BASIC WRITERS USING CLICKERS:
A CASE STUDY

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BASIC WRITERS USING CLICKERS:
A CASE STUDY

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Dissertation

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ABSTRACT

Personal response devices, “clickers,” that allow students to answer questions and see on a projected screen the results of their voting, followed by discussion and reprocessing, is a form of educational technology that has been embraced by instructors of large classes, particularly in the natural sciences. This dissertation describes their use in an unusual setting, that of developmental writing.

This case study proceeds from looking at three of the researcher’s fall 2007 Basic Writing classes first through the prism of a written assignment on their participation in their previous English class and a personal technologies survey, to later looking at eleven students’ responses to and work within clicker lessons through videotaped observations, student written responses and post-semester interviews. Trying to appeal to the generational and affective factors that traditional age basic writers present, I wanted to see if overlap between those data sets might inform me on my students’ use of clickers in my classes.

I discovered that these students bring a lack of meaningful experience with co-construction of knowledge to the basic writing classroom and that their work there is hampered by wariness about classmates and a wish to multi-task rather than focus. Further, one class showed several students using a discourse pattern of a series of one-on-one discussions with the instructor while the other class showed a more complex pattern where a few dominant students co-constructed among themselves in a more extended
manner. Ironically, the class where students used the simpler discourse patterns had a higher number of verbal participants, and more students credited classmates as influential. Students who saw clicker lessons as integral to their learning (perhaps because it blended with their acknowledged learning style) had a more successful experience than those who saw clicker lessons as peripheral and something that had been imposed upon them. In the most positive manifestation of our use of clickers in the classroom, some students came to see their classmates’ portfolio revision work as relevant and inspiring models that they could apply to their own work.
DEDICATION

In memory

of my brother Patrick Miller and my sister Colleen Miller Pagan.

Dedicated to my parents, Ted and Eleanore Miller.
ACKNOWLEDGEMENTS

This has been a long, sometimes difficult, ultimately fruitful journey, so there are many individuals and organizations to thank. In my personal alphabet, the PhD follows these letters: OADE, NADE, ITL, SoTAL, EDocs and of course, UA.

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Thank you to The University of Akron’s Institute of Teaching and Learning, particularly its Founding Director, Dr. Tom Angelo and Dr. David McConnell, who followed him as Interim Director. Through ITL during Dr. Angelo’s tenure, I first saw clickers demonstrated, attended a presentation by composition and computers theorist Cynthia Selfe, and heard another presenter mention James Paul Gee, who influences this work. My experience with the Symposium of Teaching, Assessment, and Learning (SoTAL) under Dr. Angelo (as well as association with colleagues there, particularly Dr. Barbara Osyk) helped me see my career and myself in a new way. The following year, Dr. David McConnell gave me the chance to get in on the ground floor with clickers by
accepting me for the Classroom Performance System grant to join with other UA faculty in studying clickers in our classes, leading to this compelling research interest.

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Thank you to my students, particularly the fall 2007 students who participated in this research. With good spirit and refreshing frankness, they entertained the notion that their teacher wanted to learn from them. They gave me all I needed to understand clickers in Basic Writing in a more complex way than I’d imagined I could.

Thank you to UA in a broad way. After awhile here, it occurred to me that at this place, built as it is on hills, it is common to enter a building on one floor, and after walking to the end of the building, to find oneself one or even two stories up. That is a perfect metaphor: I entered on one floor and after some travel, now find myself looking down from a greater height, seeing, appreciating, and understanding more.

Finally, I thank my family, my siblings Maureen, Mike, Cathy, and Kelly; all my nieces and nephews but especially Katie, McKaylie, and Kealan, with whom I discussed the issues of this research and Andy, Colin, and Gwen, who demonstrated to me the appeal of Blue’s Clues; and my parents, Ted and Eleanore Miller, a teacher/coach and a nurse, jobs that, like parents, aren’t jobs from which one ever retires. In my childhood, they read me stories, bought me magazine subscriptions and books, took me places, and were interested in my ideas and in me. In adulthood, they supported me endlessly, tirelessly, and happily. If all children had such parents, a happy, healthy literacy would be legacies for all.
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CHAPTER I
INTRODUCTION

When you place together these technological, economic, and social components, the result is an infrastructure that makes certain kinds of human actions possible that were never possible before: the killer apps of tomorrow’s mobile infocom industry won’t be hardware devices or software programs but social practices. The most far-reaching changes will come, as they often do, from the kinds of relationships, enterprises, communities and markets that the infrastructure makes possible. (Rheingold, 2003, p. xii)

Background of the Study

In April 2003, at a university-wide teaching and learning conference featuring faculty showing their research, I first witnessed a demonstration of interactive technology. Within the framework of a PowerPoint presentation, audience members used handheld devices similar to a TV remote to answer the presenter’s questions by clicking buttons. The presenter’s laptop, equipped with hardware and software, received, tabulated, and displayed audience members’ responses on the screen, a process similar to the “Ask the Audience” segment of the television show, “Who Wants to Be a Millionaire?” (Beekes, 2006) While also supported with presenter-mediated talk, this technology took PowerPoint one interactive step further. Too often, PowerPoint is used to “replicate, not transform, the traditional lecture method” (Olliges, Mahfood & Tamashiro, 2005, p. 65). The answers we input were, when revealed by the presenter, visible in bar-shaped histograms as seen in Figure 1.
Figure 1. A screen histogram.

Just seeing where our thinking put us—in the majority, minority, or alone—seemed to encourage some presentation attendees to verbally justify their choices, and it made me think about my answers at least twice—when asked the question and when I saw the results. With at least one question/answer—regarding university faculty familiarity with Bloom’s (1956) Taxonomy—rumination looped in my mind long after the presentation as well. The logistics of such a presentation is illustrated by Figure 2.

Figure 2. An illustration of a class using clickers (Thalheimer, 2007, p. 11).
As I looked around the room, I noticed these things: the presenter was a geology professor, and so far as I knew, none of the others in the audience taught English composition or developmental education, my areas as a Basic Writing lecturer; most of those at the presentation were natural and social science educators. I also realized that, having coming in late because I was confused about the location of the presentation, I was in a position similar to that of many of my students when they first come to my class: confused, late, seated in the back row, mind buzzing with partly formed questions I was not bold enough to articulate. I was, nonetheless, captivated by this technology and what it might hold for my students and me.

While struck with an immediate wish to be able to try out such devices in my Basic Writing classes, I saw three possible obstacles to such experimentation: the first obstacle, that of access and opportunity; the second obstacle, that of pedagogy; and the third obstacle, the unpredictable nature of how my students might respond.

