Wise-Practice Use of Visual Primary Sources: Towards a More Interactive Presentation of Content

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Cover Page Footnote
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Introduction

The emergence of popular photo-sharing apps and persuasive visual social media (i.e., memes, tweets, Instagrams) has made thinking critically about visual data a vital civic competency. Modern democratic life requires powerful interpretive skills to understand and evaluate non-written information. These skills are important because the production, consumption, and critique of visual data shape today’s public issues, including those grounded in social identities, power relationships, and policy decisions (Burns, 2006; Callahan, 2015; Callow, 2006).

While social studies teachers have long used visual data in their classrooms, particularly iconic photographs and renowned portraits, those visual primary sources are sometimes employed in inauthentic ways. Visuals might, for instance, be presented as unproblematic depictions of situations that everyone now understands perfectly (see Rose, 2008). Given the increased use of primary sources in social studies classrooms1, we believe it is an ideal time to reconsider the types of sources learners should interpret as they are led to investigate social phenomena. Beyond types of sources, however, we contend it is equally important to consider how to best support teachers’ use of visual primary sources as they work to develop students’ interpretive skills. When students analyze visual primary sources to explore real-world problems, they not only develop important civic skills related to multimedia literacy, but also discover how social studies disciplinary knowledge can enrich their daily lives.

One potentially effective way to use visual primary sources to help students develop powerful interpretive skills is the Interactive Slide Lecture (ISL) strategy (Teacher’s Curriculum Institute, 2010). There are many variations of this strategy; however, in general, an ISL is a tightly-bounded multimedia presentation that provides explicit opportunities for students to explore foundational knowledge related to a compelling topic or question. In more effective approaches to ISLs, each multimedia slide contains only one visual and limited text intended to engage learners in a close interpretation of the visual: its details, message, and purpose. The teacher asks questions that lead students to closely analyze the visual’s details, and during the ensuing discussion, the teacher turns students’ observations and questions into opportunities to share important details about the visual or to help students make connections across the series of visuals. A variety of techniques can make the ISL truly interactive, such as asking students to “step into” a scene depicted in a visual and either “act out” the scene in a brief roleplay or respond to

1 Passe and Fitchett (2013, p. 9) have written that a majority of classroom teachers surveyed reported they use primary sources in social studies classrooms 2-3 times a month and that use of primary sources increased by grade level.
questions posed by the teacher acting as a reporter. Effective teachers prepare and then guide these interactive episodes such that inappropriate extrapolations and assumptions are minimized. The ISL strategy also affords teachers the opportunity to formatively assess students’ comprehension of important themes before moving to the next slide. Well-designed ISLs can be problem-centered and help students explore disciplinary knowledge and skills needed to propose and evaluate solutions to authentic questions. Logistically, ISLs can be challenging to design because only a few visuals can be analyzed during a learning segment. Thus, visuals must be carefully chosen for their potential to engage learners and for their potential as a catalyst for productive discussions. The set of visuals must also function well together by revealing multiple aspects (e.g., solutions, perspectives, strategies) related to a topic.

In this article we provide suggestions to maximize the potential of the ISL strategy. We acknowledge that other methods can be used to engage students with visual primary sources, perhaps with a greater impact on student learning. An in-depth analysis of the affordances of ISLs compared with other strategies is beyond the scope of this article. The ISL was introduced over 25 years ago (Bower, Lobdell, & Swenson, 1994) and it is likely that many teachers utilize this strategy or a variation of it with their students. Here our aim is to support teachers in overcoming common challenges associated with this strategy as they use visual sources to help students think critically about social studies phenomena. From our collaborative experiences designing and observing ISLs with teachers in multiple projects and our work studying the affordances of educative curriculum materials for professional development (Callahan, Saye, & Brush, 2014, 2016), we have concluded that a curriculum tool we call a “primer,” a single-page reference for each visual that provides contextual information, potential discussion questions, and a framework for interpreting the visual, can support successful implementation of an ISL. We design each ISL primer to be a planning partner, or an educative tool, to support teachers as they prepare for instruction. With due deference to classroom teachers, our primers are not intended to be prescriptive, although we do hope they help teachers expand their teaching repertoires (i.e., content knowledge, pedagogical knowledge, etc.).

