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Planning for Student Initiative: Creating A Digital Textbook

This paper is for elementary social studies methods professors who would want to have their undergraduate or graduate students create materials to enrich elementary social studies materials. University students get the experience of creating the materials they will use in their future classrooms. This paper seeks to explore the question, what is the nature of the experience for university students creating a digital elementary social studies textbook? The purpose of sharing the question illustrates that the education profession is not required to continue to use textbooks created by publishing companies in the digital age. Even though this paper describes a team of undergraduate students writing a digital textbook a team of graduate students could also create a text. Moreover, a team of teachers from each school corporation could similarly create their own book for their school district.

In an interdisciplinary seminar, undergraduate students contributed their skills in computer, education, graphic arts, history, layout and design, telecommunication, and writing to produce a digital fourth grade Indiana studies textbook (NCSS, 1994). The students collaborated both with their team and with professionals in education, historical, and cultural organizations. The students worked with leaders of the anthropology, civics, economic, geographic, history, and sociology communities as well as classroom teachers and leaders in elementary social studies education. The students presented their work through a series of elementary social studies teacher in-services. Students needed structures where they could create. A professor created that environment, and the students gathered information they used to create a new product *Crossroads Connect*, a digital Indiana social studies textbook at the Virginia B. Ball Center for Creative Inquiry.

Virginia B. Ball Center for Creative Inquiry

At Ball State University, named after a philanthropist who valued education, the university established the center in 2000 in hopes that it would help forge connections between the University and local Muncie community. “Virginia B. Ball worked to enable scholars to become engaged citizens and citizens to pursue lifelong learning,” says Joe Trimmer former director of the Virginia B. Ball Center for Creative Inquiry.

Immersive learning at Ball State University included students receiving academic credit and focusing on student learning outcomes while they worked in a student-driven but faculty mentor guided active learning process. The students produced a tangible product, such as a digital textbook. At least one team of students, often working on a project that was interdisciplinary in nature, included

community partners to create an impact on the larger community as well as on the student participants. The community partners helped the students by both providing advice and reflecting the community standards of a quality product. The project helped students define a career path and make connections to a profession by meeting leaders in the field. Each student was to emerge with skills they could transfer directly into an interview or career.

The projects undertaken in the center were as different as the students involved themselves. The groups of students that enrolled to work on these immersive opportunities included a wide variety of disciplines and backgrounds. The students took fifteen hours of academic credit at the Virginia Ball Center and worked there from eight to five, Monday through Friday. It was one topic and one commitment that they could work in their class full time without other distractions. The department that was granting credit decided that each course needed a course outline so six course outlines were created with a different course number at the top.

Virginia Ball Center students at Ball State University researched, wrote, illustrated, and marketed a fourth-grade social studies text delivered through tablet technology. While the original plan was to do one unit as a test for a publishing company the students found that they made better progress than they expected. Lisa, one of the students, said, “We voted and came to the conclusion that we would . . . write the whole book (L. Hensel).”

When the students monitored their learning, it was especially important that they had a mechanism to foster communication within the team. To do this, the students engaged in stand-up meetings every morning for daily team communication where they told the group what they did in the last twenty-four hours, what they were working on next, and what was standing in their way. When the students showed what was standing in their way the professor gave them resources to help the students to be successful in completing their task. Students used Google Docs for file sharing. Most of the time the professor worked with students in studio time as they created the products of the project.

At the beginning of the week, students used the scrum board to organize and select the sprint tasks and backlog management they would work on for this next week (<https://www.scrum.org/>). Scrum comes from computer science and it is used in solving problems with creative teams. The goal setting was particularly difficult because the students had never done this type of work before or worked this extensively with a team; it was hard for them to predict how long tasks would take. They tended to be overly optimistic on how quickly they would accomplish tasks. While the students found the process burdensome it did help them to pass information quickly and easily between members of the group. The students completed all parts of the project, including the elimination or prevention of backlogs. At the end of the week, on Friday, students had a sprint retrospective

review where they determined what they had done well and what they need to change as they set new goals for the next week; it was not just work, it was a learning experience. The sprint is the time between scrum reviews. At the sprint review teachers, content experts, and educational leaders reviewed the progress of the team as the client they are working to satisfy.

Partners

The students at the Virginia B. Ball Center included majors in anthropology, chemistry, English, a secondary education, history, Spanish, and telecommunication. This type of eclectic group was typical of immersive learning projects that combine student interest with a needed set of skills to accomplish a task. The immersive learning team did not know how to do everything when they interviewed for the class, but they did need to provide a couple of references who could speak to their ability to accomplish tasks and work well with others. While a high-grade point average certainly helped the student, it was not necessary to be a part of the program. If the grades were bad, the references were good, and the student was passionate about the project the student received another opportunity to thrive.

The reason for creating this textbook was the emergence of the electronic education market. Schools had begun to digitize themselves through introductions of laptops and tablets within their curriculum. Lisa said:

Our team's goal was simple. We wanted to create a textbook about Indiana written by people who have roots and connections to the state of Indiana. We wanted to provide a community created and culturally accepted history of the state. The team hoped to give students an interactive experience with this hands-on learning tool along with the use of a popular digital medium. Ultimately, we wanted a book that students would enjoy. We wanted to hold student's attention with a digital format, while expanding their retention with the use of this hands-on learning (L. Hensel).

The team hoped that by producing a textbook in a digital from, they could give a new, interactive, and immersive digital history textbook.

Internal Partners

Internal partners were people within Ball State University who helped the students to be successful in the project. The employees of either the Virginia Ball

Center or Ball State acted as internal partners and as such had faculty or staff oversight. Lisa said:

We also met with the Graphic Information System Research and Map Collection department, the Archeology Lab, the Graphic Arts, and a landscape professor who aided us with a hay press animation. After meeting with all these groups, we begin editing all the written work to come up with a solid copy of the first unit. We then called a team meeting to discuss what sort of features we think should be included in the textbook and how each feature would help children in their learning process. We met with the Design Studio to see whether these features could be accomplished. We were pleased that most of them could (L. Hensel).

Virginia Ball students met with Ball State music students, who along with one of the students in the class, composed contemporary music, performed historic music, and recorded it for the book. The Virginia Ball students interviewed the music students and provided them with samples of what they wanted. The music students took it from there, and the Virginia Ball students approved all the files they transferred into each chapter of the book.

