographic: The ESL learner for our module would speak a language other than English, which accounts for approximately 15 percent of the college population (Tobin and Behling 2018, 224). Additionally, it seems reasonable to assume that ESL learners might be minority students as well, which account for 33 percent of the college population (Tobin and Behling 2018, 224).
 - o Strengths: ESL learners bring more diversity and global perspectives to the culturally responsive classroom. America is a nation of immigrants. It only seems fitting that an undergraduate U.S. History to 1875 course would have ESL students as part of the classroom environment. The [American YAWP content for Module 1 includes nine primary source documents](#) representing various authors, cultures, and viewpoints, such as Native American and Aztec authors, a Spanish Dominican priest, and a Spanish explorer. The varying sources of information would make Module 1 content culturally and socially relevant, which might appeal to ESL learners, per Checkpoint 7.2: *Optimize relevance, value, and authenticity*. Additionally, some ESL learners may lack pre-requisite knowledge of U.S. History to 1875, so primary source documents could provide sufficient

background knowledge critical to assimilating or using new information, per Checkpoint 3.1: *Activate or supply background knowledge*.

- o Obstacles: "An English Language Learner might find language experimentation threatening" (CAST, 2018), so it will be essential to minimize threats and distractions in the learning environment (Checkpoint 7.3). Furthermore, an ESL student may need more time to process auditory information as "listening is a complex strategic skill that must be learned" (CAST, 2018). Therefore, there must be alternatives for auditory information (Checkpoint 1.2) and for using multiple tools for construction and composition (Checkpoint 5.2). In addition, a necessary instructional strategy is providing alternative representations to facilitate accessibility, clarity, and comprehensibility across all learners (UDL Guideline 2). Therefore, to accomplish this UDL guideline, instructional strategies must include clarifying vocabulary, symbols, syntax, and structure (Checkpoint 2.1, 2.2, 2.3), supporting decoding of text (Checkpoint 2.4), promoting understanding across languages (Checkpoint 2.4), and illustrating classroom materials through multiple media (Checkpoint 2.5).

Section 4: Improvement Priorities

Identify three improvement priorities for each learner demographic that represents each of the three UDL principles.

- Learner Demographic A: Student with Visual Impairment
 - o The first priority, focused on the Principle of Engagement, is to address *UDL Checkpoints 7.2 (Improve exercises for authenticity and relevance)*, *Checkpoints 8.1 (Display goals in multiple ways)*, and *Checkpoint 9.1 (Promote expectations and beliefs that optimize motivation)*. The course should offer a range of choices for each learning objective, enabling students to choose from multiple entry points, all designed to stimulate a range of sensory capabilities (auditory, kinesthetic, visual, etc.). All activities should be designed to be digitally accessible to support a wide variety of learner types, especially those three featured in this report. For the visually-impaired learner, the American Printing House for the Blind (APH) offers [recommendations](#) such as providing an audio format for all printed material, and electronic versions for course materials to be processed by screen-readers, braille displays, or electronic note-takers. These priorities also directly benefit mobile learners and ESL learners who also may find value in the text-to-speech and speech-to-text options within the course.
 - o The second priority, focused on the Principle of Representation: is to address *UDL Checkpoints 1.1, 1.2, and 1.3* regarding diverse presentations of visual and auditory information. The formatting and layout of online course materials

should be improved for all students, which will especially benefit blind and visual-impaired students. Introduce a greater range of options to represent information across auditory, visual, and kinesthetic means.

- o The third priority, focused on the Principle of Action & Expression, is to address *UDL Checkpoints 5.1 and 5.2*, to encourage students to “express learning in flexible ways” using multiple tools for construction and composition. Students should have options to produce content in a variety of formats, both for communication and for composition. Expand the course’s options (currently using multiple choice and true/false assessments) to include essay writing, spoken presentation, drawing, role-playing, or constructing audiovisual objects as encouraged by *Checkpoint 5.2*. This will be challenging for students with visual impairment, and assistive tools such as USB braille displays should be utilized when possible. Be mindful of checkpoints 4.2, for students to browse the course entirely by keyboards or other assistive technology tools.
- Learner Demographic B: Digital/mobile learner:
 - o Add videos, podcasts, and images about content topics within the module to create granular content that students can consume in micro-moments. For example, post a YouTube video about the Ojibwe tribe in order to meet Week One Module’s learning objective- Describe the diversity of Native America. Learners could access this content through their smartphones and consume it in ten-to-fifteen-minute chunks, thereby progressing toward meeting the module learning objectives. Granularization also benefits visual impaired learners and ESL learners; posted topical podcasts creates a mode of representation that is friendly to visual impaired learners. A video pairs images with spoken English, something that can help ESL learners immensely.
 - o Allow students to respond to the discussion board through different media forms rather than just typed responses (e.g. video recording, audio recording, drawing or diagramming). The course is not currently taking full advantage of a smartphone or tablet’s “affordances,” the content that these devices can create (Fang, 2014). Checkpoint 5.1-Use multiple media for communication also recommends providing alternate media for expression (CAST, 2014).
 - o Use the Coffee Shop discussion board to create a more social dimension to the course by hosting office hour sessions on a social media platform. Ask students which social media platform they would prefer at the beginning of the course. This would meet Checkpoint 8.3- Foster community and collaboration (CAST, 2014). The current iteration of the Coffee Shop lacks any motivation for students to engage in discussion; soliciting student feedback could recruit interest and show students that their voice matters in the class.

