Tasks and Talk: The Relationship Between Teachers’ Goals and Student Discourse

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The learning outcomes sought by social studies educators emphasize critical thinking, deep content knowledge, and an understanding of how knowledge in the disciplines of social studies is created and changes. Achieving these outcomes, calls for a more active, collaborative, and student-centered pedagogy. The reported study seeks to better understand the nature of student engagement in this kind of pedagogy by closely examining student discourse during instruction. The study reveals while academic tasks were well thought out and, on the surface, constructivist in nature; student discourse was almost entirely oriented toward producing good products with little thinking aimed at exploring the meanings and relationships among content. The study also demonstrates that redesigning the nature of classroom tasks, by presenting students with problems that necessitate thinking about how content is inter-related, results in readily discernable deepening of student discourse.

Key Words: group work, collaborative learning, discourse, project-based learning, academic work, problem solving

Introduction

The learning outcomes sought by social studies educators emphasize the ability and inclination to think critically in ways that combine deep content knowledge with an understanding of how knowledge in the disciplines of social studies is created and how it changes. In their position statement the National Council for the Social Studies (2008) calls for “powerful social studies teaching that helps students develop enduring understandings in the core content areas of civics, economics, geography, and history” (Qualities of Powerful and Authentic Social Studies, Section A). This emphasis on deep learning is entirely consistent with developments in the learning sciences as exemplified in How Students Learn History, Mathematics, and Science in the Classroom (2005), which begins with three chapters devoted to learning history. This type of learning is also typified in Principles for Learning (2010), a model developed by a consortium of seven professional organizations including the National Council for the Social Studies (NCSS).

The NCSS (2008) translates its goals into a set of five desirable qualities of powerful and authentic social studies. Powerful social studies is: meaningful, integrative, value-based, and intellectually challenging. These qualities guide the development of learning goals; suggest ways to plan lessons; identify specific content for inclusion; and recommend the use of materials (e.g., primary source documents). The fifth quality of a powerful social studies calls for active learner engagement. In the Council’s words, “Active lessons require students to process and think about what they are learning. There is a profound difference between learning about the
actions and conclusions of others and reasoning one’s way toward those conclusions. Active learning is not just ‘hands-on,’ it is ‘minds-on’” (Qualities of Powerful and Authentic Social Studies, Section E).

A pedagogy supporting active learning contrasts sharply with a pedagogy featuring: teacher-led lectures, whole class discussions, memorization of facts, textbook drawn content, biased historical accounts, and low-level examinations (Maloy & LaRoche, 2010). Active learning calls for a pedagogy that includes: interactive discussions, small group work, cooperative learning, and democratic dialog or debate about issues. In many classrooms, pedagogy supporting active learning is organized around the completion of a project or problem or set of tasks (Cohen, Lotan, Abram, Scarloss, & Schultz, 2002; Maloy & LaRoche, 2010; Patterson, Lucas, & Kithinji, 2012; Schul, 2011). These projects often are collaborative, that is, they are done in groups. Projects typically culminate by producing something tangible (e.g., posters, presentations, skits, PowerPoint presentations). These culminating products are, in a sense, existence proofs that a learning environment is hands-on.

The central question animating this study is whether and how these pedagogical arrangements are also “minds-on.” Answering this question requires knowledge of what and how students are thinking. The most direct and best evidence of student thinking is obtained by listening to student discourse. Discourse is often referred to as thinking made visible. Bereiter (2002) in describing instructional environments suggested that the discourse itself is the thinking. Assessing the “minds-on-edness” of a learning environment requires paying attention to the learning community’s discourse.

The theoretical perspective, for analyzing student discourse in this study, grows out of the work of Barnes and Todd (1976, 1995), who themselves are influenced by the socio-cultural ideas of Vygotsky (1987) and Bakhtin (1986). In their studies, Barnes and Todd observed classroom conversations in which students constructed new and more inclusive understanding. They called this process joint inquiry and found that for it to occur students had to “ask for one another’s opinions, encourage explicitness, pinpoint differences, and inter relate viewpoints.” (p. 148). Within this study, Barnes and Todd distinguished between presentational talk and exploratory talk. Presentational talk deals in certainties and conveys often discrete information. They found presentational talk typical of most classrooms. Exploratory talk is when learners can try out ideas, be hesitant, tentative, relate new ideas to experiences, and develop new, shared understanding. Exploratory talk is a crucial ingredient in the kinds of learning environments that support deep learning. Researchers have found that not much exploratory talk takes place in classrooms , (Barnes & Todd, 1995; Mercer &Littleton, 2007; Wegerif, 2004). Barnes and Todd identified the following features of dialogue as key components of exploratory talk:

- Difference of perspective
- Mutual attention
- Use of hypothetical cases
- Tentativeness
- Absence of prior roles by right
- Mutual support
- Lack of closure
Building explicitly and directly on the work of Barnes and Todd, Mercer (1995) refined the categories of talk into the following: disputational, cumulative, exploratory, procedural, and social.

Disputational talk is defined as disagreement and individualized decision making. There are few attempts to pool resources, to offer constructive criticism or make suggestions. Disputational talk also has some characteristic discourse features, which include short exchanges consisting of assertions and challenges or counter-assertions.