Students collaborated with student technology groups to create digital magazine spreads. The Design Studio did the layouts and allowed Virginia Ball Center to publish the book in color (see appendix 1). The Design Studio students majored in journalism with design backgrounds. Virginia Ball Center students spent many hours in quality control establishing a format that would work for both teachers, elementary students, and communicate the content the scholarly community desired. The Virginia Ball Center students revised the manuscript multiple times. The Design Studio students maintained a consistent look throughout the entire project and helped to establish a brand for the book.

The Digital Corps. are a group of students with design, telecommunication, and computer science skills. The Virginia Ball students needed no telecommunications work, a small amount of design work, and a lot of computer science work to build the three small games for the book. The Virginia Ball students submitted wire frame designs and explained what they needed elementary students to do in the book. The Digital Corps. designed the three games and the voting feature for the controversial issue segment of each chapter in the book. Digital Corps. students did an excellent job of meeting with the team every two weeks to discuss progress and display drafts.

External Partners

External partners were people outside of Ball State who helped to make this project a success. The students started the class with phone conferences with representatives from organizations, agencies, and institutions. The team asked the partners in the phone conversation what they would want an elementary social studies text to do and resources that they would suggest including in the book. Later, the students handed the partners drafts of the text for them to review, and their comments led to a complete overhaul of the book's organization, reinterpretation, additional topics to include, and the removal of misconceptions.

The partners provided a peer review panel to help the students reflect on the quality of the project. This product served to directly market the services offered by institutions and agencies to teachers and students in classrooms without the mediation of textbook companies. The interpretive priorities of individual sites translated directly to teachers as they worked with their students through a direct link on the tablet to the home institution. Their involvement included reviewing text, suggesting resources, and offering connections to content experts. Institutions and agencies suggested revisions, vetted the content, and provided primary sources. The Virginia Ball Center students worked with a variety of historical organizations, agencies, and institutions to learn more about the fields of social science, elementary education, publishing, and marketing.

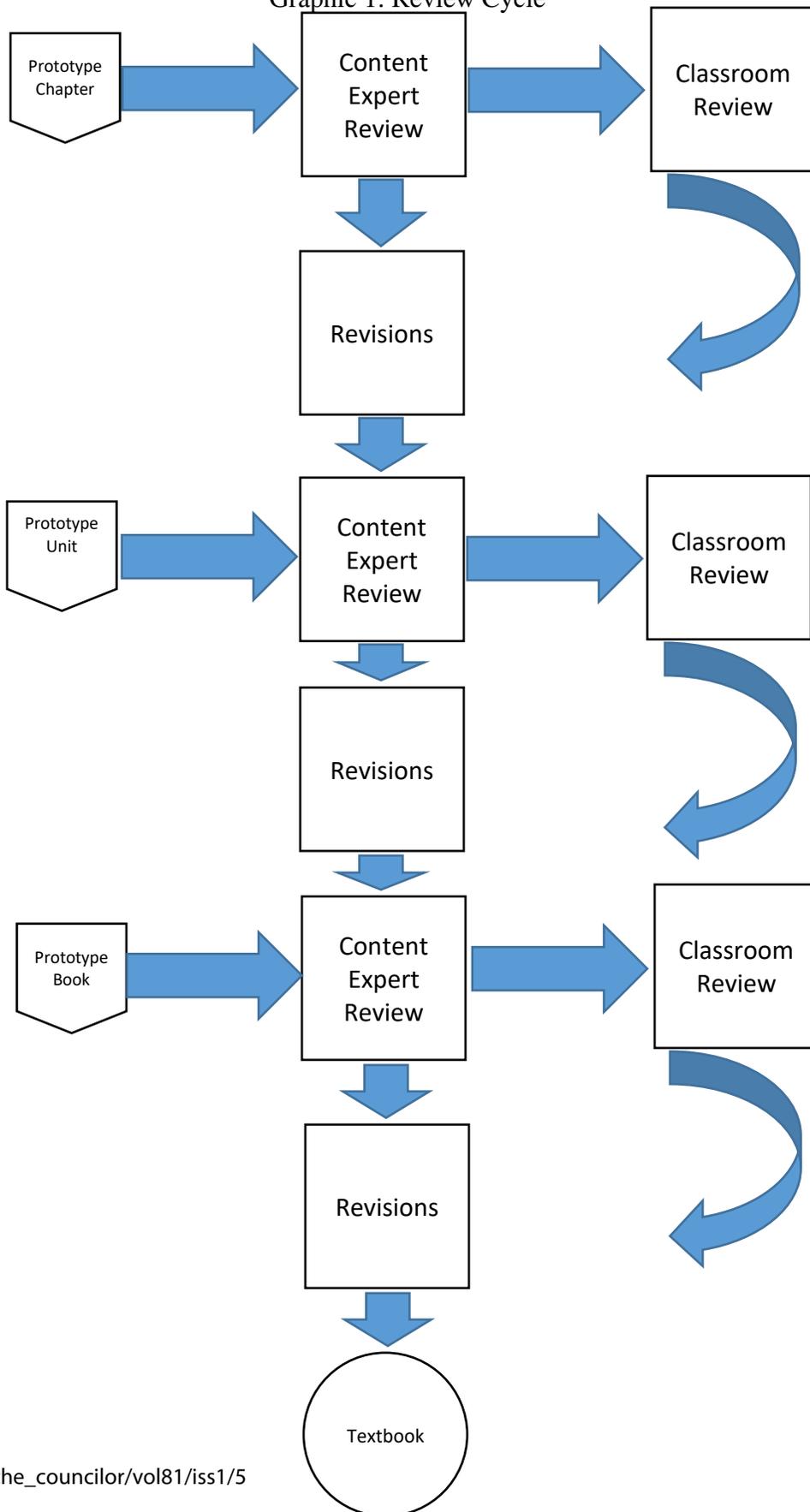
The review cycle occurred for the first chapter, for the first unit, and for the book. Content experts first reviewed each draft then teachers reviewed it. After each step, students performed review edits.