The sample primer in this article was developed as we worked with a middle school geography teacher named Amelia (pseudonym) to implement a lesson during the pilot phase of a lesson study professional development project (see Maddox, Howell, & Saye, 2018). In the section below, we discuss this lesson in some depth in order to allow readers to better envision how an ISL might be used to support a larger geographic inquiry. We also hope to show how the challenges inherent in executing ISLs might be overcome through the use of primers like the example considered. This lesson also provides a concrete example of how a primer might be designed and then refined to meet the specific needs of a group of learners.
Effective use of primers like the one we present ultimately supports the Road Map for 21st Century Geography Education Project’s vision for classroom instruction that is “engaging, student-centered, hands-on, and focused on student thinking and experiences with real world issues” (Schell, Mohan, & The Instructional Materials and Professional Development Committee, 2013, p. 30). As readers explore this geography-specific educative primer and its underpinning rationale, we hope they will be inspired to develop similar resources for their own subject area and to share their experiences.

Using ISLs to Engage Students in Geographic Inquiry

Our work with Amelia involved the collaborative design of an inquiry-based unit during a summer seminar and its subsequent field testing in 7th grade geography classes during two implementation cycles (fall/spring). Overall, we sought to design problem-based curriculum materials, centered around a compelling public issue, that would engage students in geographic inquiry (Maddox, Howell, & Saye, 2018). With Amelia, our work specifically focused on using targeted curriculum interventions to address problems of teaching practice that Amelia identified. She was eager to try out the instructional strategies and technology we had demonstrated during the summer seminar and suggested we use an ISL strategy. She thought the strategy would appeal to what she described as “visual learners” and provide an opportunity to test whether it could be used to build students’ geographic literacy, develop students’ interest in the inquiry’s compelling question, and increase students’ overall motivation for learning. With these goals in place, we conceptualized an inquiry on the topic of population change.

Our inquiry focused on the compelling question, “What policies best address the challenges created by population change?” We wanted students to grapple with the consequences of rapid population growth in some parts of the world (and globally, overall) and with the implications of population decline for countries like Japan. After crafting the question, we conceptualized a performance-based culminating task: a simulated International Conference on Population Change hosted by the United Nations. In preparing for the conference, student groups researched an assigned country’s population trends, the challenges those trends created, and population policy options favorable to their country. At the simulated conference, student groups represented their assigned country’s interests with the ultimate goal of working in concert with other countries’ delegates to craft recommendations for how to best address the challenges presented by population change. In order to prepare students for this conference, we collaborated with Amelia to design a series of lessons (see Table 1).
We believe it is always desirable to plan problem-based inquiry instruction at the unit level, as opposed to at the level of a lesson (Saye & Social Studies Inquiry Research Collaborative, 2014). Instructional strategies should be used intentionally to achieve specific aims at particular points in the unit. A key consideration for achieving the full potential of an ISL, therefore, involves strategically integrating it within the context of the larger inquiry. In the case of our lesson study, the lesson that featured the ISL strategy was at the midpoint of the inquiry - lesson #3. It was intended to help students identify and understand the problems associated with both rapid population increase and decline. The lesson was designed to take two days and included some initial activities to review the demographic transition model and techniques for interpreting population pyramids. The ISL phase of the lesson included five multimedia slides, with two depicting problems associated with rapid population growth, two focused on problems associated with population decline, and a final slide linked to an interactive web graphic that allowed students to track the rate and direction of migration across various regions of the world. With each image, we planned an activity to engage learners in a thorough interpretation. In
our original lesson plan, we also included a series of teacher’s notes for Amelia to use while preparing instruction. These notes included a thumbnail image of each slide and substantial geographic data she was encouraged to interject at opportune moments or elicit from students through questioning.