Obstacle #1: Access

The first barrier seemed insurmountable. Such high tech marvels were not the province of post-secondary developmental writing teachers. “Clickers” were used mostly in large science classes, inspired by Mazur’s (1997) use of them in physics classes at Harvard as a way to make vast stadium seating lecture halls bloom with clusters of mini-discussion groups; I never have more than 19 students per class. Further, it could be a tough sell to get my department to invest in this technology. How would that even work? Like all full-time faculty at my institution, I was supplied with a laptop that while owned by the university, temporarily becomes the professional property of the faculty member,
but what about the other equipment? Who would purchase the receivers and software, and as for the clickers, would students buy their own, or would we have a department set? Considering the logistics of access was discouraging, to say the least.

**Obstacle #2: Pedagogy**

The second obstacle was pedagogical: at this point, clicker technology had been used almost exclusively in the natural sciences and other classes with clearly defined correct and incorrect answers; in Basic Writing, the noncredit pre-English composition class that I teach, students write short narrative essays with a carefully scaffolded path through the writing process from freewriting through developing and organizing to revising and proofreading; through this all, students must learn to work with and beyond ambiguity. As much (and likely more than) the students in Perry’s (1970) study of undergraduate students’ evolving views of their role in their education, developmental students start college eager to learn the “facts,” to learn to distinguish correct from incorrect, and look to authorities such as instructors to dispense such information.

For example, students know that detail and description in writing are good; lack of the same is bad. Through the semester, they will examine multiple shades of gray as they analyze their work and that of others: What detail must be given, what expanded, what pared, what glossed over, and what omitted? Discussions where options and consequences cascade in questions and answers and more questions are not easy to instigate, and I wondered if clicker lessons might be able to free such discussion.

I even envisioned students giving incorrect answers to questions in a clicker lesson, but if they supported them with thoughtful reasoning and engaged in discussion
about their thought process, I could still see that as a potentially valuable use of class
time. These lessons would ideally allow my students and me to build a scaffolding
(Wood, Bruner & Ross, 1987) or a zone of proximal development (Vygotsky, 1978)
where we could work and play through a continual looping of making, defending,
considering, and reconsidering choices. Much would depend upon the kinds of lessons
and questions I would present. How might I design the best possible use of this
technology for my students and classes? The problems of matching pedagogy to
students, though, seemed dishearteningly distant.

Obstacle #3: Unpredictability of Student Response

Even if I got past those first two barriers and achieved access at the institutional
level and grounded my use of clickers in sound pedagogy, what about the unpredictability
of student response? How would my students respond to these kinds of lessons? Might
personal response devices turn out to be a game to them, a silly distraction? If no point
value were attached to correct answers, would they carelessly click buttons? On the other
hand, if I were to set a point value for correctness, how could that be fair when checking
for prior knowledge or trying to stimulate discussion? That would imperil my hope that
these lessons might help students open up and talk. Would they voluntarily, publicly
weigh options put before them, generate questions of their own, or even tolerate the
ensuing ambiguity? However, none of these questions could be answered without access.
Because of that seemingly insurmountable obstacle, I was not sure I would ever have the
chance to try to make this work pedagogically within a basic writing class and
idiosyncratically for basic writing students.
Grant Opportunity

It was only one year after seeing this technology demonstrated that, along with a few dozen full-time faculty members at my institution (a Midwestern, urban, open admissions, public university), teaching classes from developmental through graduate students, I was awarded a grant to pilot Classroom Performance Systems technology in my 2004-05 classes. I named my grant application “Off the Wall: Academic Wallflowers Blossoming into Active Learners through Interactive Technology” because that reflected my hunch and hope. I was ready to stake my hopes on the hunch that the way I saw myself mirroring my students that first day I saw interactive technology demonstrated—in the back row, flustered, silent but intensely interested and fully engaged—would turn out to be as true for them as it had been for me. Since I was at the start of my doctoral studies at that time, I decided that if the early infatuation with clickers continued to be borne out in the classroom, they would become the focus of my dissertation.

Statement of the Problem

Basic writing students and their instructors meet one another warily as members of vastly different clans, but at the same time, part of the same stigmatized class. Rarely readers but often avid talkers, most 21st century basic writers consider “text” a verb; meanwhile, their teachers are at home in a world of text (text, the noun, that is). As suggested by the different definitions for that word, this culture clash has a generational component as the students live not so much with but through technology. Perhaps the only major trait the two groups have in common is that of the same low rung on the
academic status ladder. All these factors make the basic writing class a challenge, indeed, often a problem, for students and teachers.

Academic Caste

In developmental education, “two significant trends in postsecondary education” converge: an “increase in the number of underprepared students entering colleges” and a “growing reliance on part-time faculty” (Eney & Davidson, 2006, p. 2). Since “an enormous number of basic writing courses” must be staffed, colleges “sometimes hire people with little or limited teaching experience” (Del Principe, 2004, p. 77). Novice teachers take these jobs because these may be the only positions open to them. As Dorac’s (2005) article title on the topic succinctly puts it, these instructors are often “Underprepared for the Underprepared” (p. 13).

Usually placed by their low scores on examinations such as the ACT, SAT, or COMPASS tests, basic writers are judged to be unprepared for credit level English classes and are assigned to basic writing (sometimes also taking basic math, college reading, or study skills courses). These students may be stunned to find that “the gap between high school graduation standards and college entry standards is sometimes substantial” (Kozeracki, 2005, p. 41). A troubling statistic from the California State University system illustrates this gap, showing that students “requiring remediation in English had a mean high school grade point average of 3.15, slightly higher than a B” (Schrag, 2002, ¶5). Upon being placed in postsecondary developmental classes, “some students are understandably confused or resentful if they must go from an honors high
school English class to a basic writing course in college. Figuring out how to move
students beyond their anger can be difficult for faculty” (Kozeracki, 2005, pp. 41-42).

Not long after the disappointment of receiving a rejection from one or more
colleges and the euphoria of finding an open admissions institution has admitted them
(while not yet aware of the open admissions concept), developmental students realize that
some or all of their first semester classes (which require the same tuition and book
money, assignment time, and commitment of a credit class) may not earn them academic
credit, and the goal line on their plans for a four-year (or two-year) degree is pushed out
by a semester or two. “I watched these students go through a series of emotions,” writes

Similarly, new basic writing instructors find themselves in a comparable but two-
fronted dilemma, as a teacher in the classroom and as a professional in the institution. In
the classroom, reading the writing of some students, instructors come to the realization
Shaughnessy describes in Errors and Expectations (1977), (a seminal book for basic
writing), where in the first years of open admissions in the City Colleges of New York,
she and her colleagues looked at their students’ first essays with shock followed by
dismay and bewilderment: this is not what one would expect of college level writing, and
whatever could be done to prepare these students for the demands of academic writing
within the short span allotted to any one class?