Process

The students started this project by reading two books *The Indiana Way* (Madison, 1990) and *A People's History of the United States* (Zinn, 2005). The Virginia Ball students explored the two books to learn how state and local history had been treated in the past and how authors had specifically included some stories to look at diverse perspectives. The students divided themselves into subgroups of a research team, a writing team, and an editing team to complete the project. They began the writing process of the textbook by dividing the work evenly throughout the groups. This meant that each member took responsibility for a section or two. They employed the use of a wide variety of the Ball State resources. This included academic journals and databases, articles, and the Ball State library. They began by wading through books, articles, and web sites to collect and organize the stories they needed. The students examined major trends, people, and events in the text while exploring multiple perspectives, controversial issues, and historical empathy.

The students desired to build significant content knowledge through examining controversial issues. The students wanted to include examples of

Graphic 1: Review Cycle



women and people of color who made significant contributions, but not included in traditional social studies texts. The students included stories about women, Native People, suffrage, Black Americans, immigrants, Latino/a, labor, and Asians. They built opportunities into each chapter for controversial issues and decision making; in addition, they tackled hard stories of removal, exclusion, disenfranchisement, and hate. Included were familiar stories and students worked to incorporate the latest scholarship about the topics under consideration.

Students started the process by reviewing the Indiana Academic Standards while the Indiana Department of Education and the Indiana Legislature decided to debate the merits of the Common Core Standards. The textbook progressed as the state gave conflicting messages about what state standards would look like for students and teachers in fourth grade classrooms. After completing the teacher edition, the state issued the new standards which resulted in the rewriting of all the language arts and mathematics standards and activities. While the state renumbered the social studies standards, they did not make significant changes to them. Fortunately, the digital platform was much more resilient than the paper format and changes were made without recalling all the former materials. (appendix 2)

After discussing all these features, the students met with the Design Studio who presented the students with a few prototypes to choose from. The students could then take the prototypes out for elementary student testing. The elementary students concluded the best ways to orient the page on the tablet, colors choices, organization of content, navigation, and layout features. By the second week of September Virginia Ball students were asking elementary students and teachers about their needs. The team travelled to elementary schools all over the state to see what sort of features the students liked best and which prototype was easiest for students to use. The Virginia Ball students also gave the elementary students and teachers a variety of designs, color schemes, and tablet orientations, then asked them to pick the option they liked the most. The team found that elementary students preferred left to right navigation, which resembled flipping through a book. The Virginia Ball students gave the elementary students and teachers a list of names and asked them to select the name of the project.

Students gathered content from each county in Indiana to include in the book. The team presented a rough draft to the elementary students and teachers, and they admired the interactive features built into the textbook. Elementary students also liked the artifacts and primary documents presented in the lessons. This piqued their interest on the topics, while also providing them some

experience with primary sources. After the team saw the elementary students' comments, the team edited the content and then prepared presentations for both teachers and the state partners. The teachers' comments focused on state standards and incorporating some topics not yet mentioned. The state partners focused their comments on the content. While some were interested in the first unit dealing with the pre-1800s, others were more interested in the 20th Century unit. The editing team responded to the comments and suggestions that were mentioned by all the elementary students, teachers, and state partners. All of that happened prior to sending the book to an elementary school for field testing.

One of the huge tasks was getting permission from every institution for each image, video, and music clip used in the book. An articulate public history major with interests in working in archive collections came to the aid of the group. She checked and rechecked the book to protect the book from litigation. The Indiana Historical Society, the Library of Congress, and the Indiana State Archives contributed most of the images. Occasionally, the partners suggested items for the book, but in the permissions process the same institution that suggested something then decided on a fee to use it. While disappointed, the team declined these requests for money.

Content

The students divided the book into four separate units based on specific chronological periods of Indiana from prehistory to present, created three chapters in each unit, with three lessons per chapter. They worked with content from four areas listed in the standards: civics, economics, geography, and history. The idea was that the teachers would receive an abundance of information and options to fulfill the standards and that they would be able to select what was most interesting for their elementary students. In addition, with the extensive coverage of standards, the elementary students could make choices on what they wished to learn. The students examined major trends, people, and events in the text while exploring multiple perspectives, controversial issues, and historical empathy. The team decided to represent women and people of color in parity with figures traditionally equated with state and local history. Further the Virginia Ball Center students tried to build first person accounts and primary sources into the text to encourage elementary student empathy with historical figures. Virginia Ball students worked to incorporate at least one primary source into every page for students to practice interpreting the sources in everything they explore.

In the first unit, the students covered the time from prehistory to 1800. They opened the chapter in the first lesson by discussing Indiana's ancient ancestors the Paleo-Indians. Early peoples built the giant earthen features which gave Angel Mounds State Park in Evansville, Indiana its name. In the following

chapter the students described contact between the Eastern and Western hemispheres. George Rogers Clark emerged with the opportunity to spread democracy west of the Appalachian Mountains when Congress passed the Northwest Ordinance of 1785.

In the second unit, the students wrote about the 1800s. In the first chapter, the students wrote about the creation of the Indiana Territory from the Northwest Territory and the resulting conflict between Native Americans and Indiana settlers including the role of Hoosiers. In the second chapter, the students discussed Indiana statehood with details about Hoosiers and transportation. Students documented attempts at Indian removal. The students developed the third chapter to explain issues of slavery, the Civil War including Confederate Morgan's Raid, and the rise of business before, during, after the war.

The students explored the twentieth century in their third unit. The students looked at the march of events from World War I, the African American Great Migration, Women's Suffrage, the rise of the Ku Klux Klan under D. C. Stephens as a response to the changes brought by World War I, the Great Depression, and World War II including Ernie Pyle. In the second chapter students examined the twentieth century through the events of art, automobiles, business, recreation, and leisure including the first running of the Indy 500. The students wrote about the impact of the Cold War between the United States and the Soviet Union. The fear of communists dominated thinking during the period.

In Unit four, students explored present day Indiana through chapters on economics, geography, and government. Elementary students made extensive use of maps and graphs to interpret data in this chapter. Indiana geography included descriptions of physical geography and used state recreation properties to illustrate ideas about the environment and ecology: water, life, and land. The middle chapter was about Indiana government including the state constitution, branches of government, and how elementary students acted as citizens. The concluding chapter ended with a picture of the world of business including international trade, world manufacturing, and recent technologies.