During the first implementation of the ISL, Amelia front-loaded too much information rather than pulling ideas from students using questions. At times, she missed opportunities to build from a student comment to strategically interject content for maximum impact. She also struggled to determine the best time to employ the interactive strategy (i.e. when to have students “step into the picture” to role play) for each visual. To support Amelia’s efforts following the first implementation, we edited the teacher notes that went with the five slides so that they showed the visual primary source more fully and provided suggestions for possible questions to ask. Our intention with the teacher scaffolds was to lighten Amelia’s cognitive load and to ease the burden of leading this type of discussion by providing a concise and visual review of the applicable content, a series of guiding questions, and suggestions for incorporating the interactive elements. While not prescriptive, the scaffolds offered details associated with each slide that we hoped would help her to remember the big picture: how each visual illustrated specific problems associated with rapid population growth or decline.

The second implementation of the ISL was less than optimal, even with teacher scaffolds in place, because the discussion with students strayed from its intended big-picture focus and remained somewhat superficial. Amelia began the second implementation by having students study the picture quietly for a couple of minutes rather than front-loading information about the slide as she did during the first implementation. This positive first step had the potential to guide the class towards productive inquiry, but was not supported by further steps to set the tone for serious discussion of the content in the slides. Students did not seem to fully understand the purpose of the slide lecture strategy (it was novel to them), and as a result, the discussion became an opportunity to make silly or off-topic comments that forced Amelia to attend to management issues instead of probing student comments more deeply. Amelia tended to rely, at times, on the teacher notes we created after the first implementation as a tool to help her guide students through understanding the portions of the lecture for which she felt less familiar. As Amelia transitioned to the portion of the lecture she took the lead in creating, she was able to more flexibly provide specific details related to the image, but her questioning often failed to elicit substantive discussion of any particular idea, even in spite of preplanned questions on the scaffold. The slide for this part of the lecture depicted a massively crowded commuter train in India like the one depicted in Figure 1.
The interactive strategy required students to create 1-2 questions to ask a person from the image in order to help the class gain a better understanding of the circumstances surrounding the image. However, rather than allow students time to examine the picture and thoughtfully develop questions (perhaps individually and then with a partner), Amelia rapidly enacted the strategy in the following way:

Teacher: Ok, (calls on a student), who will you ask?

Student 1: Um, that little creepy guy!

Teacher: What question are you going to want to ask him?

Student 1: Well like, is he scared he is about to fall off the top of the train?

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2 https://commons.wikimedia.org/wiki/File:KRL_train_surfing_5.jpg; photo credit: oktaviono [CCBY 2.0 (https://creativecommons.org/licenses/by/2.0)]. It has not been changed from the 09:13,14 October 2012 version posted to Wikipedia. Creative Commons is a global nonprofit organization that enables sharing and reuse of creativity and knowledge.
Teacher: (restates) If he is scared that he is going to fall off the top of the train?

Multiple Students: Which one? Can you point him out?

Teacher: Come up here, point him out. (Student comes to the board to point out the person in question.)

Student 2: That little creepy guy (laughs).

Teacher: ….So what is [your] question?

Student 1: Like, is he scared he is going to fall off the top of the train as he sits on top?

Teacher: Ewww yes, alright. Now, do you want to know why he is sitting on top of the train?

Student 1: Yes.

Teacher: Alright. Listen to this. It is estimated that in the Indian Railway... there is about 23 million people per day that are passengers on this route (continues with information).

Teacher: Alright what question would you ask?

Student 3: Why are they all men? (Conversation continues)

Teacher: The women actually ride on a different car.

Student 4: That is not fair.