A second reality check that novice basic writing instructors confront is a
recognition that they are one of a cadre of almost exclusively “underpaid, overworked
(female) adjuncts…unprotected, unorganized teachers getting depressed wages and few
benefits” (Shor, 1997, p. 95). Institutional apathy as well as political hostility toward
developmental education like Troyka (2000) describes at the City University of New York colleges in the late 1990s (where Shaughnessy and others had pioneered the field in the early 1970s) take a toll on the quality and dynamism of what goes on in the classroom:

(B)udget cuts led to reassigning many of those full-timers to non-basic courses… (And) as soon as (full-time) faculty members left or retired, their positions were re-funded for adjuncts. Soon, more than 50% of all basic skills classes were taught by adjuncts, many of whom were high school teachers during the day. Slowly, many CUNY colleges could not help but lose their innovative edge. (p. 116)

The effects of a lower-caste faculty on students and classroom instruction include these: part-time instructors may not, because of outside employment or other responsibilities, linger on campus beyond classes and office hours; they may not develop professionally via conference participation or mingling with colleagues; and they rarely have the opportunity to pilot new techniques (like I was able to do with the clicker grant) that would give them opportunities to innovate and reinvent their teaching and their students’ learning. Not surprisingly, “(t)eaching methods used by part-time faculty appear to be very traditional,” with lecture being used “83% of the time,” according to a survey of 240 part-time faculty in community colleges presented by Keim and Biletzky (1999, p. 735). Further, “active learning and technologies are rarely or never used by 47% of the respondents” (p. 735).

Whether part-time or full-time, basic writing instructors may go from earning their Master’s degree in English (sometimes having specialized in literature or creative writing rather than composition) to a basic writing classroom without having had any previous knowledge of developmental education as a field, without being aware of its
journals and conferences, and without having read Shaughnessy, Rose, Bartholomae, or others prominent in the field. These faculty members may have entered “a literature program” as graduate students “because of a love of reading or writing, but it is unlikely they will be able to discuss Shakespeare or Melville with the students they serve on a daily basis” (Kozeracki, 2005, p. 42). Amy Lee (2001) uses herself as an illustration of someone in this position, who despite 11 years of teaching writing, found herself at odds with knowing how to teach basic writers:

I was wrestling with the question of how much my teaching should change in light of the fact that I was teaching basic writing (BW) in a developmental education (DE) setting. Should I spend much more time explicitly and directly teaching something called “academic discourse”? Would I spend more time “correcting” rather than responding to their writing?...How would I balance teaching them the conventions and expectations that I knew would be imposed on their texts, with teaching them simply to write, to become more comfortable and confident as writers in any given form? (p. 111)

All the issues that constrain and limit basic writing teachers—lack of familiarity with developmental education as a discipline; a likelihood that as a part-timer, they may be transient and over-committed; and the uncertainty of how to engage developmental students—also impact the classroom, students and their learning. As Shaughnessy (1976) writes, “the nature of instruction in writing is that teachers and students cannot easily escape one another’s maladies” (p. 234). That may go double for instruction in basic writing.

Basic writing students and their instructors often begin their association in that common stigmatization; students resentful of placement in a non-credit, low prestige class while inwardly fearful that their institution’s dim view of them as writers and students may be correct; and instructors, fixated on how these students are not the kind of
college writers they were but reluctant to (or unsure how to) design lessons that might engage developmental writers. Those are “the traditionally prepared English teachers…learning to teach in the open-admissions classroom” that Shaughnessy put at the first of four developmental stages as teachers intent on “protecting the academy (including himself) from the outsiders, those who do not seem to belong in the community of learners” (p. 234).

Shaughnessy sees development as possible for instructors as it is for students as they advance to the latter three stages of “converting the natives,” “sounding the depths,” and “diving in” (pp. 234-238). However, since such growth is not always expeditious for students or their instructors, in many classrooms, basic writing instructors and students meet one another, uneasy in their shared stigma, looking for a way through, a way out.

**Culture Clashes**

Basic writing students’ and their instructors’ differences are more consequential than an “I say ‘tomay-to’; you say ‘tomah-to’” debate since their roles bring them into “a contact zone…a social space where cultures meet, clash, and grapple with each other, often in contexts of highly asymmetrical relations of power” (Pratt, 1993, p. 34), “a territory where the colonizing academy and the colonized student clash” (Marinara, 1997 p. 4), potentially turning our classrooms into “a site of contest and control” (p. 4). Many basic writing instructors can recall times in their classrooms when, much to their regret, student-teacher struggles for control superseded the intellectual questions.

A milder illustration of this culture clash from the teacher’s end of it is seen early every semester when in preparation for our first individual conferences with our students,
Basic Writing colleagues and I tape up signs directing students to our offices, verbal crumbs scattered through the academic forest, strategically positioned near eye level on walls, bulletin boards and doors to guide our students to us, only to frequently find a wide-eyed student wandering the halls, seemingly seeing everything but the posted directions. We greet the students, our own or another’s, ascertain the dilemma, and point out a nearby sign. Sheepishly, they seem to gulp, “Oh! How did I miss that?”

Retelling such incidents to one another, colleagues and I bemoan the fact that what we seem to inhale and exhale—words, the reading of posted office directions, road signs, bulletin board notices, office door cartoons and articles, billboards, cereal boxes, books, newspapers, and professional journals and the writing of essays, letters, personal journals, and class materials—is seemingly a foreign substance to our students.