Book Features

Elementary students used tablets in their social studies classrooms and while doing so they accessed information. While teachers used technology in diverse ways as they reacted to new digital options, students used tablets to explore social studies information. Students' use of technology increased in social studies when students shared notes or edited wikis, used tablets to map concepts, and use web quests (Kahl & Berg, 2006; Lin, Wong, & Shao, 2012; Oliver & Corn, 2008). In each of these examples the students were manipulating data on their tablet to create new insights on their social studies knowledge. They both

explored content and processed it using social studies skills. Person-to-person communication increased, as did the enjoyment of using school technology; tablets seemed to improve both groups' interaction and communication.

Crossroads Connect delivered through tablet technology as an app, allowed elementary students to access information, interaction, and connect with the internet research opportunities. Elementary students learned about the history of Indiana using content distributed through the tablet. This textbook told the story of the many different people of Indiana and their contributions to enrich the quality of life of their communities. Further, the textbook was developmentally proper in reading level, met state social studies standards, and was interesting to students. Schools and parents downloaded it from the app store, and the tablet was compatible for both Android and IOS systems. Teachers in fourth grade social studies used text, primary sources, images, video, interaction, and embedded links to teach social studies content.

Components

The chapters followed a pattern of components to augment instruction (see appendix 3). The rich text involved elementary students in both problem solving and decision making through primary sources.

Primary Sources

Students used primary sources to examine stereotypes in the examination of the portrayal of women and Latinos. Students developed stereotypes from: direct experiences in and out of classrooms that have not changed, family conversations, and media images including textbooks (Buswell, 2011; Jackson-Abernathy, 2013; Lavariega Monforti, & McGlynn, 2010; Woyshner, 2006). Rather than being inclusive textbooks had changed little to represent women and Latinx in print and image. When students implemented changes for women and Latinos, the changes showed them only active in some traditional spheres. Teachers needed to use more primary sources to show a greater variety of roles for people in historical texts. Students used collections to shape a work that allowed for open ended discussion about images and provided students with context for archival collection images.

Students gathered evidence from documents and artifacts to learn history from primary sources. When evidence was not plentiful, especially from non-English speakers or illiterate groups, students composed narratives. Students learned civic efficacy when they examined controversial issues and used primary sources for evidence (Bennison, 2010; Nokes, 2010). Students represented more accounts of minority groups in the book. Students needed to work to construct

narratives of marginalizing groups by including stories from a variety of sources and considering the bias of the writers who saw the groups as other. Furthermore, the writing of history through deduction and induction helped give voice to people who did not leave their stories in plain view.

Students had the option of using actual evidence from archives and artifacts to link their narratives to the events they wrote about to specific people from the past. They built cases of evidence to identify individual soldiers using primary source materials. Digital libraries provided students with ways to work with primary sources that worked around traditional impediments to using original accounts of historical events and used artifacts as motivational tools to spur inquiry (Anson, 2009; Eamon, 2006). Visual and kinesthetic stimulation proved to be more engaging. Teachers had an opportunity to do more with primary sources than use them for decorative examples. Students used primary sources to compile interpretation based on data that they found through research in digital repositories.

Students used primary sources to learn about controversial issues and how they participated as citizens in a democracy. They worked with primary sources about Vietnam and Tocqueville to study how community members express activism and how social scientists discern information. Students who read the primary sources learned historical perspective and improved learning outcomes (Albert & Ginn, 2014; Howlett, 2004). The exposure to primary documents helped the students understand information and examined coalition building. Local primary sources also connected the student interest in examining policy change at the national level. Students learned about anti-war actions, change, and wide-ranging dissent.

Fourth grade students worked with sophisticated content to reach deep social understandings through civics, economics, geography, and history. Students critically examined texts to find information that was presented and found what was missing from the text. They used text to examine accounts, discern trustworthiness, and explore empathy (Baildon, & Baildon, 2012; Bryant, 2008; Lazarakou, 2008). Students reacted to bias toward First Nations, dull accounts, and indicted shoddy history methods. Other students examined how trustworthy the source was and what evidence they used to determine if it was trustworthy or not. Authors wrote empathy into the book. In social studies, students used primary sources to learn more about research and topics not adequately explored. Students examined primary sources to look at questions of gender, ethnicity, controversial issues, and create deeper pictures of representation at the intersection of those areas. Students created lists of notable people from a variety of ethnic groups to include in the text.

Crossroads Connects allowed students to explore the stories of people like them, their parents, their grandparents, and the people in their community. It

allowed them to compare stories of many different experiences to find out who their Hoosier neighbors were. Students had the opportunity to learn about inspiring heroes, successful reforms, and epic struggles to improve the human condition (see appendix 4).

With historical images on nearly every page of *Crossroads Connects*, maps, graphs, and charts helped elementary students to interpret data. These images were of primary documents, artifacts, historic buildings, landmarks, individuals, and groups of people. The images were expanded to many times their original size to help students read small type of historic script and aided with the visually impaired. A zooming feature allowed students to expand the font or photos to find data from text in primary sources or details in maps. Students had a pop-up caption on each image and open-ended question connected to each image to help students engage in discussion.

Read-A-Long

Teachers used read-a-longs for a long time because of the easy adaptation of early technology to the classroom such as records and cassette tape (Goodman, 1974; Gose, 1987). Read-a-longs allowed students to read material that was not at an instructional level. Based on foreshadowing, students made predictions about what they thought occurred next in the story. Students paid attention to their comprehension of read-a-long texts, acknowledged their mistakes without obsessing over their errors, and also used context clues in order to attack words in the read-a-long. Students were not penalized when they could not read the text. Through read-a-longs, they could access information and participate with the content the rest of the class was learning. A read-a-long feature allowed students who had difficulty through visual impairment, learning disability, or learning style an opportunity to navigate through the text successfully.

Digital Book Features

The team embedded links to institutional websites for further information within the textbook. Students used web links and embedded navigational links to access information in digital textbooks (Viau, & Larivee, 1993). Textbooks use web links to directly connect with content online. Web sites built into the text, allowed students to move directly to the collections of major historical institutions to learn more about a topic that interests them. This was optional for the reader, but many readers find that they link at their convenience rather than when the text directed them to click. Critics said that this was distracting, but proponents said that it allowed a student to go into depth. The tablet-based text allowed

elementary students to work with a variety of media, go immediately to research sources, and interact heavily with the text.