Student 5: It is like the Railroad Titanic! (everyone laughs)

As the excerpt above illustrates, the students seemed interested in the visual and engaged in the activity. At times, they asked reasonable questions and paid close attention to the answers. However, the students’ questions and comments
were sometimes focused more on areas of immediate curiosity rather than the intended goal. Amelia appeared to feel most comfortable discussing the nuances of the picture and never really addressed the broader national demographic implications associated with the crowded trains. Two missed opportunities that might have allowed Amelia to explore the broader implications occurred later during the same lecture segment. A student said: “I would ask the driver …. How fast or how slow the train can go with all those people on it?” Amelia acknowledged the question and moved on. Another student asked: “Do you think the train ever stops and breaks down?” Amelia responded to this question by confirming that the trains do break down and asked, “How would you feel if you thought you were going to be late going to work?” She then described a story she had read about a woman docked a day’s pay for being late. In both these instances, Amelia could have discussed how inefficient trains cause the national economy of India to suffer or how people on the trains getting injured stresses the public health and public safety infrastructure. Based on Amelia’s narrow focus, the class ultimately emphasized ways to fix the train system. However, the intent of the slide was to have students better recognize the severity of the problem of rapid population growth and how it might prompt governments to engage in policy-making intended to influence the size of the population. Based on the experiences of Amelia during the second implementation, we concluded that our interactive slide lecture teacher’s notes were only partially successful in improving Amelia's ability to focus on broader problems associated with demographic shifts. Indeed, following the second implementation, Amelia expressed her desire to “steer” the conversations around the visuals more carefully and to “tie” everything back to the compelling question. To further support Amelia, including her desire to link instruction back to the big ideas of the unit, we worked to develop a new, more educative primer that might help support Amelia’s stated goals.

**Designing Effective Educative Primers**

Given the limitations of our second implementation, we sought out ways to refine the design of the teacher scaffolds to support the work of teachers like Amelia. We hoped a redesigned primer would help teachers overcome three challenges: 1) the cognitive load associated with leading a discussion that considers multiple perspectives on a policy issue, 2) the difficulty of leading a coherent examination of visual data without an overarching framework for doing so, and 3) the intellectual gymnastics required for a teacher to link a seemingly irrelevant comment or response back to the larger public policy question being considered. Ultimately, our goal was to better support teachers' efforts to harness student interest for meaningful learning and to provide support for the teacher without appropriating their agency.
The resulting redesigned educative primer (see Appendix A) helps teachers to “unpack,” with their students, elements of a photograph that have relevance for the inquiry on population change. The design of the primer is intentional and grounded in lessons learned from previous implementations. The basic elements listed below can be used in constructing similar primers for any ISL:

(1) Major headings (Question, Observe, Reflect) define the analysis process that teachers should seek to model and instill in learners. The headings act as a heuristic for analyzing many visual texts.\(^3\)

(2) Prompts remind the teacher of the importance of connecting ideas from the picture back to the lesson focus question and larger unit compelling question.

(3) Specific sections of the picture are identified for their potential as a springboard for broader class discussion. Teachers facilitate analysis of these sections and encourage inductive reasoning as learners seek to derive deeper meaning from the picture.

(4) In order to support teachers in providing “just in time” scaffolding during the analysis, the primer builds their content knowledge and helps them to more readily promote geographic connections and spatial reasoning.

Importantly, we believe the educative primer will assist teachers in employing best practice as it relates to the interpretation of visual images. First, it supports teachers as they work to develop their students’ analysis and synthesis skills. The primer helps teachers to envision potential paths for interpreting pictorial information that are likely to result in higher-order thinking. Second, the primer assists teachers in encouraging students to make personal connections with the visual data. Because the visual images used within an ISL are often surprising or unexpected, students can have emotional reactions and be more attentive and willing to consider the implications of the visual.\(^4\) Personal connections involve emotion and when content is connected to emotions students are much more likely to remember it (Sousa, 2017). Finally, the primer assists the teacher in encouraging social engagement with the visual image. The unfamiliar nature of the visuals, the interactive elements of the ISL, and the teacher’s facilitation of discussion of the slides, can create powerful contexts where learners engage the social world together.