If our students seem to come from oral, visual, aphorism-quoting cultures like those represented in the Trackton and Roadville communities in Heath’s (1983) Ways with Words, we composition teachers seem to be descendants of Scout Finch from To Kill a Mockingbird (Lee, 1960) whose home literacy lessons so preceded schooling that becoming a reader and writer was untainted by enforcement or evangelization, neither a virtue nor vice, neither blessing nor curse, but a foundation for who we are and how we make ourselves daily. For us (and most successful readers), learning to read was “a cultural and not primarily an instructed process” (Gee, 2004b, p. 13) while for our students, learning to read likely came through an instructed, institutional process, may not have been fully acquired, and may be practiced as a put-upon chore rather than another sort of conversation.
Basic writers doodle on their notebooks more fluently than they write in them; tap a cell phone keyboard more adeptly than a computer’s; and when asked to read a draft for in-class group feedback, their eyes may wander from their page, moving to their strength, making eye contact with others around their circle to tell a story orally rather than reading their sometimes labored word-by-word, seeming to recognize that their speaking voice, not their writing one, is the experienced and dominant one. As the poet Adrienne Rich (1972) writes of her experience teaching developmental writers in the City University of New York, “Some students who could barely sweat out a paragraph delivered (and sometimes conned us with) dazzling raps in the classroom: How could we help this oral gift transfer itself onto paper?” (p. 56) One enormous obstacle, of course, acknowledged by them and their teachers, is grammar. “(I)nhibited by their fear of error,” they see “academic writing,” even that of a personal narrative, as “a trap, not a way of saying something to someone” (Shaughnessy, 1977, p. 7).

Basic writers lack confidence particularly in their grammar, which they tend to consider the only weakness as writers. Whenever I ask students to write an answer to the question, “What is it you most want (or need) to learn in this class?” invariably, the predominant answer is grammar. They see Basic Writing (or English Composition at the latest) their “last chance to understand what is going on with written language so that they can control it” before it controls and perhaps overpowers them (Shaughnessy, 1977, p. 11).

Still, while some students state that they need (and are thus feel duty-bound to want) grammar instruction, that does not mean they welcome it: in my earliest years teaching Basic Writing, the usual protocol of grammar lessons, that of opening a text;
looking at a lesson; doing exercises as individuals, in pairs or groups; and ending with board work sometimes collapsed into the homonym for that, “bored” work. As Rose (1989) writes:

The particulars will vary, but in essence this is what a number of students go through, especially those in the so-called remedial classes. They open their textbooks and once again the familiar and impenetrable formulas and diagrams and terms that have stumped them for years. There is no excitement here. No excitement. (p. 31)

While most basic writing instructors would assert that it is not their function to provide “excitement,” two crucial counter-points must be made: first, is there not something in the interplay of writing, reading, and talking that excites the writing teacher in such a way that she might yearn for some medium whereby that excitement might be expressed, communicated to, and even transferred to or sparked in students? Second, when lessons aimed by well-meaning instructors do not inspire students to think, consider, and reconsider, there may not be much learning going on. After all, is not engagement, an oft-expressed goal of educators, another word for “excitement”?

As Gee (2005) writes in his work on the learning principles of video games, “Pleasure is the basis of learning for humans…a basic drive for all humans. School has taught people to fear and avoid learning as anorexics fear and avoid food,” reducing “some people into mental anorexics” (p. 4). He draws a connection between gamers, which some of our students are, and professionals, a destination we would like to assist them towards: “The other people” besides gamers “who say they are playing when they are working hard at learning are those professionals—scientists, scholars, and craftsmen—who love their work” (p. 4).
Another advocate for finding alternate ways of reaching not just developmental students but those from the larger group most of them belong to—the generation of tech-savvy traditional age students—is Prensky (2001, 2006) who calls them “Digital Natives,” as opposed to their teachers and parents, who are “Digital Immigrants” (2006, p. 27). These “teachers and parents, who came from the pre-digital age, are struggling to teach a population that speaks an entirely new language” (p. 29). The differences between these generations (pp. 29-30) are summarized in Table 1.

Table 1: Two Generations’ Different Ways of Learning and Working

<table>
<thead>
<tr>
<th>Digital Immigrants: Teachers, Parents</th>
<th>Digital Natives: Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Prefer one thing at a time</td>
<td>● Like to multi-task</td>
</tr>
<tr>
<td>● See text as primary communicator with graphics as a back up</td>
<td>● See graphics as primary communicator with text as a back up</td>
</tr>
<tr>
<td>● Prefer information presented in neat order</td>
<td>● Prefer learning through information they have gathered in seemingly random ways</td>
</tr>
<tr>
<td>● Teach slowly, step by step</td>
<td>● Like to always be in touch; “function best when networked”</td>
</tr>
<tr>
<td>● Believe that work is not always fun</td>
<td>● Want to blend work and fun</td>
</tr>
</tbody>
</table>

In the face of these differences, Prensky suggests the “Digital Immigrants” not fall to the temptation to “grous(e) about how good things were in the ‘old country’” (p. 31) and instead proceed from the recognition that these students “require from us different ways of doing things” (p. 31). In the same vein, Gee (2007b) says, “Today, culture sometimes goes backwards. We adults pick it up from our children, rather than the other way round” (p. 1). Rather than lapsing into denial or disdain, the long-held but
not-often-followed value of teachers letting students teach them how to teach them is more necessary than ever.

Because of the limited opportunities that result from their low status but also spring from their text-based orientation, basic writing instructors may be reluctant to explore “Digital Native” pedagogies in their classes. Some may believe that holding classes in a computer lab is sufficient tech outreach for their students, and that the majority of traditional age students’ comfort in that environment may seem to justify it. However, a collection of silent individuals working solitarily calls to mind the concept of parallel play (Parten, 1932) among toddler children where in their earliest stage of playing together, children actually play side-by-side with little interaction, not the networked social learning advocated by Vygotsky, Bruner, and others.

Some teachers’ reluctance to use technology in their classes may originate from an inexperience with technology that parallels the students’ inexperience with writing. It may also stem from a conviction that technology use in the composition curriculum is irrelevant or a waste of time that will not prove proportionate to the time, energy, sometimes money, and often ego invested. These “colleagues frequently seem indifferent or even afraid of” their peers’ “efforts to integrate computers into the curriculum, as though such efforts are outside their realm as English teachers” (Sommers, 1992, p. 43). They may see those who want to employ technology in teaching English composition as representing a “disturbing clash in values between humanism and technology” (p. 43).

A binary split has traditionally segregated the humanities (English, philosophy, art, etc.) from technology (along with science, engineering, and mathematics, making up the now widely-used acronym STEM) (Kneivel, 2009, p. 94). An extended but relevant
aside: I cannot help but recall what the neighboring Carnegie Mellon University students called one other when I was an undergraduate at the University of Pittsburgh in the early 1980s—humanities people were “fruits,” and technology people were “vegetables”; the thought of any cross-pollination was absurd. Ironically, it was only 15 years later that computer science professor Randy Pausch and drama professor Don Marinelli co-founded CMU’s Entertainment Technology Center (History of the ETC), thus manifesting such a once-unbelievable cross-pollination. While this center may be a trendsetter with its establishment of a new sort of academic degree, it also stands for the increasing cross-pollination of technology and humanities among many individuals across academic and nonacademic life.