- Learner Demographic C: ESL Learner
 - o Priority 1 with rationale: Create a UDL solution to support ESL and "international learners who may or may not have disabilities" (Tobin and Behling 2018, 170) by purchasing a course-wide license of text-to-speech software such as Read and Write Gold (Checkpoint 5.2). This tool would reduce barriers to learning for ESL learners in the US History to 1875 course by providing a tool for the composition and construction of course material (Checkpoint 5.2).
 - o Priority 2 with rationale: Promote a cross-linguistic understanding of curricular materials for ESL learners who are new learners of the dominant and academic languages that are foundational in the U.S. History to 1875 course curriculum. To achieve this goal, all critical course information in the dominant language of English would also be available in first languages (Checkpoints 2.1 and 2.4). Additionally, key vocabulary words and domain-specific vocabulary in the US History to 1875 course curriculum would contain cross-references to definitions and pronunciations in both the dominant and heritage languages (Checkpoints 2.1, 2.2, 2.3 and 2.4). Next, electronic translation tools or links to multilingual glossaries on the web would be part of the U.S. History to 1875 course curriculum toolkit for ESL learners. Finally, vocabulary clarification multimedia (.e.g., pictures and videos) would include visual, non-linguistic supports (Checkpoints 2.4 and 2.5).
 - o Priority 3 with rationale: "An English-language learner might find language experimentation threatening" (CAST, 2018), so it will be essential to establish the US History to 1875 course as a safe place for learners. (Checkpoint 7.3). Additionally, reducing potential threats and distractions in the learning environment will allow ESL learners to concentrate on learning (Checkpoint 7.3). Therefore, the second element in the U.S. History to 1875 course is "The Coffee Shop," which should contain additional content that addresses the teacher's expectations of all learners. This content would outline acceptable student conduct, proper communication guidelines, and a US History to 1875 course integrity statement. The goal of these documents would outline teacher and course expectations by creating an accepting and supportive classroom environment (Checkpoint 7.3). In addition, all learners would set personal and academic goals that would be shared electronically and discussed with the teacher (Checkpoint 7.1).

Section 5: Brainstorm UDL Strategies

Section 5 of the course project will ask you to identify strategies to address improvement priorities in ways that align with checkpoints of the UDL framework. Use this space to begin the

work of ideating and researching strategies that could be implemented within the course module you are analyzing for this project.

- Brainstorm idea A
 - o Initial research source: The primary source for strategies on the student with visual impairment is *FamilyConnect*, a service of the *American Printing House for the Blind* (APH). They have published an excellent resource, [Accommodations and Modifications at a Glance](#), which offers teaching & learning strategies for students with visual impairment. One example includes using models as an alternate strategy, for students to kinesthetically feel the shape and texture of learning objects. This course could integrate models of historical artifacts that are described in the modules, such as vehicles, clothing, plants and animals, weaponry, landscapes, etc. UDL Checkpoint 5.1 and 5.2 offer a lot of room for growth in this course, to enable learners to communicate and compose using a wide range of tools.
- Brainstorm idea B
 - o One strategy would be to focus on multiple means of expression- Checkpoint 7.1: Optimize individual choice and autonomy throughout the module. The current module design is very one-track and doesn't allow for much individual student choice. An initial research source can be *Reach Everyone, Teach Everyone*, especially Chapters 5 and 7.
- Brainstorm idea C
 - o Initial research source: Several UDL strategies could facilitate ESL learner success in the US History to 1875 course. First, a course-wide license of text-to-speech software such as Read and Write Gold would reduce barriers to learning for ESL learners by providing a tool for the composition and construction of course material (Checkpoint 5.2). Next, the US History to 1875 course must embed dominant and heritage languages throughout the curriculum (Checkpoints 2.1 and 2.4). Establishing the US History to 1875 course as a safe place for learners requires establishing course documents that outline teacher and course expectations to create a supportive learning environment (Checkpoint 7.3).