Cumulative (referred to by Barnes and Todd as presentational) talk is when speakers build positively but uncritically on what others say. Partners use talk to construct ‘common knowledge’ by accumulation. Cumulative discourse is characterized by repetitions, confirmations, and elaborations. Cumulative talk is quite like Barnes and Todd presentational talk.

Speakers engaging critically but constructively with others’ ideas characterize exploratory talk. Statements and suggestions are offered for joint consideration. These may be challenged and counter-challenged, but challenges are justified and alternative hypotheses are offered. Partners all actively participate, and opinions are sought and considered before decisions are jointly made.

Two additional kinds of talk are needed to adequately categorize the variety of student talk observed in this study. First, procedural talk is talk whose purpose is to get the job done. It can involve planning, structuring the work efficiently, and talk about the job itself. Procedural talk can include content but its quality is factual rather than being something to talk and/or think about. Second, social talk is talk that has nothing to do with academic work but is about social issues and topics that relate to other aspects of classroom and personal life.

Method

The research reported is a case study following a sixth grade classroom over the course of two social studies units. The group work and accompanying discourse took place in an instructional environment designed to support active learning and foster the development of enduring understanding of core social studies content. The research also has qualities of a design study (Brown, 1992; Collins, Joseph, & Bielaczyc, 2004) in that it both gathers and interprets evidence for the purpose of making theory-based design changes in the learning environment. In a design study, the intent is to sharpen our theories and advance classroom teaching practice. In the current study, the teacher and researcher collaborated in interpreting the discourse and designing changes in the learning environment that were intended to improve the quality of group work.

The subjects included the teacher and the 20 students in a sixth grade class at a college laboratory school. The teacher has over 30 years of teaching and pedagogical experience and has utilized small group instruction for many years. A robust social studies curriculum existed in the classroom with issues of social justice often discussed. The teacher and the class, Group T, agreed to have their group work filmed over the course of the year. Sustained social studies units, each with extensive group work, took place late October through mid-December as the students studied the Industrial Revolution and the Civil War. Group work reconvened in late March as the class studied regions of the United States.
In Group T, class group work typically consisted of five groups, with each group containing four students. We filmed two of the five groups of students six times through the fall. During these different sessions various combinations of students were filmed. A typical group lesson lasted 38 to 55 minutes. The video camera was kept at a distance from the group. The sound track of the group’s discourse came from a digital recorder placed in the middle of the student group. Episodes were transcribed and both the transcribed dialogue and visual observation of the group were analyzed in terms of quality of discourse. In the second part of the study, 12 episodes of group work during the regions unit were similarly filmed and analyzed.

The research group (a faculty member, three undergraduates and a graduate student) analyzed student discourse. First, two members of the research team independently analyzed a group transcript. Using Mercer’s (2007) framework, discourse segments were characterized as being disputational, cumulative, or exploratory. The analysis also identified segments that were procedural or social. The protocol involved two researchers presenting their transcript analysis, highlighting points of complexity, agreement, and disagreement to the rest of the research group. The research team would watch footage of these discourse segments to categorize aspects of the talk flagged by the two readers. The research team was able to reliably distinguish social, procedural, and disputational discourse. Real discourse is complex and qualities of talk overlap and collide. Exploratory discourse was easy to identify; it is clear when students are going beyond the surface of the content. At the same time, exploratory and cumulative discourse were frequently commingled. To achieve a quantitative look at the discourse, the study reports the proportion of time spent engaged in social, procedural, and content talk. Content talk combines cumulative and exploratory discourse.

The following description of the study’s results is divided into two parts. The first part includes the instances of group work filmed during the fall. We considered this a baseline or modal description of group work in the class. The second part includes the spring lessons where the design phase of the study took place. Each of the descriptions includes an overview of the instructional environment, in-depth descriptions of some of the group work, and a summary of the overall pattern of group work.

Results

Fall Group Work

All the fall social studies group work lasted six weeks and followed the same instructional design. The whole class was introduced to a new topic on Monday through a teacher led lesson often including a film or slide show. An example topic is labor issues during the Industrial Revolution. After the presentation students were put into sub-topic groups. Group membership changed with each subtopic. Two subtopics for labor issues, for example, were the Haymarket Riots and child labor. Students were given a multi-page handout with information about the assigned subtopic. As homework, students read the handout and answered questions supplied by the teacher about the reading. The next day students met with their subtopic group. The group’s task was to teach the rest of the class about its subtopic. The students decided how they wanted to present their information and then developed the presentation. Typically, the presentation was either a poster or a skit. Occasionally it was a poem, song, commercial, or quiz of some sort. Students had a great deal of organizational and procedural autonomy (Stefanou, Perencevich, DiCintio, & Turner, 2004). The information groups had to convey to their peers corresponded to the homework assignment which required each student to answer the: who,
what, when, where, and why of the subtopic. Before starting on their presentation, groups were to review the homework questions; discuss the important ideas; and agree on a set of answers. Usually, one student assumed the role of scribe and recorded the community’s answers. The resulting presentations often were quite theatrical and humorous. On the surface, this was a smoothly running, effective, group experience. Students were learning, but were they learning what was intended: gaining a deeper understanding of the societal impact of the forces set in motion by industrialization? In listening to the discourse, a more nuanced picture of the minds-on aspects of the learning environment emerged.