\(^4\) Scholars have called this effect “evocation” (Rose, 2008, p. 155) and “learning as crisis” (Smith, Denis, & Elliott, 2007, p. 522).
Conclusion

The educative primer presented in this article is a tool to assist teachers in leading a geographic inquiry of a public policy issue using strategically chosen visual images. While not a panacea, we believe similar primers for other visuals common to social studies classrooms can help teachers lead inquiries that develop important visual literacy and interpretation skills within their students. Given how much time students spend interacting with visual data and how arguments about public policy issues are subtly hidden within visual data, such interpretive experiences are critical for developing students’ civic competency. We recognize, however, that cultivating deep engagement with visual data will be an ongoing effort requiring more research. For instance, we hope to further consider ways to support teachers in not only providing timely information during the analysis of visuals, but to also effectively employ the interactive techniques commonly associated with this strategy. Teachers that are unfamiliar with the ISL strategy may need more information regarding the range of possible interactive alternatives available and tips for how they can be effectively implemented. We envision possibly embedding a menu of relevant interactive strategies into the primer for teachers to consider, along with hyperlinks to resources that can be accessed as needed for deeper information regarding the strategy. We also want to continue thinking about ways we might work with teachers to select powerful visual images that would contribute to their own goals for inquiry (Callahan, Howell, & Maddox, in press). Finally, more work is needed to field test the latest version of the educative primer with teachers to determine if it is effective in reducing the cognitive load and encouraging more spontaneous integration of information into the lecture.

References


Appendix A

**Question**


**Observe**

*Creative Commons: (2003). Pickard Dump Truck.*

When students mention the image, you can discuss with them how the dumping truck may symbolize the city’s declining auto industry. You can also discuss how specific economic and political decisions have influenced the spatial patterns of Detroit. This factor, finished in 1911 for the James Packard Motor Company, sold the top-selling luxury car in the 1920s and 1930s, surpassing Cadillac and Lincoln. After W. W. Packard management responded poorly to winning market competition from the Ford (Chrysler, General Motors), Packard management lobbied the US government to limit automobile imports. Then they tried money-saving effects new manufacturing compartments away to smaller cities with lower costs, reducing the workforce, and replacing thousands of workers with new technology/automation. In 1924 Packard merged with Studebaker in 1914 and by 1934 the plant closed; all workers unemployed.

**Reflect**

What problems are associated with rapid population decline? You can guide the class in summarizing the social and economic problems commonly associated with population decline as mentioned during the discussion.

You can also discuss how political and social decisions have influenced the spatial patterns of Detroit. In the early 20th century, many African Americans moved from Southern states—the Great Migration—to Northern and Midwestern states, including Illinois (400,000 people migrated to Detroit between 1941 and 1945). Detroit became “one of the most racially and ethnically diverse places in America.” While Detroit held employment and educational opportunities for African Americans, many of the city’s white citizens refused to accept racial and ethnic diversity. White racism included discriminatory housing practices, unfair laws and policing policies, and segregated schooling. In 1948, management at the Packard factory promoted 3 African Americans to work on the all-white assembly line 3,000 white workers walked out in protest. Three weeks later, local tensions erupted into a riot, that required federal troops to stop (another riot occurred in 1967). When a 1974 Supreme Court case, (Dawkins vs. Bradley) ruled that schools in Detroit’s suburbs were not obligated to desegregate unless they drew boundary lines with clear racial intent, many whites moved from the city to its suburbs. In 1950, whites comprised 80% of Detroit’s population; in 2016, they were about 10%.”
https://commons.wikimedia.org/wiki/File:Packard_Dump_Truck.jpg; photo credit: Csmcm [CCBY-SA 3.0]
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