Conclusion: Milestone Questions and Comments

All three learner types selected as a focus in this report provide important case studies. The student with visual impairments might require a dedicated set of interventions that correspond to the specifics of their condition. A blind student will need access to learning tools such as screen readers, braille displays, and oral descriptions embedded into visual media. These are dramatically different needs from a student with sensitivity to bright lights and color,

who will need a distraction-free environment that minimizes environmental threats to their learning. This use case alone provides a range of challenges that will be difficult to accommodate all at once. Having a professional instructional support staff who is also blind or vision impaired will help to ensure that these learners are properly accommodated in the course designs.

As we proceed with the UDL analysis, it seems like our improvement priorities for our three demographics need to be able to take the form of a strategy that will support each demographic. At what point in the project do we need to consider that? For example, one of my strategies is to create a more robust discussion and collaboration space using social media in the Coffee Shop discussion board that the instructor created. This doesn't seem like it would support a visually impaired learner or possibly an English language learner either. Will we shed this priority from Week 5 to Week 7? I can see how needing all the strategies we choose to authentically address each learner demographic's needs would be very challenging.

The three learner demographics in our group document contain strengths and obstacles they bring to the learning environment. Additionally, we proposed three improvement priorities for each learner demographic representing the three UDL principles. As we proceed with the analysis, will our presentation keep the three learner demographics separate, or will we combine them in some fashion? Similarly, will our proposed three improvement priorities incorporating the three UDL guidelines for each learner demographic remain separate, or will there be a space for combining the findings of our analysis? Finally, are the UDL guidelines, course textbook, and additional course materials sufficient for the resources for my ESL Learner analysis?

Module 7 Milestone Two

- David: Mobile Learner Strategies, Section 6 Exemplar Media, Section 7: Assessment
- Ethan: Vision-Impaired Learner Strategies, Section 6 Exemplar Audio Tools Resource
- Rick: ESL Learner Strategies, Section 6 Exemplar Video

Course Context

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Section 5: UDL Strategies

UDL Strategies for Learner Profile A: Student with Visual Impairment

- o **Connect to Section 4 improvement priorities**
 - Present a comprehensive resource explaining the assistive technologies available to all students. Address *UDL Checkpoints 7.2 (Improve exercises for authenticity and relevance)*, *Checkpoints 8.1 (Display goals in multiple ways)*, and *Checkpoint 9.1 (Promote expectations and beliefs that optimize motivation)*.
 - Design a 'tools' resource to introduce text-to-speech tools, and speech-to-text tools embedded in the course. Explain how to use Kurzweil app, USB Braille Display, Closed Captioning, and similar resources for all learners who wish to engage with audio-enhanced resources. Highlight the accessibility tools that are built-in to Windows computers, Apple computers, smartphones, web browsers, and PDF readers. Tools may include text-to-speech applications, speech-to-text apps, and basic tools included on smart devices, which allow students to customize display of information (increase/decrease text size, for example).
 - Re-design the course to include rich-media resources that are digitally accessible, and stimulate a range of sensory capabilities. Address *UDL Checkpoints 1.1, 1.2, and 1.3* regarding diverse presentation of visual and auditory information.
 - Re-design multimedia presentations with accurate closed captions and embedded oral narrations/descriptions of visual content. Images should include alternate-tags and/or audio alternatives.

Webpage design should utilize simple HTML structure and formatting to accommodate screen-readers and similar assistive technologies. Create an auditory and/or textual description for all visual components in the course. Likewise, offer visual alternatives for all auditory and plain textual elements.