Elementary students brought the definition and pronunciation key to the screen with a touch to show text highlighted concepts. A tablet-based textbook presented students with features that allowed them to link directly to the text glossary as well as pop-up definitions with phonetic pronunciation. Students who navigated to the glossary received that information immediately as part of their tools with the text.

Textbook and Video

Some textbooks included video to teach content, and multiple possibilities existed for interactivity due to the nature of online learning. Instructional design included auto didactic textbooks, direct teaching, and video-based instruction. Media included multiple formats including computer assisted instruction, distance education, multiplatform interactive media, and web-based instruction (Liaw, 2004; Merkt, Weigand, Heier, & Schwan, 2011). Elementary students learned complex content using video interactions with text especially when the team built discrete activities into the video, for the participants to stop the video and worked to solve the task. Web-based constructivist instructional designed not just to parallel text but to be more effective than stand-alone text. Teachers used video for multiple years first through film, then VCR tape, DVD, and streaming formats.

Virginia Ball Center students shot video in *Crossroad Connects* to include in the book, and they included historic sites, geographic features, landmarks, people, state buildings, prehistoric sites, and state parks. The Virginia Ball Center students included these videos to help people see places in Indiana they may not get an opportunity to visit. Some of the videos did not have sound allowing for elementary students to do research and create their own script for the video. They recorded segments of first-person presentation to introduce elementary students to characters from the past. They also interviewed professionals to illustrate the work people do in the social sciences and related fields.

The digital text also included controversial issues on topics, and the Virginia Ball Center students recorded the fourth-grade students talking about both the pro and con of an issue. Each chapter had a pro and con section with a video of a fourth-grade student debating each side. Elementary students were given the opportunity to vote on which side they think was right, pro or con on the controversial issues. Then, the viewer saw an actual tally of what other fourth grade students thought about the issue. Elementary students engaged in decision making and could see how other students from across the state saw the issue.

Games and Textbooks

Some textbooks build games into the instructional features, and this feature allows students to interact through the game as a character in their learning. This type of format has been used in both social science and science texts, and the games are role-playing with the hope of motivational components. The games allow people to apply thinking to solve problems in the game format and also examine context through companion text or interact through a three-dimensional system to examine content (Barab, Scott, Siyahhan, Goldstone, Ingram-Goble, Zuiker, & Warren, 2009; Spielvogel & Spielvogel, 2014). There seem to be benefits for the long-term and short-term comprehension of material. Educators have used games since the 1960s and 1970s in social studies curriculum. These types of game textbook hybrids seem to point to a future platforms and applications of instructional models. Students built three small video games into *Crossroad Connects* to help elementary students learn about archeology, preservation, and entertainment. One of the more popular elementary student features was a self-checking comprehension multiple choice quiz included at the end of each chapter.

Marketing Efforts

To market the book, students created a website, wrote blog postings (Ball State University, 2015). They created a tutorial that showed all the components of the book and they created a Facebook page to attract attention to the book (*Crossroad Connects* Video Tutorial, 2013). In addition to creating news releases for text release, students created a marketing plan to coordinate their efforts.

In November, Ball State University students held a series of five elementary teacher in-services to present the book across the state of Indiana. The students planned these events, invited teachers to them, reserved the space and requested the audio-visual materials, created the handouts, and practiced their portion of the program. Students turned their experiences with the book into in-service opportunities and helped classroom teachers develop new sources of information for their elementary students. The students explained the features of the book, let the teachers explore the content on tablets, and teachers received classroom materials based on the curriculum developed for the book. Through this experience students learned to evaluate the strengths and weaknesses of these resources and communicated the results of their evaluations to teachers in elementary teacher in-service presentations where they will be demonstrating the operation of these texts to practicing teachers. At about the same time the Indiana Bicentennial Commission named *Crossroad Connects* a Legacy Project (Indiana

Bicentennial: *Crossroad Connects*, 2016) because it was a unique product to support youth of the state of Indiana.

In December, the students attempted to host a showcase to show off the book, thank our partners, and create an opportunity for alumni and prospective students to meet. The Virginia Ball Center students had a good time at the Ball State Center in downtown Indianapolis. The book looked impressive, and the students presented the book well. Unfortunately, despite efforts by Virginia Ball Center students with the Admissions Department, Alumni Department, and Honors College, our attempt to recruit potential undergraduates to Ball State University by mentoring them with Ball State Alumni was a numerical flop. Weather, a new attempt at a format, and the time of year conspired to make this disappointing.

In the spring semester, Virginia Ball Center students continued their interest in *Crossroads Connect* by presenting at the Ball State University Student History Conference, Indiana Association of Historians, Indiana Council for the Social Studies, Alumni Center, National Council for the Social Studies, and National Council for Undergraduate Research. One student continued to oversee the revisions of the Design Studio. The students engaged an art student to create a display for the Ball State University Campus with windows facing one of the principle streets of Indianapolis. By summer the *Crossroads Connect* exhibit was on, and it received attention from both motorists and pedestrians. Jon in charge of technology at Ball State University, and Wil, in charge of intellectual property, provided one student the opportunity to serve as the marketing agent to sell the text to schools. That process continued until the end of the fiscal year, but the student really did not have the skills needed to market a book in the highly competitive world of textbook sales.

Other Outcomes

All these experiences helped students understand how they could transition from their academic course work to career readiness. Virginia Ball students learned about professionalization and marketing their skills with representatives of the Ball State University Career Center. At the beginning of the semester, a representative came to speak with the students about professionalism including: first impressions, shaking hands, clothing, email etiquette, and contacting partners. At the end of the semester a Career Center representative came to speak with the student about marketing their immersive learning experience through their cover letters, vitas, and their interviews. This, in addition to meeting and working with the community partners all semester, helped the students to establish connections between their academic preparation and their career choices. These sessions gave the students a specific baseline to refer to

when working with a community partner or reflecting about how to market themselves.

As part of the requirements in the course, the university expected student assessment. Students had a mid-term reflection and end of semester reflection where they wrote about their progress and what they learned to make sure that the students focused on how their day-to-day activities linked to student achievement for a quarter of their grade. Students reviewed the efficacy of their peers at the mid-term and at the end of the project to ensure that people did their fair share of the work and to make sure the professor knew of inter team difficulties prior to them becoming a problem. The professor evaluated the student contributions to the Scrum process; this showed how well the individual was able to accomplish goals, manage workflow, and communicate their progress to their peers. The external partners reviewed the quality of student work for one quarter of their grade. To keep the students apprised of their progress, students meet quarterly for an individual progress conferences with the professor to reduce unfortunate surprises.