Even “(t)he unfamiliar and often unpleasant terminology” that computers used in the early days was “intimidating to many people, especially to those who place a high value on language” (Smith & Selfe, 1988, n. p.). Who wanted to interact with a machine that spoke in “DOS’s vocabulary? (Abort? Retry? Fail?) seemed to conflict with a humanist ethic and confirm belief in the ruthlessness of technology run amok” (Kneivel, p. 96). Who wanted to interact with a *machine* at all? This divide is longstanding and for many, still wide—but not for all, due to this pivotal difference: we no longer interact *with* machines so much as *through* them, and perhaps, there may be things we can do *through* them that we would not be able to do *without* them. As the Rheingold (2003) quote opening this chapter suggests, technology is not about the chips and bolts so much as the connections and possibilities it has a unique ability to forge.

While early computer language was harsh and mechanistic, it is worth noting that keywords and objectives for constructivist English composition overlap with those of
educators who seek a technological connection with students, including “collaboration…” and “non-hierarchical” practices and beliefs (Sommers, p. 44). The passive-to-active paradigm shift demonstrated by blogs, wikis, and open-source software, where “knowledge is always/already under revision, with that revision in the hands of the collective” is “a far more active, participatory model in the electronic age than in the age of print” (Kneivel, p. 103). It also reveals how the ideals of compositionists are reflected in the milieu that is represented by what Sommers’ traditional colleague derisively called “computerland” (p. 43). When individuals began “talking” with others through the computers, this “relocate(d) the humanistic online” (p. 102). Recognition that this “computerland” sub-group within composition (which includes theorists Sommers, Selfe, Hawisher, and others) aligns with the purported values of the whole may serve to increase understanding and enlarge the definition and practices of what an English composition or basic writing class might be.

*Constructivism, the Basic Writing Classroom, and Interactive Technology*

A basic writing class should be centered not on text, teachers, or even on students so much as a provision for them of extensive practice with constructivist discourse. While Bartholomae (1986) asserts that students must “invent the university” (p. 4) for every writing assignment within the academy, taking on the voice and persona of a literary critic for an English literature essay and that of a psychologist for a psychology essay, more to the point for basic writers, Bizzell (1992) says that it is not so much an array of discourses that must be invented so much as “the idea of discourse itself—the idea that language use in any social context is formed into a regular discourse by the
collaborative efforts of the people who have worked on and are working on a discourse” (p. 210). Put more poetically by Rose (1989) in our “extraordinary social experiment” where we attempt to provide education for all members of a vast pluralistic democracy… We’ll need a pedagogy that encourages us to step back and consider the threat of the standard classroom and that shows us, having stepped back, how to step forward to invite a student across the boundaries of a powerful room. (p. 238)

Thus far, the “system of exchange” of student writing and teacher feedback “has so far yielded much more information about what is wrong with students than about what is wrong with teachers, reinforcing the notion that students, not teachers, are the people in education who must do the changing” (Shaughnessy, 1976, p. 234). If one accepts that premise, and I do, what kind of changing must teachers do to better engage basic writers?

A “variety of teaching methods,” particularly those that actively involve the students, is recommended for developmental students (Boylan & Saxon, 2005, p. 3). They “have been lectured to in the past without much effect…If traditional teaching methods had worked for these students, they would not be taking remedial courses.” In Boylan and Saxon’s survey of the research offering suggestions for effective teaching in developmental education, they cite evidence (p. 3) that these students are:

- “Much more likely to be either iconic (visual) or hands on learners” (Canfield, 1976).
- “More visually oriented or more inclined to learn through direct experience” (McCarthy, 1982).
- More likely to have a learning style that was visual or “haptic,” defined as “learning by doing” (Lamire, 1998).
Boylan and Saxon suggest an array of teaching methods to include “class discussions, group projects, and various types of mediated learning” (p. 3). These nontraditional teaching methods cluster around ways to bring students into their learning. Dunn (2001) urges writing teachers to utilize students’ “multiple ways of knowing” (p. 8) and recommends Freire’s (1993) “multiple channels of communication” which tap “different people’s aural, spatial, visual, and kinesthetic ways of knowing,” (p. 49). Dunn continues, “Using multiple ways of knowing also addresses a pedagogical injustice” where “(t)hroughout most of the education system, and especially in writing classes, students are forced to use linguisto-centric tools to perform virtually all intellectual tasks” (p. 8). Bruner (1966) introduces the idea that children’s learning advances from enactive (kinesthetic, tactile learning) to iconic (visual learning) to symbolic (language learning) (p. 11), and maybe that holds for older learners too. Gee (2003b, 2004, 2005, 2007a, 2007b) makes similar points, urging educators to pay attention to the ways people (especially the young) eagerly take on the often-demanding mental challenges embedded by designers in video games; people will pay money and invest time and effort to learn, enjoy, and learn some more through a platform that triggers this almost “biologically motivating” (2004, p. 16) aspect of learning that, untapped, represents a missed opportunity. Since they are the ones charged with planning the lessons, instructors can work to design and provide that platform and assess its value, making adjustments where needed. Starting by recognizing how our own orientations and preferences also speak to roads not chosen is a way to begin.

Basic writing students must learn to use the back-and-forth of effort followed by feedback followed by reflection followed by repeated rounds of the same sequence to
build ideas into writing, and their teachers must provide experiences that encourage those kinds of interactions. This should not be as difficult to generate as it sometimes is because there is an interactive element to such lessons matched by an interactive impulse, “a deep human need to respond to others and to operate jointly with them toward an objective,” which Bruner (1966) calls “reciprocity” (p. 125).

Lessons that use personal response systems appear to share features similar to technologies that twenty-first century college students prize—the cell phone, text messaging, video games, and social networking sites like Facebook. These technologies allow one to communicate in real-time, provide interactivity, and blur the line between private thoughts and public actions. The impulse among most college instructors is to view students’ relationships with personal technologies with something approaching jealousy: Why not the same excitement for writing an essay as a text message? Why, among all that is on their desk, is it the cell phone and not the books and notebooks that so captures their fancy? This study aims to examine and explore how students’ attachment to personal, interactive technologies may teach their teachers about how to reach those students and what may ensue once that connection has been made.

Statement of the Purpose

The purposes of this study were to discover basic writing students’ behaviors with and attitudes toward personal technologies and how such practices and beliefs may inform my observation of the experiences these students have within clicker lessons, particularly their efforts to construct learning. In my use of personal response devices in Basic Writing in the three years that preceded this study, it occurred to me that this sort of
educational technology may be closer “kin” to personal technologies with real-time interactivity than it is to external and institutional technologies such as viewed media (like television or DVDs) or even personal computers, which, to master, take an investment of time, effort and practice greater than some basic writing students have made. I examined the commonalities and the differences between personal technology use and clicker lessons, seeking links from the former to the latter that might give insight about ways to reach and teach basic writers.