Example 1. Immigration

Four students read about immigration to America and answered questions for homework. Their task was to confirm their answers with the other group members and then figure out how to present the material to the rest of the class. The conversation began with the group trying to figure out what format to use to present the information to the class. Student L (SL), took on a clear leadership role. In a sense she assumed the role by right (Mercer, 2007) of her high status in the classroom community.

The group’s talk was directed by SL toward figuring out how they were going to present the information. The teacher stopped at the group and asked, “So are you guys starting out with making sure your answers are complete?” The group shifted gears and discussed the answers to the homework before deciding how to present their information. For the next 5 minutes, the group shared answers to the homework questions. Immediately after agreeing on the answer to the last question one student asked, “So, now are we going to do a skit or not?”

After a few minutes of conversation, mostly posing scenes for the skit, the group reached tacit agreement about performing a skit for their presentation, and continued brainstorming ideas for the skit. They decided the skit would depict the ocean voyage of Italian immigrants coming to the United States. SL was facilitating the discussion and taking notes as well. All the group’s talk was filtered through SL who went on, with very little help, to write and direct the skit. While rehearsing, the group got loud so the teacher came over to ask them to quiet down. Thirty-six minutes into the lesson, the group had created and run through the skit and began to rehearse for the second time. The teacher returned to make sure everyone in the group had gone over their answers to the homework. The group confirmed they had, and they returned their attention to the skit.

In analyzing this group session, the time students spent suggesting specific scenes for the skit was considered content talk, with 40% of the time spent on such talk. In this instance all of the content talk was cumulative as the talk never went beyond the written answers to the homework questions. Skit suggestions were either accepted or not. Suggestions never led to critical consideration of the underlying ideas about immigration. Discussion of the presentation’s format took 10% of the time. There seemed to have been no consideration of anything but a skit. The group then spent 50% of the time rehearsing the skit. The most salient goal in the minds of the students was putting on a good presentation with all their efforts directed at this goal.

Example 2. Bleeding Kansas

The group’s topic was Bleeding Kansas, the clashes between forces supporting and opposing slavery in the years just before the Civil War. The students had been given a handout with information on Bleeding Kansas and were to begin their group work by discussing it. In the
first four minutes they decided to do a poster. They talked a little bit about the topic and then moved to one of five classroom computers and started to look up information and illustrations about Bleeding Kansas.

The group’s talk took place around the computer, with one person seated in a chair and the other two (one student was absent) huddled behind. Student A (SA) (Letters representing students do not denote the same individual across examples.) led most of the group interaction. Student A was one of the regular class leaders. Student S (SS) did not contribute much to the talk and generally agreed with SA’s ideas. Student C (SC) appeared to want to be more involved and had ideas to share, but had a difficult time getting SA and SS to listen. SA began reading Wikipedia. Six minutes into the group work, SA suggested they discuss what they know about the events:

SA: Wait, why don’t we like, reflect on what we’ve got so far.
SA: So…Kansas and Nebraska were…
SC: It’s Kansas and um
SA: (Cutting SC off) No. It’s not. Kansas and Nebraska were a different thing, sort of…
SA: Oh, it was all in Kansas. It was pretty much like Missouri and Kansas. It wasn’t like a fight but the states were like, all fighting. It was in Kansas and they had a “little” Civil War.
SA: Like it was about people wanting slaves and not wanting slaves.

Nine minutes into the lesson, the group was engaged in procedural talk about how they wanted to present their information, including how to split up the tasks, who would write the poster, and what jobs each group member would have.

SS: What do you want to draw or write?
SA: Let’s get pictures off the computer…anyways you can get some really nice stuff off Google.
SS: Yeah, but what should we put on our poster?
SA: Yeah, that would be a good thing to think about
SA: Any ideas SC?
SC: (shakes head) I don’t know.
SA: I can’t figure out how we’re going to mush this all together.
SA: Oh I know how we can mush this together!
SC: How?
SA: Well you know how the Kansas Nebraska Act it went from 1854-1858, well then in the middle since bleeding Kansas comes in…Yeah! I know what we can do!
The group printed out more text and pictures. Returning to their seats, they decided to use SA’s ideas for depicting the information. For the next eight minutes, they worked on their own independent sketches for the poster. After 20 minutes, SA asked, just as the teacher walked by:

SA: Wait…how did the Kansas Nebraska Act actually act? It says…
Teacher: Excuse me?
SA: How did the issue get resolved?
Teacher: Well it (the handout) tells what it allowed. It outraged many because it repealed 1820. It got resolved by the Civil War. I mean here’s (referring to the handout) what happened.
SA: Oh yeah they made it into a civil war as Bleeding Kansas.
Three minutes later SC asked:
   SC: Do you guys know, I never really found out how it got resolved.
   SA: Bleeding Kansas. The Civil War resolved it.
   SC: Yeah…pretty much.
The group spent the next chunk of time working on separate poster ideas. As they had planned
to choose which poster to use for the final product they discussed this decision. The teacher
joined the discussion and realized the students had not been working together, but determined it
too late now to go back:
   Teacher: What’s the issue?
   SC: We each made different ones but we don’t know like how
   Teacher: Oh, of the same subject matter?
   SC: Same subject, we just made difference styles each.
   Teacher: Oh, how come you didn’t divide it into…well too late now, okay so…
   Teacher: Okay, and you have that information there?
   SA: So which one do you guys want to do?
   Teacher: You should see which has the most information at this point. He’s (SC) got a lot
   of good information in there, I mean as long as it makes sense.
SS advocated for SA’s poster and even though the teacher explicitly recognized that SC had
valuable ideas on his draft, the group used SA’s poster. The group spent the final 15 minutes
working at the computers. SA typed up their poster while SS and SC watched. Very little talk
happened. They briefly discussed whether font size should correspond to how important the
information was.
Out of 43 minutes, 4 minutes or 9% of the time was spent on content talk. The other 73%
was almost entirely procedural talk. Most of the procedural talk focused on which ideas the
group would use in the poster, who had the most or best information, and how the poster
physically would look. SA heavily influenced the direction of the group’s work. While SA was
influential, the most powerful factor was the product-oriented nature of the instructional goals.
Through several sets of utterances, particularly between SC and SA, that more exploratory type
of discourse would have been helpful in advancing their understanding of Bleeding Kansas. SC
and SA, moreover, were capable of sustaining such a discourse; one that likely would have
drawn SS in as a third participant.