- Integrate [APH recommendations](#) into engagement strategies for students with visual impairment. For example, provide an audio format for any visual or textual materials. When possible, encourage the use of physical models and provide experiential learning opportunities.
- Add an Experiential Learning Assessment to the course, to replace one of the multiple-choice exams. Address Checkpoints 7.1, 7.2, 8.1, 2.5, 5.1, and 5.2 (Optimize individual choice and autonomy, Optimize relevance and authenticity, Heighten salience of goals, Illustrate through multiple media, use multiple tools for communication, construction, and composition).
 - Replace one multiple choice assessment with the option to visit a local place that has historic significance to any of the course's chapters. During or after the visit, student should write or record a reflection of the experience, to include images, text, and/or audio introducing the location and explaining the significance of historic events occurring there.
 - This project will add a personalized opportunity for students to engage with their local community using a range of audio, visual, and textual tools. This enables students to choose their own location, and choose from a range of tools to document their experiences, and compose an essay using any media format. This will optimize autonomy & authenticity for individual students, and practice using multiple media tools for these exercises. For visual-impaired learners, this experience will enable them to have a first-hand opportunity to hear, smell, and feel the presence of historical artifacts, rather than experiencing these second-hand through books or websites.
- o **Rationale:** Learners with visual impairment will need specialized tools that match their needs. Beyond that, courses must be designed to accommodate visually impaired learners, which also provides value to students of all ability levels. The strategies listed above directly support the UDL principles listed, with the listed strategies to integrate into course design.

o **Research support:**

- American Printing House for the Blind (APH): [Accommodations and Modifications at a Glance](#)
- [VocalEyes: Guidelines for digital accessibility: film – VocalEyes](#)
- [Perkins School for the Blind: Creating Videos with Visual Impairments](#)
- Apple Computer: [Accessibility Tools on Apple Devices](#)
- Microsoft Windows: [Accessibility Tools on Windows Devices](#)
- Google: [Accessibility Tools on Android Phone](#)

UDL Strategies for Learner Profile B: Mobile/digital learner

o **Connect to Section 4 improvement priorities:**

- Strategy: Create flexible opportunities to build community and extend learning
- Checkpoint 8.3- *Foster community and collaboration* and Checkpoint 5.1- *Use multiple means of communication* (CAST, 2014)
 - Use the Coffee Shop discussion board to create a more social dimension to the course by hosting office hour sessions and an informal discussion board on [Twitter](#). The instructor and students can use a hashtag with the name of the course in order to follow posts from peers. The current iteration of the Coffee Shop lacks any motivation for students to engage in discussion; soliciting student feedback could recruit interest and show students that their voice matters in the class.
 - Allow students to use different media platforms to post on the discussion board for each module. Instead of restricting student posts to written text, offer them the options to create a video or audio file, submit a diagram, or create a Google Slides presentation. These are all options that mobile learners can use to participate in discussions.
 - Create granular learning opportunities within the module by using [Quizzizz](#), [Kahoot](#), or similar quiz software so students can review key concepts. For each quiz software, the instructor can select an asynchronous learning option and post a quiz link so students can take the quiz individually and repeatedly to practice learning key concepts.

- o **Rationale:** Learners that are accessing the Canvas course primarily through smartphones need strategies and learning opportunities that make full use of this technology. They also need resources that can be used in small five to twenty-minute chunks and through an audio medium. Mobile learners may be

only able to access the curriculum while on the go or during short breaks at a job, so they need access to resources that they can use through their smartphones. Finally, smartphones have many social media apps already built in; we can use these apps to create a sense of community in the course by creating a Twitter, Instagram, or Facebook page for the class.

o **Research support**

- [Building Community in Online Learning Environments](#)
- [Community Building in the Classroom](#)
- [Get Present](#)
- [Creating a Fluid Learning Environment](#)

UDL Strategies for Learner Profile C: English as a Second Language Learner (ESL)

o **Priority 1: Connect to Section 4 improvement priorities**

- Create a UDL solution to support ESL and "international learners who may or may not have disabilities" (Tobin and Behling 2018, 170) by implementing a course-wide license of text-to-speech software such as Kurzweil 3000 (Checkpoints 4.2, 5.1, and 5.2).

o **Rationale**

- Implementing Kurzweil 3000 would reduce barriers to learning for ESL learners in the US History to 1875 course by:
 - Optimizing access to tools and assistive technologies (Checkpoint 4.2)
 - Facilitating learner use of multiple media for communication (Checkpoint 5.1)
 - Providing learners with automated speech-to-text software allows for multiple construction and composition tools (Checkpoint 5.2).