Research Questions

This study aimed to answer three questions:

1) How do these Basic Writing students participate in clicker lessons?
2) How do these Basic Writing students construct knowledge in clicker lessons?
3) In what ways do clicker lessons tap features of these Basic Writing students’ use of personal technology? How do findings in the latter inform the teaching and learning in the former?

Significance of the Study

There is often a chasm between the kinds of text-based lessons that basic writing instructors generally employ and the kinds of lessons basic writing students find interesting, relevant and helpful. Students, particularly those whose writing has been judged as not ready for a credit-bearing English composition class, are increasingly attracted toward a world of interactive, personal technology represented by cell phones and social networking web sites. Meanwhile, their instructors—maintaining an allegiance to text, of a different generation, often marginalized as adjuncts or non-tenure track
faculty—may not utilize the kind of lessons that meaningfully connect those students with learning, writing, and postsecondary education.

This study sought to address the lack of research in three areas: first, by using qualitative research in developmental education; second, by examining the use of personal response devices in a basic writing course; and third, by recognizing the gap between the professed ideals of developmental education and the types of research commonly done in it, in an attempt to better integrate those ideals with this research.

To elaborate on each of these aims, first, regarding use of qualitative research, Higbee, Arendale, and Lundell (2005) recommend the use of qualitative research in developmental education: “Scholars have primarily taken a quantitative approach towards studying” developmental education. Because of that, few studies “have centrally featured student voices and the nature of their educational experiences” (p. 8). For a study that features an examination of the educational influence of social interaction, the inclusion of such “student voices” is essential. Further, “(q)ualitative research brings a more nuanced view of the complexity of students’ lived experiences” (p. 12). Since this study employed data featuring the students’ own spoken and written words, it aimed to capture the way they used and viewed this technology and how it may have influenced their engagement and subsequent learning.

Second, there has been limited qualitative research on clickers in the classroom (most studies involve surveys with large groups) and to my knowledge, the social milieu of personal response systems has not been studied in developmental writing or English composition classes.
Third, often there is a difference between what developmental educators profess as ideals and how we design our research. We claim to reject deficit models and focus on developing rather than remediating, but according to a study by Lundell and Collins (1999) that surveyed 20 articles from each of seven domains within developmental education, the research concentrated on “behavioral and skills-based issues and needs” and “individual deficit and its remediation…reinforcing dichotomized ‘insider versus outsider’ categories,” “discount(ing)” developmental students’ “prior knowledge, strengths, and home cultures” (pp. 7-8). By using so much data (written material, interviews, videotapes of class) that comes directly from the students, I hope to redress this discrepancy and examine their words (and the context of them) to better understand and teach them.

Therefore, both at a macro level, where there is a need for more qualitative studies of developmental students featuring a design that reflects the values of our evolving field, and at a micro level, where there is little or no research on how basic writers construct knowledge via clicker lessons, this dissertation is intended to help address these needs.

Situating Myself as the Researcher: My Biases

To write ethnographies about writing communities is, in a sense, to conduct an inquiry in a room of mirrors. We are studying communities with which we already share some degree of membership….Not only is our narrative presence inscribed in the stories we tell, but our assumptions about writing and discourse are refracted in the very forms with which we tell our stories. In short, the literacy events of others—the purported subject(s) of our inquiry—are inevitably framed in our own literacies… How can we conceive and reflect the “other,” the not-us…in a text that is marked through and through with our own discursive presence? (Sullivan, 1996, p. 97)
While this work is designed as a case study and not ethnography, literacy researchers Birnbaum, Emig, and Fisher (2005) note that “a clear demarcation” between case study and ethnography “grows increasingly blurred” (p. 138). Too, Sullivan’s characterization of the writing teacher/researcher’s pervasive presence has resonance for me, someone more at home with the discourse communities of developmental education (where conference presentations tilt more to best practices sessions than research-based ones) and English composition (where journal articles are expressed in prose that sounds more like my “home” language) than with educational research, where, even the qualitative realm seems more scientific than I ever feel that I am. At bottom, I am not a scientist who poses a question and then works through a protocol to an answer; more, I am an essayist who explores an admitted bias, discovering through the alchemy of the writing process new facets or unexpected flaws, and seeks to share that journey with others. That journey is never a circular one; whatever biases I pack with me at the outset do not survive in their original form. This particular journey, where the writing process combines with the research process, should, whatever my biases be at its outset, provide a destination that I cannot predict and one that I will strive to make credible to those in all my “communities”—developmental education, English composition, and educational research.

Further, it is disingenuous and a betrayal of a valuable resource to take a distanced stance not only from the experience of the last three years but that of a lifetime. Everywhere I look, as the Sullivan quote about “a room of mirrors” suggests, there I am with my longstanding interest in social-academic accelerants, here played by the clickers. So, imagine my delight as I discover that I do not have to discount the resource of the last
few years. As Bissex (1987) writes, “A teacher-researcher does not have to be antiseptically detached. He knows that knowledge comes through closeness as well as through distance, through intuition as well as through logic,” (p. 3). A teacher-researcher is “an observer”, “a questioner,” “a learner”, and not “a split personality but a more complete teacher” (pp. 4-5). From that encouraging starting point, I list my biases.

First but least significantly, my biases have a monetary root: I have gained financially (albeit modestly) through the 2004 grant through which I first studied clickers in my classes; professional development money (given by an on-campus teaching and learning institute) to help new clicker faculty at my institution; as well as travel expenses deferred by my department at those conferences where I presented my findings—thus-far.

Next, while some evidence from my pre-dissertation findings has given me tempered pause to attend to troubling facets of basic writing students’ views of clickers (for example, a few students in my preliminary work have remarked that they like clickers because they do not have to write in those lessons—a reason that makes me uncomfortable), my interest has not waned even as it has been informed. Through my participation in the 2004-05 grant study, using clickers in my Basic Writing classes since, making conference presentations on my research, and tailoring assignments in my doctoral classes to continue my development of interest in this field, and through all that I saw, heard, read, and experienced, I never deviated from the basic conviction that clickers in basic writing could be good; the key questions were when, how, and why.