Example 3. Haymarket Affair
Four students had read about the Haymarket Affair and answered the set of assigned
homework questions. They knew they needed to present the information about the Haymarket
Affair to their classmates later in the week. They gathered to review their answers to the
questions that were assigned. Combining their answers into one group set was the first
(required) step toward the presentation. Student J (SJ) was the leader of the group, not by
designation but by her “normal” status in the class and her skills and inclination to take charge
and be the group executive. This was not a problem in the group because they all recognized and
acknowledged her status. No one in the group competed for leadership, and SJ was particularly
adept at leading without creating resentment. It took the group about a minute to settle down. SJ
led the group through the questions and recorded their answers. The group’s discourse was
about the content but, it was entirely cumulative. In some instances, the discourse could have
become exploratory but did not. One question, for example, “Was the strike ultimately
necessary?” called for more than copying information from the reading; it called for something more minds-on. The group recognized that this represented a different kind of question. In the interest of time and efficiency; however, they settled on “yes” for an answer and moved on.

SM: Reads next question. “Was the strike ultimately necessary?
SJ: Wasn’t really a strike, it was like a meeting
SE: Was it necessary? (directed toward J)
SJ: Was it necessary… maybe…
SM: Yeah, I guess it was
SJ: I feel like… ???????
SM: Well it was a meeting. It wasn’t a strike. Like you said.
SE: (after looking at handout) It wasn’t a strike???
SM: Well no, it was…
SJ: It inspired many people to fight back, but the labor…
SM: So.. yeah (it was necessary???)
SJ: Yes… wait (looks at notes and text)
SJ: (records official answer) “yes”

After 13 minutes, this group had gone through the questions and SJ said, “Let’s decide how we want to present this.” The next seven minutes were spent discussing what form the presentation should take. SJ wanted the presentation to be a poem. ST was quite opposed. Most groups had been using skits for their presentations and most of this group’s members indicated they were envisioning a skit. The discussion became about suggestions for what might be in the skit, particularly how to dramatize a bomb-throwing incident. The teacher, who had observed some of the skit suggestions, stopped by and talked with the group about how a skit might work. The discussion about the skit continued until SE said, “If we do a skit, it will be too hard to make it all make sense.” SJ recognized the importance of this comment and after a moment’s pause, again suggested a poem. They discussed whether they were even allowed to do a poem. From that point, the group work consisted of skit improvisation and rehearsal. The skit essentially consisted of one student reading the answers to the homework questions while the others “acted out” the event. Approximately 26% of the time was spent in content talk, all of it cumulative. Another 15% of the time was spent discussing the form of the presentation. 59% of the time was spent rehearsing the skit. As was true of the other groups, this group saw the presentation as what was at stake or needed to be accomplished.

Summary of Baseline Videos

These group discussions provided an in-depth look into the quality of the thinking that took place in these social studies units. In each of these episodes, the group, early on, decided on the form of their final product. The groups tended to organize quickly, often with one member assuming executive control of the process. Group leaders tended to be high status individuals in the class. Typically, labor was divided, making for efficient work. The division of labor also got in the way of deeper discourse. Over 70% of the talk in the six episodes was procedural, that is, talk focused on the end product, whether that was a skit, poem, rap, or poster. Although content talk happened, it was almost exclusively related to producing a satisfactory product rather than to understanding the material being presented. The content talk that occurred in these episodes could have moved in an exploratory direction but instead was cumulative talk as students shared their answers so they could get one step closer to their goal of producing a good presentation.
(See Table 1.) The “job” as students saw it, was to get the task accomplished. In Bereiter and Scardamalia’s (1989) terms, learning as the purpose of instruction had been transformed into accomplishing schoolwork. Creating the presentations was hands-on, represented active learning, and for all intents and purposes had many of the recommended qualities of good cooperative group work (Johnson & Johnson, 1991; Slavin, 1990). Student thinking, however, was focused on producing a good presentation. Such a focus minimized opportunities to encounter peers’ ideas and thinking. Essentially, the thinking demands did not coincide with the kind of engagement that would help students develop deeper understanding of social studies content.