o **Research support**

- Tobin, Thomas J, and Kirsten Behling. 2018. *Reach Everyone, Teach Everyone: Universal Design for Learning in Higher Education*. Morgantown West Virginia: West Virginia University Press.
- [Kurzweil 3000 Supports ELL Learners](#)
- [Using Technology as a Solution for English Language Learners in Higher Education](#)
- [Using Text-to-Speech Software to Improve Reading Outcomes Among Secondary Struggling Readers](#)

o **Priority 2: Connect to Section 4 improvement priorities**

- Promote a cross-linguistic understanding of curricular materials for ESL learners who are new learners of the dominant and academic languages that are foundational in the US History to 1875 course curriculum by implementing Kurzweil 3000.
 - o **Rationale**
 - Implementing Kurzweil 3000 would reduce barriers to learning for ESL learners in the US History to 1875 course by:
 - Embedding support for vocabulary, symbols within the text, and unfamiliar references within the text (Checkpoints 2.1)
 - Providing all critical course information is in the dominant language of English and would also be available in first languages (Checkpoint 2.4).
 - Furnishing key vocabulary words and domain-specific vocabulary in both the dominant and heritage languages (Checkpoint 2.4).
 - Implementing vocabulary clarification multimedia (Checkpoint 2.4)
 - Providing electronic translation tools (Checkpoint 2.4)
 - Promoting understanding across languages (Checkpoint 2.4)
 - Illustrating classroom materials through multiple media (Checkpoint 2.5)
 - o **Research support**
 - Tobin, Thomas J, and Kirsten Behling. 2018. *Reach Everyone, Teach Everyone: Universal Design for Learning in Higher Education*. Morgantown West Virginia: West Virginia University Press.
 - [Assistive Technology, Universal Design, Universal Design for Learning: Improved Learning Opportunities](#)
 - [Assistive Technology in Special Education and the Universal Design for Learning](#)
 - [Using Text-to-Speech Software to Improve Reading Outcomes Among Secondary Struggling Readers](#)
 - o **Priority 3: Connect to Section 4 improvement priorities**
 - "An English-language learner might find language experimentation threatening" (CAST, 2018), so it will be essential to establish the US History to 1875 course as a safe place for learners. (Checkpoint 7.3). Additionally, reducing potential threats and distractions in the learning environment will allow ESL learners to concentrate on learning (Checkpoint 7.3).
 - o **Rationale**

- The second element in the US History to 1875 course is "The Coffee Shop," which should contain additional content that addresses the teacher's expectations of all learners. This content would outline acceptable student conduct, proper communication guidelines, and a US History to 1875 course integrity statement. The goal of these documents would outline teacher and course expectations by creating an accepting and supportive classroom environment (Checkpoint 7.3). In addition, all learners would set their own personal and academic goals that would be shared electronically and discussed with the teacher (Checkpoint 7.1).
 - **Research support**
 - Tobin, Thomas J, and Kirsten Behling. 2018. Reach Everyone, Teach Everyone: Universal Design for Learning in Higher Education. Morgantown West Virginia: West Virginia University Press.

Section 6: UDL Exemplar

We offer three concrete improvements for the Canvas Course *US History to 1875*. These are selected to benefit, *at very least*, the three learner demographics featured in this report.

- **Learner A: Vision Impaired Learner:** We offer a dedicated set of resources that list alternative tools and processes available to students who wish to use audio-enhancement tools to participate in the course. These resources are presented to all students at the outset of the course, providing an alternate means of representing information. While the tools may be most relevant to the Visual-Impaired Learner, they ultimately support any student who wishes to utilize tools for audio-enhanced learning. UDL Guideline 1 is addressed by this intervention, which allows students to “display information in a flexible format,” and “provide access to text-to-speech software.”
 - Example 1: [Kurzweil 3000](#) - This is a text-to-speech tool that is institutionally-supported, and can be used to read aloud textual content from any computer application. Students may use Kurzweil 3000 to listen to the course texts, instead of reading it, or perhaps to do both simultaneously. This is a tool that directly supports students with vision-impairments, while enabling a new means of auditory representation for all students. We encourage the teacher and/or course designer to offer the embedded link here, plus a guided tutorial on how to use the software with course materials.
 - Example 2: [Dragon Voice Recognition Software](#) - This is a mobile dictation application that enables users to speak aloud while the app transcribes the words into a textual format. This is a hands-free alternative to composing text, especially helpful for students with difficulty using a mouse and keyboard. This application is an industry standard, but most computers and smartphones have a

built-in functionality for voice recognition that is a good option as well. This application is not institutionally supported, and should be offered as an option for those students with a specific need for speech-to-text capabilities. For the general population, we encourage the teacher and/or course designer to offer the resources directly below, plus a guided tutorial on how to use these within the course context.