One reason I have been so taken with clickers in basic writing is that the potential such a technology holds is elemental to my own identity as a teacher, researcher, and person. Indeed, my biases only seem to date back to my first infatuated meeting with
clicker technology at that 2003 presentation. In actuality, my interest in the issues raised in clicker technology goes back much further. As I looked at my fellow doctoral students in the College of Education as they approached their own dissertation work, it seemed evident that many of us chose to spend this important time attending to issues that emanate as the central issues of our lives as teachers and students—as human beings. For me, that seems to be a preoccupation with the polarity of introvert-extrovert, or more commonly, shy and outgoing, and a belief that these polarities represent a teeter-totter where one does not have to remain fixed on either side indefinitely; that, like the thin person inside a larger one, there is, if not an extrovert within an introvert, something within almost all students seeking release given the right circumstances. Finally in this string of revealed biases, I believe that the classroom environment can play an important role in gravitating students to the greater learning and satisfaction that comes with becoming an active participant in a classroom.

Such beliefs are rooted in my own history as a student, and my first journey from introvert to extrovert, as illustrated in the following example: how could someone go from being somebody who literally hid in stalls of the restroom in seventh grade during lunch time because she believed no one liked her (and therefore did not see much to like in those other kids) to someone who went to a high school in the same town with many of the same kids and was elected class secretary her senior year? I was essentially the same person, just a few years later. What was so different?

The classroom structures of the private grade school versus the public high school I attended may well have been at least partly responsible for the difference between a shy, alienated preteen and a confident, at ease teenager. In grade school, the teachers
recognized me for my artistic abilities and often set me up alone with art supplies while classmates buzzed around with more social projects. In class, when teachers’ curricular questions were met with my classmates’ stony silences, I hated the mean looks of teachers so much, I sometimes cracked, raised my hand, and gave the answer that I was pretty sure others knew, but as the one most bored and stressed by the standoff, I broke first. (It is interesting to notice now, years since, that in such circumstances, I viewed participating in class a weakness and not a strength.) On other occasions, I was not able to restrain weird questions, like, was the whey we learned about in science the same whey in the “curds and whey” of the Miss Muffet nursery rhyme? All these traits—being isolated with the art supplies, answering questions in class that most classmates spurned, and occasional bursting with weird questions—added up to someone who might want to hide out in the bathroom at lunch time.

In high school, things changed. I took two years of a public speaking class and was able to bring my writing ability out in public, and it became clear to me that after my first few speeches, my classmates seemed to look up with anticipation when I went to the front of the room for my turn. In Latin class, I co-wrote and acted in a college language festival’s first prize-winning play showing the return of the Roman gods to modern-day Rome, New York; we made a big hit wearing bed sheets and speaking punch lines in Latin to laughing, appreciative classics scholars. In English classes, we shared drafts and gave one another advice, something I now take for granted as a writing teacher but was a pleasant surprise and an assist in helping me meet my reading audience and become an identity in my high school universe. I wrote for the school newspaper and even the town’s, and when classmates and adults complimented me on my writing, on one hand, I
felt as if I was taking credit for my brighter, secret twin, but on the other, I started to feel my private and public selves coming together in a very satisfying way.

All the academic social structures of my high school—sharing in-process work; having a public, real-time venue for one’s ideas; and working with others on creative and cooperative projects—made a huge difference for me. It allowed me to belong and function in a secondary school academic community and prepared me to do the same in college. In all these cases, I essentially accompanied my ideas out in public and gained the confidence that allowed me to build momentum and increased opportunities.

These experiences (and the subsequent reversals of outsider/introvert-versus-insider/extrovert status that came with moving through academic and employment environments that were less and more hospitable in the years since) have served to make me sensitive to and interested in conduits that make students want to participate, talk, and open up to learning and the transformation it may hold.

Certainly, the “clickers” seem to have many of the same features of other interactive social tools of 21st century students, offering real-time interactivity that provides immediate feedback. Like the cell phones, clickers may have the hands-on, “prosthetic” potential Clark (2003) attributes to cell phones (p. 9). Like instant messaging, text messaging, and video game playing, where rapid-fire action and reaction provide constant challenge and instant gratification, or social networking sites, where everyday site designers make daily decisions on what material to make public and what to keep private, clicker lessons are full of action and reaction, choices and consequences, and balancing of public and private.
Finally, I have biases regarding basic writing as a construct and basic writers as students. Basic writing has been targeted from both the political right and the left. From the right, former New York Mayor Rudolph Giuliani led a movement in the late 1990s against developmental education in the City Colleges of New York (Wiener, 1998). From the left, Ira Shor (1997) is prominent among those who view basic writing as an oppressive force in itself, a form of tracking, discriminating in particular against African American students. Greenberg (1997) responded to Shor with a reminder of how basic writing serves students with an infrastructure of smaller classes, more individualized instruction, collaborative learning, and frequent in-process analysis of drafts: “The goal of these courses is often the same as the goal in upper-level courses: to empower students to use language fluently and authoritatively to transform their lives” (p. 91). From my admittedly biased vantage point in the classroom, transitional courses such as Basic Writing carry potential for good. That word potential is pivotal because, like Rose (1989), I am aware that there are ways to “do” basic writing very poorly indeed, collapsing into a “curriculum” that, in its biases about the limitations of basic writers, “teaches them that writing is a crushing bore…” and severs “(l)iteracy…from imagination” (pp. 211-12).

My 13 years of teaching Basic Writing have shown me how much these students can accomplish in a semester. Splashed with the cold water of early adulthood, many decide to make the most of what they recognize as a pivotal moment in their lives but one fraught with danger because of that history of poor decision making that comes with them to college. They are Gee’s (1999) “authentic beginners…people, whether children or adults, who have come to learning sites of any sort without the sorts of early preparation,
pre-alignment in terms of cultural values and sociocultural resources that more advantaged learners at those sites have” (Lundell & Collins, p. 14).

Given the right environment, many of these students may discover an interest in writing and a willingness to talk about their writing. They can develop thoughtful, descriptive, reflective narrative essays that give them the privilege (and terror) that comes with sharing their life experiences with readers. They can contribute to and influence classroom interactions and grow as a result of them. They are, I believe, ready to make the most of my biases that favor them.