### Table 1

**Distribution of talk during the fall group work (in percent)**

<table>
<thead>
<tr>
<th>Date / Topic</th>
<th>Content</th>
<th>Procedural</th>
<th>Social / other</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/2 French Immigration</td>
<td>9</td>
<td>91</td>
<td>0</td>
</tr>
<tr>
<td>11/2 Italian Immigration</td>
<td>42</td>
<td>58</td>
<td>0</td>
</tr>
<tr>
<td>11/9 Bleeding Kansas</td>
<td>9</td>
<td>73</td>
<td>17</td>
</tr>
<tr>
<td>11/16 Transcontinental RR</td>
<td>11</td>
<td>80.5</td>
<td>8.5</td>
</tr>
<tr>
<td>11/30 Homestead Strike</td>
<td>20</td>
<td>56</td>
<td>24</td>
</tr>
<tr>
<td>11/30 Haymarket Affair</td>
<td>26</td>
<td>74</td>
<td>0</td>
</tr>
</tbody>
</table>

### Spring Group Work

After the fall social studies unit, a five week study of regions of the United States was the next instance of extended group instruction. The regions unit had been structured in the same way as the fall group work. Five groups were formed corresponding to the five official regions of the U.S.A. Each group was charged with becoming expert on its region and to be able to present the pertinent information about its region to the rest of the class. While collaboration and good talk are consistently sought after features in all the instruction in this classroom, the regions unit represented an opportunity to redesign the learning environment in ways intended to improve the quality of talk based on what was learned during the fall observations. Design decisions were made in the context of ideas about pedagogy grounded in principles that have emerged from what Schoenfeld (2004) referred to as a class of pedagogical approaches aimed at having students become reasoners and sense makers in various content domains. These pedagogical approaches include: fostering communities of learners, (Brown, & Campione, 1995); reciprocal teaching, (Palincsar, & Herrenkohl, 2002); knowledge building, (Bereiter, & Scardamalia, 2006); and dialogic teaching, (Wells, 2001). Common to all the approaches is an emphasis on discourse and deep disciplinary content. All these pedagogies involve students working collaboratively in groups. All are explicitly indicate that implementing a pedagogical approach cannot be successful unless all the features of the learning environment are understood and aligned as parts of a system. A central part of this alignment is the community’s shared understanding of its goals and purposes. The evidence from the fall semester courses suggested students’ understanding of the their goal was to create a good presentation. This did not align with the teacher’s goal, which was to build a deeper understanding of an historical period.

The teacher and researcher agreed that changes in the design for the regions of the United States unit needed to address the product-orientation of the learning environment. The design
goal was to put the focus on ideas rather than product. Instead of having the presentation be the
problem to solve, the teacher and researcher wanted the content itself to be the problem. We
wanted students to have to improve their knowledge, i.e., to learn, in order to tackle the problem.
As described by Engle and Conant (2002) “the core idea behind problematizing content is that
teachers should encourage students’ questions, proposals, challenges, and other intellectual
contributions, rather than expecting that they should simply assimilate facts, procedures, and
other answers” (p. 404). The newly designed problem for the regions unit was to redraw the
current regional boundaries of the United States. Students were assigned to 1 of 5 regional
groups. They had to become experts on the important features of their region. In the first half of
the unit, they focused on the physical environment of their region, creating a redrawn region
based on the physical environment (i.e. topography, climate, resources). Students met in their
group, and also with representatives of other groups in an “inter-region” conference. There
were four conference groups, each with five students and containing one student from each
region. The inter-region conference was a time to share your group’s ideas and reasoning and
learn about what other regions were thinking. Students returned to their regional groups,
compared notes from the conference, and worked on revising their initial redraw. The second
half of the unit was a repeat of the first, except the content was now the human environment.
Students in the redraw had to incorporate population, economic, and social data into their
reasoning. The last several days of the almost four week unit involved integrating everything
learned about the assigned region and the other regions into a redrawn United States map. The
class concluded with a discussion of the various redrawn maps. The following summaries of
group sessions are intended to convey the different character of talk during the regions unit.

**Example 1. Inter-region conference**

A representative from each of five regional groups joined with other region
representatives to share information and ideas for their regional rethinking of boundaries. Four
conferences were held, each attended by one representative from each of the five regions. The
protocol for the conference was to explain and discuss your group’s ideas. Students were aware
that they would need to know what other groups were thinking because later they would have to
make suggestions for redrawing the boundaries of the entire U.S.A.

The pattern of activity in the inter-region group began with a student reporting on his or
her region’s ideas. The report was quickly subjected to questions which themselves became
subject for discussion. No one monitored the clock as discussions merged into next
contributions. This pattern continued and yet each of the five students had a chance to share her
group’s thinking. The themes and ideas extended from one student-region presentation to the
next. Students adjusted their presentations in light of what others had said. Much of the talk
involved asking for, and offering, reasons for a group’s approach to redrawing boundaries. The
discussion often had an exploratory quality. In the example below, students considered whether
population was a good basis for boundary drawing because population can change over time.
They tried out industry and agriculture as factors that might be more stable than population. The
students quickly saw these factors can change over time and, moreover, they began to see how
the factors were inter-related. The following was their discourse from the 12 to 16:35 minutes of
the conference:

SZ: Okay, so, my problem with doing it with population is that population is very fluid,
in that, if someone, if there were to be…
SS: Like it keeps on growing?
SZ: Yeah, like, well, that and plus you can’t really, if a population is one way, that does not mean that it will stay that way. Like, …so like, if people were, if you were to base something off population, then my only worry with that would be, what if for some reason, like what if something beyond your control changed it and then your borders would make less sense.
SR: People are born and people die every single day.
SZ: That’s not what I’m talking about
SA: Population slowly increases though
SZ: People migrated to California during the Gold Rush
SR: Well, right but when…
SZ: What if global warming happened and everybody wanted to move to the North or something?
SR: But, these are for now, not for the future.
SZ: Yeah, but, so what you’re saying is you’re going to change it every year that the population changes?
SR: Mm hum
SZ: Okay, not sure I get that, but yeah…
SR: Are you saying you don’t like it?
SZ: I don’t particularly find some points in, or not find the point. I don’t particularly believe, but I’m just going to use like. I don’t really like using population because if you use population then, what was the thing you said about your measure being like stayed the same? One of you said that? “We chose to divided by two industries because it is a thing that changes very rarely and this change would give the states…” It is the thing that changes “very rarely” and I think that population often changes, for whatever reason, or can change.
SG: I kind of do feel like that’s true, I feel like this was a well thought out way, but at the same time I feel like population changes daily, like what if something happened…
SS: I like SR’s idea, but I also agree with SZ
SG: When you look at a chart over time, it either is going, for population, downward or upward, so I feel like it’s kind of hard to tell population shifts over time, so maybe if you wanted to change how the states looked, maybe every 50 years, you could do that, but at the same time that would be a hassle.
SZ: And, a little bit impractical.
SR: And what if industry changed, over the years?
SS: That will change
SR: Right, industry will change too
SG: I know, but industry doesn’t change as much as population.
SR: Well, I know population changes more, but it still changes.
SR: So, what happens when farmers spread out and say we can’t all work in one spot, we can’t all work in one part of the state because…
SA: SR, farmers need rich soil and they’re going to go where the rich soil is.
SS: SG, what if they have a problem one year, like all the bugs eat the tomatoes…?
SZ’s critical comments opened the door to exploratory talk. Later SZ presented his group’s ideas for redrawing regional boundaries in which they combined tourism, industry, and agriculture. Much of the rationale behind this approach had been discussed prior to SZ’s presenting the ideas and questions arose quickly. SZ now had his own questions about what his region group had done. The discourse exhibited a progressive quality as earlier parts of the discussion were incorporated later. This group was talking about the content for more than 93% of the time. All five of the students were active and engaged participants in the discourse. SZ seemed to have a strong influence here, but so did the nature of the task as evidenced by the fact every student was knowledgeable about their own group’s ideas. Except for the brief cumulative talk as each regional representative explained what their group was thinking, all the talk had an exploratory quality. Students were thinking aloud and thinking together, they were voicing half formed thoughts, their ideas changed and they recognized that they were rethinking earlier ideas. The students more and more appreciated the complexity of the problem (redrawing boundaries) and the complexity of the interrelationship of the various factors under consideration.

Example 2. Southeast group shares research

The southeast group was sharing information about states they had researched prior to redrawing the boundaries of the southeast region based on the human environment of the region. During the first part of the group meeting, students were presenting information about their states. Group members did not seem very engaged in the information being shared. Talk was cumulative. The group continued to share information for about 15 minutes. At that point the students shifted from reporting information to deciding how to divide their region.

SM: I think that we should think about one aspect of redraw so we could try and pick one and then just think about that. We could take notes. So why don’t we pick one aspect. What do you want to pick? Should we pick agriculture?
SI: Population, I like population.
SL: Well the population does change.
SM: Yeah, so what about something that’s fixed?
SL: Yeah what if there’s a hurricane or tornado in one part and then boom!
SK: Well I don’t think we should do it based off of something like population because population can change.
SM: We only have to think about the human environment.
SL: We could base it on natural resources.
SK: Well instead of resources we should do industry because resources is natural, it comes from the land.
SM: Yeah it’s only the humans, so only what the humans do.
SL: I think we should do human industries. We could also do where jobs are.
SM: Yes, jobs. So that sort of ties in.

The group continued trying to select a single characteristic in the human environment with which to begin, decided on tourism. Here, they started discussing the merits of the tourism idea.

SK: The tourism industry, it depends on a lot of things so it’s hard to make a whole section’s economy based off of what people feel like doing and tourism is that to the extreme.
SL: I do think we should do tourism because there are some major attractions. There is always the problem of what if they close down because the economy is getting better but what if there’s another recession?
SK: Well I was just wondering, what are some of the resources.
SL: I know what you’re saying, what if some of the big industries shut down? Like is Florida there’s Disney World, Orlando, The Harry Potter rides, big resorts, big theme parks, what if those closed down? It would kind of affect the tourism industry. So I see why that’s a good reason to not do that but at the same time there are some natural resources that would be good. For example, recession or no recession, Florida’s always going to have that same shape. There’s always going to be beaches because you can’t change the natural resources. So even if some of the beaches do shut down, there’s still that area. It would still be a tourist attraction and if the tourism industry were around these parts, there’s always going to be those beaches so there’s always going to be something recession or no recession.
SK: While I see your point, it’s not mine. What I was saying is, if you were to create an entire industry out of tourism, while I see why that might work, you gotta see that other things have things going for them. If the entire economy of Florida was based on tourism, it would not do well. There can still be a tourism region, but it can’t just be tourism.
SM: So this part’s tourism right?
SL: Yes that part’s tourism and here would be more devoted to corn and soybeans.
SM: here?
SL: Yeah, and farming.
SK: Dairy and cotton?
SL: Yes, would dairy be a part of it?
SK: That’s what I thought it said there.
SM: Yeah it says that.
SK: Well I have dairy in my state so I don’t see why it couldn’t be a region. I think the ideas are good, the lines are a little arbitrary and I think if we connected the dairy could be with the farming cause I know for me at least I have several different resources within just my state.
SM: So, what about here (redraws line).
SL: Yeah, I have several resources too.
SI: Guys guys, I have a great idea! Are you ready for this?
SI: I’m serious! If each state has farming or dairy or blah blah blah then maybe there should be a separate state where they can go for a market.