Pitfalls and False Starts

Since the Virginia Ball Center students had never built a textbook before, they put forward many ideas that did not work. As a learning endeavor, not a production company, this was a great creative space to experiment with what might be and winnow the chaff from the wheat. A lesson they learned very quickly was that just because somebody says they will do something for you does not mean that they can do it. They found that a group of computer science students did not have the skills needed to create the video games desired for the book and needed to be replaced with a team that could get the job done. The Virginia Ball Center students separated from the computer science students with some hard feelings after three weeks of seeing nothing happen.

The original idea was for the Virginia Ball Center students to design each lesson in three colors Green, Yellow, and Red so teachers could quickly communicate to elementary students where to focus their attention. The green was a basic coverage of the text, the yellow would allow the teacher to go into depth on one topic, and the red was supposed to be extended coverage beyond the basics for gifted, talented, or students with deep interests. Unfortunately, the color coding immediately triggered images of a stop light for the teachers, and this was so counterproductive that the team abandoned the color coding. Instead of allowing for teacher and student choice it was having the effect of narrowing the curriculum to a thin recitation of facts. Students selected a distinct color scheme and reorganized the content to facilitate the flow of information.

The students also found that their ideas on marketing texts in the digital age outpaced the publishing market. Ball State University students started negotiations with a publisher that proved to be a distraction, but it gave the students a valuable experience in how contract negotiations occur. If a publisher offered a contract for the model digital text future immersive classes would create the balance of the book for the publisher. While good for the students to learn more about business practices, it led the students to discover a publisher who could only see a market for a traditional paper book. The publisher could never understand how a business could make money from a tablet textbook. While this part was not successful the results were serendipitous rather than disastrous because this forced Ball State University to develop the book on its own.

Promotion and marketing were not successful; there was no structure in place to market a university product and there was no sales force. Furthermore, there was no product to show people either; technical revisions took a complete year. The technology was neither robust enough to allow the students the ability to give away a sample copy to a school or a teacher for them to review it, nor was it possible to sell it as a renewable annual subscription. Furthermore, as an app for a tablet, there was no way to migrate it a laptop allowing schools to retrofit it to the technology they possessed. Teachers and elementary students wanted games, but the tablet technology was not ready for that; the production of a game for every chapter would take so much memory it would collapse the tablet and clog the school Wi-Fi connection. The Ball State University students realized that the visually impaired function on a cell phone did not transfer to the tablets; this was a big disappointment to the students, but they were able to work around this to still make sure it was accessible to the visually impaired.

The Spanish language translation and read-a-long of the book did not have the quality needed to be helpful to elementary teachers and students with neither the quality translation nor the accent of a native speaker. Disappointingly the team jettisoned it. Just like Edison and the light bulb, the students learned many ways that would not work to build a textbook in addition to ways to build a textbook.

Future groups of students should do all the design work with every word on the page, with every image, caption, question, and heading in place. Once the Virginia Ball Center students were completely finished and the cultural organizations had reviewed everything then and only then should it be sent to be digitally created as a layout.

Survey Results

Ball State University students field tested the materials extensively with classroom teachers and their elementary students, and an independent team confirmed the effectiveness of the book with elementary learners through a

research study. The textbook was field tested in a Midwestern suburban school by a classroom of fourth grade students (n=25) with another classroom serving as a control. University students followed both classrooms through pre and posttests to gather information on their attitudes on learning in a research study of students using *Crossroads Connect* as their fourth-grade social studies curriculum (Cassady, 2014).

- 64% of the students said, “I thought it was easy to read the information in the iPad text.”
- 52% of the students said, “I learned new things from the pictures in the iPad text.”
- 50% of the students said, “The videos helped me better understand the main ideas of the text.”
- 64% of the students disagreed with the statement, “I got bored reading the information in the iPad text.”
- 68% of the students said, “This was a better way to learn this information than our usual textbooks.”
- 72% of the students said, “I wish more of my classes used this kind of learning material.”
- 87.5% of the students said, “The iPad text made learning more fun than with a usual textbook.”

The elementary students concurred that the text was exciting, and the components assisted in their learning of social studies content. The elementary students preferred using the tablets, found it easy to use, and desired to use this approach in the future. The research study suggested that students used this format to find out more than using the traditional text because it engaged them to spend more time with the text.

Student Voices

Hayden interviewed for the project with good grades and an interest in where the project might take him. He had never participated in an immersive learning course before this project and it was a momentous change for him.

“Education Redefined” has been the go-to slogan of Ball State University for the past few years. Billboards stand out in their bold cardinal red proclaiming this credo in large, bold white letters. Before I joined Ball State University these giant advertisements that lined the highways throughout the state were of little interest, just another advertisement on the road. When I became a student these words took on new and enhanced

meaning as I transitioned from high school to college life. It changed once more when I decided to enroll in an immersive learning program (Indiana Bicentennial: *Crossroads Connect*, 2016).

Hayden was originally very hesitant to work with the group having always been successful in working by himself, but by the third week he was in the heart of the adventure. He became a key researcher who shared information with others who would incorporate it into the textbook. He was particularly good at quickly finding information when a group deadline was looming.

The result was that eight Virginia Ball Center students created one textbook in one semester for the fourth-grade students of Indiana and their teachers. Lisa said:

The group learned a plethora of lessons from this project. We learned how much work goes in to making a textbook. We learned that teamwork is important. Collaborative work accomplishes so much more while every single person brings something different to the table. Working as a group will always have its ups and downs, and teamwork can make great things happen (Hensel, 2014).

Ball State University took the lead in celebrating Indiana bicentennial by creating a model fourth grade Indiana social studies textbook, and the Indiana Bicentennial Commission named *Crossroads Connect* a Legacy Project.