- Example 3: Offer resources to students to understand the basic accessibility features included on their own devices. Most consumer smart-devices like phones and laptops have a built-in text-to-speech functionality. Teacher and/or course designer should share the resources below, and offer a guided example on how to utilize basic accessibility features built-in to computers and smartphones.
 - [Accessibility for Apple Computer Devices](https://www.apple.com/accessibility/vision/) also available at URL: <https://www.apple.com/accessibility/vision/>
 - [Accessibility Tools for Microsoft Windows Devices](https://www.microsoft.com/en-us/windows/accessibility-features): also available at URL: <https://www.microsoft.com/en-us/windows/accessibility-features>
 - [Accessibility Tools for Android Devices](https://support.google.com/accessibility/android/answer/6006564) also available at URL: <https://support.google.com/accessibility/android/answer/6006564>

- **Learner B Mobile/Digital Learner:** For the Mobile/Digital Learner we offer a set of ‘snackable’ rich-media resources that are optimized for students to participate using their mobile devices. These resources are meant to supplement the course textbook, but not completely replace it. Students should be offered a choice of formats for each lesson and encouraged to alternate between formats to engage a range of senses while reading, listening to, and viewing course content. Teacher should use an analytics tool such as [Canvas New Analytics](#) to monitor student engagement across content options, and nudge students as needed to practice a range of media formats. Students should practice different media types when consuming content, producing content, and while communicating with others.
 - [1. Native American creation stories](#)
 - [Stories That Made Us Podcast: Seneca Story of Genongwa](#)
 - [Stories That Made Us Podcast: Cherokee Tale of the Hunt and Corn](#)
 - [Stories That Made Us Podcast: Three Ojibwe Tales](#)
 - [2. Journal of Christopher Columbus, 1492](#)
 - [The Columbian Exchange](#)
 - [Podcast: Christopher Columbus, the man who didn't discover America](#)
 - [3. An Aztec account of the Spanish attack](#)
 - [In Our Time Podcast: The Aztecs](#)

- [Explorers Podcast: Hernan Cortes and the Conquest of Mexico](#)
 - [4. Bartolomé de las Casas describes the exploitation of Indigenous people, 1542](#)
 - [The Spanish Empire](#)
 - [5. Thomas Morton reflects on Native Americans in New England, 1637](#)
 - [Native Americans and the English](#)
 - [Unsung History Podcast: Wampanoag and the Thanksgiving Myth](#)
- **Learner C: English as a Second Language Learner (ESL):** The original Text for our selected course is the [American Yawp Project](#), a “Massively Collaborative Open U.S. History Textbook.” While this written text is a valuable tool, we offer an alternative multimedia presentation that reads the text aloud with text captions (both open and closed captions). This is a valuable alternative means of representation for both ESL students, hearing-impaired students, and vision-impaired students using a screen reader.
 - Video: [American Yawp Section II](#) - Available via Canvas Course “Media Gallery”

Section 7: Assessment Strategy

- Strategy to assess effectiveness of UDL implementation: In order to measure how effective our UDL implementation is, we elected to use three tools of measurement: screen time for the Canvas module via [Canvas New Analytics](#), assessment scores, and a student survey both before and after the course, asking them to rate the tools used in the UDL implementation. This assessment will focus on the materials for a single module in order to simplify and track the input as we iteratively update content during the course.
- By measuring screen-time via the New Analytics Canvas tool, we can quantitatively measure how engaged students are with the course. The Canvas instructor can run a report for individual students that charts their average page views and average participation for each week of the course. Posting comments, submitting assignments and quizzes, and joining collaborations are ways to generate a participation data point. We could track the change in page views and participation within the course itself if we implemented our strategies mid-semester, or we could compare data from a previous semester with data from the semester after our implementations. With increased accessibility and engagement strategies from our UDL implementation, an overall rise in page views and participation means that students would be spending more time on the Canvas module, therefore demonstrating that the strategies are effective. A stagnant or decreased amount of page views and participation means that the strategies would not be effective, and we would have to reassess our methods.

- Likewise, we will compare student grades with the pre- and post-implementation surveys, to measure how well students are engaging with the learning objectives. Faculty is also encouraged to have informal conversations with students about their perceptions of the course throughout the semester, to gather additional qualitative data. Smith's post-survey questions could be especially useful for the data-gathering activity (Smith, 2012).

Research support

- [Canvas New Analytics](#)
- [Analyzing a College Course that Adheres to the Universal Design for Learning \(UDL\) Framework](#)
- [Recommendations to Increase Student Engagement in Online Courses](#)

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