Of the 49.5 minutes this group worked 41.25 minutes, or 83%, was content talk. A small amount of this talk was cumulative but, the rest had a more exploratory quality as the group tried to figure out how to divide their region. Only 2 minutes, 4%, was devoted to procedural talk. The remaining 6 minutes, 13%, was social talk.

**Example 3. Southeast group returns from conference**

The southeast group returned from the inter-region conferences and shared what they learned. The group’s task was to redraw all the regional boundaries in the United States.
They began a discussion, sharing what they had learned and comparing it to their own ideas as well as analyzing the choices of the other groups, stating whether they agree or disagree.

SN: I thought that some of this wasn’t very accurate. Like I was questioning some of the data. Is oil right here?

SI: Well I thought oil and gas was down in Louisiana so I thought that was pretty viable. I didn’t know what population was but...

SM: I really didn’t like the population thing but I really liked where they were grouping small states together.

SD: Yeah because small states don’t make a lot of sense.

SN: They also did that over here but I’m not going to get into it. Around here, I didn’t think population was a very good idea. I even suggested this at the conference. For example what if there is a natural disaster or a manmade disaster?

SI brought up their group’s idea about tourism, asking if anyone at their respective conferences liked this idea. Everyone responded with a strong “no” and SM said they should just cut that. They continued to discuss the reasons against forming regions by population. SM brought up another group’s idea to cut one state into 1/3 and 2/3 in order to make all states about the same size. The group then got into a discussion about how big states should be, stating that some states were too big.

SD: Yeah because I think certain states are a little too big. Like California and Texas have a lot of population and a lot of land so it probably does make sense to split those.

SM: Yeah I guess so.

SD: So take for example, splitting a state like Montana would not make sense or Wyoming or Kansas or Vermont. They need size and population.

SN: Or Rhode Island...

(The group discussed whether they should move on or keep talking about this, and SM decided they needed to keep talking.)

The group moved on to discuss their own re-created region, which they drew based largely on tourism. After feedback from the other region groups in the inter-region conferences, they started to change their ideas about this approach. SN asked the group if they should base their borders off of population, industry, or something else. They all agreed that it shouldn’t be population and were able to summarize many of the earlier arguments. The group started to research industry in their region, deciding their map would be based off of industry and agriculture, because people will always need things and food. Here was an instance of pressure to get the task done (the redrawn map) cutting a discussion short. They had not had time to really consider new approaches. What they were confident about was that tourism alone was not a good reason for regional boundaries. Eighty-four percent of the talk during this group meeting was content talk with the rest being social talk.

**Summary of Regions Unit**

In the regions unit content became the central focus of talk as students grappled with the material with which they were working. As the students tried to figure out how to solve the problem of redrawing regional borders, their talk focused on the information they needed in order to complete this task. Procedural talk became very limited and tended to only occur when students were confused about their task or when they were deciding where to specifically place...
their new regional boundaries. Here, the students were faced with problems, which they were unsure of how to solve so, they pulled in information from their research and tried to construct a shared understanding of the task. Talk often took on an exploratory quality. In this example from an inter-region conference, students discussed different ways of dividing the country based on the human environment. Students had been struggling with the problem of population. They challenged each other’s ideas as they presented different reasons about how the human environment changes over time. This kind of wrestling with ideas was common in the regions unit discussions. It was clear students were starting to realize the interrelatedness of the factors they were discussing:

SF: And what if industry changed, over the years?
SS: That will change
SF: Right, industry will change too
SG: I know, but industry doesn’t change as much as population.
SF: Well, I know population changes more, but it still changes.
SG: Yeah, it changes but in a different way
SF: So, what happens when farmers spread out and say we can’t all work in one spot, we can’t all work in one part of the state because…
SA: SF, farmers need rich soil and they’re going to go where the rich soil is.
SS: SG, what if they have a problem one year, like all the bugs eat the tomatoes…?

The content talk also involved a lot of sharing and comparing of information. In this next example, students in a region group were coming together to share ideas about the physical environment of the specific states individually researched. They were discussing the amount of rainfall in different states and the question arose, “What would constitute a dry state?” The students were pulling in information from the resources they had read to answer this question. As they discussed this issue, they were trying to come to a meaningful way of comparing and contrasting climate and weather differences:

SE: And then there’s a lot of rain in Arkansas. Its…
SS: So they are not all dry states.
SE: It’s a subtropical climate so…
SS: So… And Oklahoma is more dry but the other two are more subtropical… Ok and so Utah and Arizona are both dry states.
SE: Oklahoma is actually… There is a lot of variation. There is also water… wet areas… Its…
SS: Well there is rain everywhere. On some level.
SE: Its got 10 different ecosystems. So I don’t think…
SF: Well what do you consider a dry state? Like how many inches?
SS: Well I don’t know. In the packet if it said, you know, “This state is known for having a dry climate” or…
SF: I didn’t see that but at the least its 14.6 for rainfall.
ST: That’s a lot. Mine’s 4.
SS: So do we think there is a big variation in the um… weather.