Conclusion

Elementary students use tablets in their social studies classrooms and access knowledge through using an app called *Crossroads Connect* which serves as their textbook. While teachers used the technology as a teaching method, they import new digital options for their students who are using tablets to explore social studies information. From their tablets, elementary students used technology in social studies to share notes, edit wikis, and map concepts. Elementary students manipulated data on their tablet to create new insights on their social studies knowledge. They both explored content and processed it using *Crossroads Connect*. Person-to-person communication increased with *Crossroads Connect* as did the enjoyment of using school technology, and tablets seemed to improve both group interaction and communication.

University undergraduates were capable of directly impacting and substantively improving educational materials for elementary social studies instruction. Teachers and students desire the content university students created, that was equal in quality to that produced by traditional publishing houses. By

cutting the traditional publishing houses significant costs were passed to school districts through tablet technology.

Fourth grade students worked with sophisticated content to reach deep social understandings through civics, economics, geography, and history found in the *Crossroads Connect* digital text. Students critically examined their text to find information that was present and to determine what was missing from the text. They used the digital text to examine accounts, discern trustworthiness, and explore empathy. Elementary students examined how trustworthy the source was and what evidence they could use to determine if it was trustworthy or not. The same students found connections to empathy within the book. In social studies, elementary students used primary sources to learn more and start their research to explore additional topics. Students used the text to examine primary sources to look at questions of gender, ethnicity, controversial issues, and created deeper pictures of representation at the intersection of those areas.

Primary Sources

Elementary students used primary sources as part of planned instruction in *Crossroads Connect* and students used primary sources to examine of the portrayal of women and Latinos. They found inclusive and informing representations of women and Latinos in print and image and active in a variety of spheres. Elementary students found a greater variety of roles for people in texts like *Crossroads Connect*. In addition, they gathered evidence from documents and artifacts to learn history from primary sources built into their textbook. Students used primary sources to examine controversial issues and helped students learn civic efficacy. The students learned about people who were and were not powerful and part of the mainstream.

Elementary students had the option of using actual evidence from archives and artifacts to link their narratives to the events they wrote about to specific people from the past. They built cases of evidence to find individual soldiers using primary source materials. Digital libraries provided elementary students with ways to work with primary sources that worked around traditional impediments to using original accounts of historical events and used artifacts as motivational tools to spur inquiry. *Crossroads Connect* did more with primary sources than use them for decorative examples. Elementary students used primary sources to compile interpretation based on data that they had found through research in digital repositories.

Elementary students used primary sources to learn about controversial issues and how they related to a democracy. Students worked with primary sources to study how social scientists discerned information, and students read the primary sources learned historical perspective and improved learning outcomes.

The exposure to primary documents helped the students understand information and examine coalition building. Local primary sources also connected to student interest.

Students read material that they were not be able to read on an instructional level when they used the *Crossroad Connect* read-a-longs. Teachers could easily adapt them to the classroom. Based on foreshadowing, student made predictions about what they thought occurred next in the story. Students paid attention to their comprehension of read-a-long texts. They acknowledged their mistakes without obsessing over their errors. Students also used context clues to attack words in the read-a-long.

In *Crossroads Connect* students used web links and embedded navigation links to access information and used web links to directly connect with content online. This was optional for the reader, but many readers found that they linked at their convenience rather than when the text directed them to click. It allows a student to go into depth and *Crossroads Connect* presented students with features that allowed them to link directly to the text glossary. Students who navigated to the glossary got that information immediately as part of their tools with the text.

Crossroads Connect included video to teach content, and multiple possibilities existed for interactivity due to the nature of online learning. *Crossroads Connect* included auto didactic features, direct teaching, and video-based instruction. Web based constructivist instructional design not just to parallel text but to be more effective than stand-alone text.

Crossroads Connect built games into the instructional features, and this feature allowed students to interact through the game. In social studies texts this type of format incorporated motivational components when the games allowed people to apply thinking to solve problems, and there seemed to be both benefits for the long term and short-term comprehension of material.

Afterword

In the summer of 2015, *Crossroads Connect* moved to a web-based platform which allowed tablets, phones, computers, and laptops to use it. In the fall of 2015, 1,000 students used *Crossroads Connect* in Indiana schools. In the fall of 2016, 2,000 students used the program. A third-grade book was developed later.

References

- Albert, C. D. & Ginn, M. H. Teaching with Tocqueville: Assessing the utility of using “democracy” in the American government classroom to achieve student-learning outcomes, *Journal of Political Science Education*, 10, 2014, 166-185.
- Anson, S. Using artifacts to understand the life of a soldier in World War II, *Social Education*, 73, 2009, 165-167.
- Baildon, M. & Baildon, R. Evaluating online sources: Helping students determine trustworthiness, readability, and usefulness, *Social Studies and the Young Learner*, 24, 2012, 11-14.
- Ball State University, *Crossroads Connect*, 2015, <http://www.crossroadsconnect.us/>
- Barab, S. A., Scott, B., Siyahhan, S., Goldstone, R., Ingram-Goble, A., Zuiker, S. J., & Warren, S. Transformational play as a curricular scaffold: Using videogames to support science education, *Journal of Science Education and Technology*, 18, 2009, 305-320.
- Bennison, S. M. Invisible evidence: The story is there, but the sources are scarce, *History Teacher*, 43, 2010, 427-431.
- Bryant, J. State secret: North Carolina and the Cherokee Trail of Tears, *Journal of American Indian Education*, 47, 2008, 3-21.
- Buswell, C. Confronting stereotypes. *Social Education*, 75, 2011, 310-313.
- Cassady, J. C. Crossroads Connect Evaluation Report, Ball State University, June 2, 2014.
- Crossroads Connect Video Tutorial. 2013. http://www.youtube.com/watch?v=qmh_qVmE1GI
- Eamon, M. A “genuine relationship with the actual”: New perspective on primary sources, history and the internet in the classroom, *History Teacher*, 39, 2006, 297-314.
- Goodman, Y. I never read such a long story before, *English Journal*, 63, 1974, 65-71.
- Gose, M. D. Research on the read-a-long format, *Teacher Education Quarterly*, 14, 1987, 98-101.
- Hensel, L. Creating social studies texts: *Crossroads Connect*, Paper presented at the National Council for the Social Studies Conference, Boston, 2014, November.
- Howlett, C. Public opinion on Long Island about the Vietnam War: A school year project using local sources and perspective in the classroom and in student research papers. *History Teacher*, 37, 2004, 457-472.
- Jackson-Abernathy, B. K. Methods in teaching region and diversity in U.S. Western Women’s History. *History Teacher*, 46, 2013, 215-229.
- Indiana Bicentennial: *Crossroads Connect*, 2016,

- <https://secure.in.gov/ibc/legacyprojects/3003.htm>
- Kahl, J. D. W. & Berg, C. A. Acid thunder: Acid rain and ancient Mesoamerica, *Social Studies*, 97, 2006, 134-136.
- Lavariega Monforti, J. & McGlynn, A. Aqui Estamos? A survey of Latino portrayal in introductory U.S. government and politics textbooks, *PS: Political Science and Politics*, 43, 2010, 309-316.
- Lazarakou, E. D. Empathy as a tool for historical understanding: An evaluative approach of the Ancient Greek primary history curriculum, *International Journal of Social Education*, 23, 2008, 27-50.
- Liaw, S.-S. Considerations for developing constructivist web-based Learning, *International Journal of Instructional Media*, 31, 2004, 309-321.
- Lin, C.P., Wong, L.H., & Shao, Y.J. Comparison of 1:1 and 1:m CSCL environment for collaborative concept mapping, *Journal of Computer Assisted Learning*, 28, 2012, 99-113.
- Madison, J. H. *The Indiana Way: A State History*. 1990, IU Press, Bloomington, IN.
- Merkt, M., Weigand, S., Heier, A., & Schwan, S. Learning with videos vs. learning with print: The role of interactive features, *Learning and Instruction*, 21, 2011, 687-704.
- National Council for the Social Studies. National Curriculum Standards for Social Studies: Executive Summary, 1994, <https://www.socialstudies.org/standards/execsummary>
- Nokes, J. D. Observing literacy practices in history classrooms, *Theory and Research in Social Education*, 38, 2010, 515-544.
- Oliver, K. M. & Corn, J. O. Student-reported differences in technology use and skills after the implementation of one-to-one computing, *Educational Media International*, 45, 2008, 215-229.
- SCRUM Methodology. <http://scrummethodology.com/>
- Schaffhauser, D. Maintaining standards in a textbook-free world, *T.H.E. Journal*, 39, 2012.
- Spielvogel, L. & Spielvogel, C. Play a starring role in your textbook: A digital web platform with an embedded role-playing game, *Learning and Teaching: The International Journal of Higher Education in the Social Sciences*, 7, 2014, 72-83.
- Viau, R. & Larivee, J. Learning tools with hypertext: An experiment, *Computers and Education*, 20, 1993, 11-16.
- Woyshner, C. Picturing women: Gender, images, and representation in social studies, *Social Education*, 70, 2006, 358-362.
- Zinn, H. *A People's History of the United States: 1492 to Present*, 2005 Harper Perennial Modern Classics, New York.

Appendix 1: Production Schedule

Week of August 19, 2013

DPS will visit VBC to give a presentation on the Adobe Digital Publishing Suite (DPS) to members of the VBC team. Time/date TBD.

Friday, September 6, 2013

- All content for Chapter 1 delivered to DPS team

Friday, September 13, 2013

- Presentation of Versions A-C (three different approaches to Chapter 1) to VBC team

NOTE: Between September 13-27, VBC team should be discussing prototypes, showing prototypes to focus groups and collecting feedback for the DPS team on their preferences for the final Version D prototype.

Friday, September 27, 2013

- Final feedback on Versions A-C delivered to DPS team

Friday, October 4, 2013

- Version D delivered to VBC team

Wednesday, October 9, 2013

- Final suggestions for MINOR revisions delivered to DPS team

Friday, October 11, 2013

- Final approval of Version D prototype
- All content for Unit 1 delivered to DPS team

Friday, November 1, 2013

- Final draft of Unit 1 delivered to VBC team ready to distribute on tablet devices.

Appendix 2 Components of the Teacher Edition

I. Teacher manual

- A. Standards social studies and related fields
- B. Teaching tips and historical notes
- C. Assessment tasks
- D. Multiple choice test bank
- E. Instructional resources

Appendix 3: Components of the Student Text

I. Student text

A. Concepts

B. Content: (three levels of text)

1. Scanners (basic outline of most important events)

2. Strollers (post hole on certain aspects of the events)

3. Studiers (extended information for students who really want to know)

C. Photos and illustrations

1. maps and graphs

2. primary sources

D. Point/Counter Point

E. Web links:

1. additional information

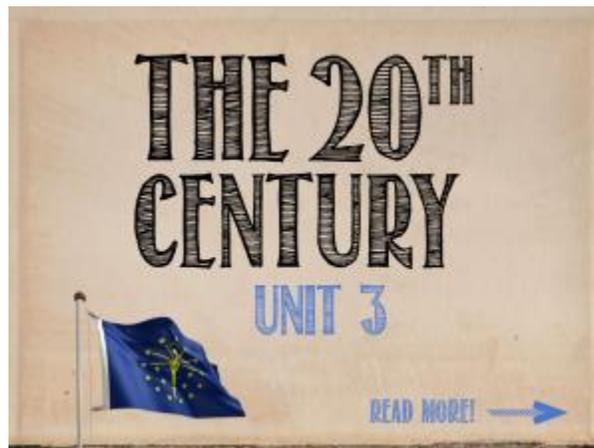
2. game links

F. Video

G. Self-checking questions

H. Music clips

Appendix 4: Screen Shots





ABOUT THIS BOOK

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CROSSROADS CONNECT

Crossroads Connect allows you to explore Indiana through text, video, image, and music. Decision making features and quizzes will help you find out more about people, land, and events from the past. We hope you enjoy your Indiana studies as much as we have enjoyed creating this experience for you.

[READ MORE!](#)

CONTENTS

- LESSON 1
- PALEO INDIANS
- TOOL KIT
- LESSON 2
- LESSON 3
- QUIZ
- GLOSSARY

OPTIONS ▼

LESSON 1 THE PALEO INDIANS

A long time ago, Indiana did not look like the Indiana you and I live in today. In fact, there was no place called Indiana at all! During the Ice Age woolly mammoths roamed the frozen land. There were people living here then, too. These people survived the cold by hunting woolly mammoths and other animals for their meat. They used their fur to keep warm. Archaeologists call these people Paleo-Indians.

[READ MORE!](#)

**CHAPTER 1
PAGE 1**