Even when students took what they called “brain breaks,” and went off topic momentarily, the digressions were normally short and often on a topic tangentially related to what the group had been talking about.
Table 2

Distribution of talk during the spring group work (in percent)

<table>
<thead>
<tr>
<th>Date / Topic</th>
<th>Content</th>
<th>Type of talk</th>
<th>Social / other</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/31 The Northeast</td>
<td>60</td>
<td>2</td>
<td>38</td>
</tr>
<tr>
<td>3/31 The Southwest</td>
<td>78</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>4/1 Inter-region Conference</td>
<td>75</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>4/4 The Northeast</td>
<td>61</td>
<td>0</td>
<td>39</td>
</tr>
<tr>
<td>4/4 The Southwest</td>
<td>93</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>4/8 The West</td>
<td>24</td>
<td>30</td>
<td>43</td>
</tr>
<tr>
<td>4/8 The Southeast</td>
<td>83</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>4/11 Inter-region A</td>
<td>93</td>
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<td>7</td>
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<tr>
<td>4/11 Inter-region B</td>
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<td>8</td>
</tr>
<tr>
<td>4/12 The Southeast</td>
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<td>17</td>
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<tr>
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<td>45</td>
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<td>35</td>
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Table 3

Overall distribution of talk (in percent)

<table>
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<th>Date</th>
<th>Content</th>
<th>Type of talk</th>
<th>Social / other</th>
</tr>
</thead>
<tbody>
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<td>19.5</td>
<td>72.1</td>
<td>8.2</td>
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<tr>
<td>Spring</td>
<td>71.6</td>
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Discussion and Conclusion

Academic work, as described by Walter Doyle (1983) and Bereiter and Scardamalia (1989) is shaped by the nature of classroom tasks and the accountability structure in which those tasks are accomplished. For most students, the goal of school is to complete the task and do well, thus learning becomes schoolwork. The salient reality for students is getting the work done. Getting the work done may, but often does not, require new learning. Students tend to use already existing skills and strategies that have worked for them in the past. Doyle further stated the most difficult tasks to install in classrooms are those that call for understanding and deep learning.

The findings of the present study confirm these long standing analyses. The evidence, however, allows a deeper look at the quality of what does happen, in particular what happens to the quality of thinking when accomplishing tasks was the salient and perhaps only goal for students. If discourse truly is “thinking made visible,” these results shed light on the way student thinking was affected by how goals were understood and by the ways in which the demands of academic tasks affected this understanding.

Most social studies educators observing the fall instruction in Group T would consider it well designed. Indeed, in most respects it was well designed. Learners were actively and collaboratively engaged. Student products and presentations contained relevant historical content. The atmosphere of the classroom was one of active engagement. The question addressed by this study requires a more in-depth examination of the minds-on aspects of the
learning environment. What and how were students thinking? To address this question, the study analyzed student discourse. During the fall groups were organizing themselves efficiently and getting the assigned tasks accomplished. The teacher believed having groups present their information to the rest of the class would launch students into deep consideration of content. The group’s discourse was evidence this belief was not supported. Exploring the content was far less important than coming up with a good, often entertaining, way to convey factual information. The group discourse was largely procedural. The content talk that took place was cumulative. There were a few instances where discourse approached being exploratory, but it never became sustained exploratory discourse in which content was treated as more than facts to be remembered.

Student discourse during the regions unit was very different from discourse during the prior units on the Civil War and Industrialization. The intent of the regions unit’s design was to present students with a problem of content rather than a problem of presentation. The evidence showed students spent considerably more time talking about content and much of their content talk was exploratory. It seems reasonable to attribute this change in talk to the de-emphasis on product accompanied by an increased emphasis on ideas. Problematizing the content changed the way students talked and, by inference, thought.

The regions unit was far from perfect and would benefit from additional improvements. Students found the content challenging and supporting them with resources of sufficient quality and quantity was one area needing improvement. Content was not the only factor at work in the complex, collaborative learning environment. The culture of the classroom and the ground rules for participation operating in the class were important contributors to group dynamics. The groups’ discourse showed the importance of individuals, combinations of students, and their history together. Given the same problem to solve, some of the groups were more engaged, going deeper, and having better talk. The nature and quality of group work was influenced by the particular combination of students and the nature of leadership in the group. These are all matters for further investigation.

The findings support the idea that students engaged in hands-on, active, collaborative social studies instruction may not have their minds engaged on content in ways that will help them learn meaningfully. By emphasizing products and performances, teachers are setting the stage for a kind of thinking that values efficiency and creating a polished product. The findings also indicate that teachers can change the trajectory of group thinking in significant ways. Teachers can work to create problems that require new ideas, information, and skills. The disciplines comprising the social studies have no shortage of problems that require students to look for connections among ideas and information.

Author Note
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