Limitations of the Study

At the first level, the first week assignment and mid-semester survey, I collected data in three Basic Writing classes. After the mid-semester survey, I selected two of those classes for a case study. Given the small number of participants, the one-semester time frame, the limited scope of data collected, as well as that the researcher is examining her own classes, there is limited generalizability of this study. While I sought particular individuals as case study participants because they represented larger issues within basic writing, whatever I discovered and described about such students, it should not be taken that other students fitting a similar profile would respond similarly. Nor should it be expected that the two classes I studied here stand for anything other than themselves. Any characteristics or traits that they display may not be replicated in other developmental writing classes that use clickers.
Summary

For a variety of reasons—stigma, learning style, generational differences between them and their instructors—basic writers may have difficulty adapting to and using traditional styles of instruction. Wondering if I might learn something and perhaps borrow from what I discovered of their use of personal technologies, I sought to discover what there might be relevant to their use of personal response devices—“clickers”—in my Basic Writing classes.

Definition of Terms

Developmental Education -- Developmental education serves students in first-year classes, in learning centers/labs, and through counseling and advisement. Developmental coursework “is designed to fill the gaps between high school preparation and college expectations” (Boylan, Bonham & White, 1999, p. 88).

Basic writers -- First-year postsecondary writing students who “are those who are least well prepared for college” (Bizzell, 1986, p. 294).

Basic writing -- (lower case) The generic term for a sub-field within English composition; postsecondary, sometimes non-credit, pre-English composition classes offered at many open admissions institutions, particularly community colleges.

Basic Writing -- (capitalized) The noncredit introductory writing class at my institution, held four hours a week over a 15-week semester. This class is offered through a developmental education department housed in a community college within a 4-year public university and “(p)rovides intensive practice in the process of writing,
in sentence structure and punctuation, and in correct written expression. Upon successful completion of Basic Writing, the student should be prepared to enter English,” a course housed within Associate Studies in the community college, “or English Composition I,” a course housed in the English department (within the College of Arts and Sciences) (Online course catalog).

**English Composition** -- The first credit-bearing writing course offered at this institution.

Students who pass Basic Writing with a “C” grade or higher continue into English Composition, a 4-credit class.

**Constructivism** -- A theory of education that holds that students, with lessons structured to accomplish this and with guidance from instructors and more capable peers, can and should construct knowledge of prior knowledge, new experiences, and discussion (Bruner, 1966; Vygotsky, 1978).

**Participation** -- A student’s involvement in the intellectual work of the class; what he or she does or says to join with classmates and teacher to advance the learning of self and/or others.

**Knowledge Construction** -- When a student takes something from class and configures it so that it is personally usable. It may be demonstrated in what students say or do in class; in a writing class, it may also be observed in student drafting or writing.

**Interactive Technology** -- “(C)omputer-based media that enable users to access information and services…, control how the information is presented, and respond to information and messages” (Street, Gold, & Manning, 1997, p. 2). It is used in educational, health, and recreational settings, actively engaging a participant in customization of the experience.
Clicker Technology -- a lesson platform that involves the use of computer hardware and software in face-to-face classes “to support, deepen, and enhance learning by promoting greater interaction” and a stronger “learning environment” (Banks, 2006, p. vii). Here, students respond to teacher questions with remote control-like devices and discuss reasoning after seeing a histogram on the screen that shows student voting. Clicker technology is also called Personal Response Systems, (PRS) (Brown & Draper, 2004; Beekes, 2006); Student Response Systems (SRS), (Hill, Smith & Horn, 2004); Classroom Response Systems (CRS), (Bruff, 2009); and Audience Response Systems (ARS), (Banks, 2006).

Classroom Performance Technology, CPS, or Einstruction -- The form of Personal Response System used at my institution and the system studied in the 2004-05 campus-wide study as well as this dissertation.

Personal Technology -- technologies used by individuals, including cell phones, email, and social networking sites.
CHAPTER II

REVIEW OF THE LITERATURE

Introduction

According to Jerome Bruner (1983), learning involves “figuring out how to use what you already know in order to go beyond what you already think” (p. 183). The teacher sets the stage where students’ prior knowledge is revealed, examined and discussed, and through a delicate collaboration, reshaped into something students can and will use beyond the time constraints of any one class; prior knowledge is thus set forth on a journey of ongoing evolution.

The writing classroom welcomes such an approach. As Murray (1968) writes, “In the usual classroom the teacher speaks and the students listen. In the writing class, the students speak and the teacher listens” p. 103). Here, Freire’s (1970) ideal of teacher and students becoming “jointly responsible in a process where all grow” (p. 80) is not only logical but unavoidable. “The content of a writing class belongs to the students,” (Murray, 1968, p. 16) and teachers react as much or more than they act, which is not always an easy stance for the person who thinks it is her role to be the expert in the room. This sort of constructivism takes place on at least two levels: as students (with advice from peers, instructors, tutors, and others) construct drafts that evolve into papers, they also construct a modus operandi that ideally will outlast any one assignment or semester. Such social constructivism takes on many forms: group collaboration, pair work, tutoring
sessions, class discussions, and increasingly, digital environments such as online classrooms, whether hybrid or entirely online, or as presented here, through networked lessons using personal response devices, in classes where student responses are networked and available for viewing and discussion.

Regardless of the format, however, students in developmental classes may lack experience and/or confidence in environments where they are asked to partner in their learning. Writing about the economically and academically disadvantaged children that some developmental students started life as, Bruner (1997) writes that “through a variety of circumstances” they have been put on increasingly short rations where live interaction with grown-ups is concerned. Working mothers, absent fathers, television isolation, and the rest leave kids peculiarly cut off from a sense of how you enter and cope with an adult world. (p. 45)

This deprivation becomes critical when those students reach the post-secondary classroom. Particularly for those who come from what Gee (1989) calls the “non-mainstream” students (p. 24), entering into a dialogue about writing with classmates or a teacher may be something for which they have little reference. Elsasser and John-Steiner (1977), citing Labov (1972), write that because of these students’ “shared life context” (p.357), dialogue with family and others in close proximity requires none of the kind of elaborations or extrapolations of the sort they will be implicitly asked to employ in college-level writing. Elsasser and John-Steiner continue:

Mastery of written communication requires a difficult but critical shift in the consciousness of the learner, a shift of attention from an immediate audience that shares the learner’s experiences and frame of reference to a larger, abstract, and unfamiliar audience (p. 158).
It is up to the teacher to help these students internalize such a shift toward reader-consciousness. What Gee (1989) says about acquisition and learning bears on this (p. 20). Acquisition comes through time, exposure to models, and trial and error, usually occurring in natural settings that are meaningful, functional, and day-to-day, involving familiar figures such as parents; learning to talk in one’s native language is an example of acquisition. Learning, on the other hand, takes conscious effort – often through a teacher and in an institutional setting. Gee writes that one does better at the things one acquires and verbalizes better with what learns. Both acquisition and learning are necessary to the fullest expression of literacy. Since some basic writing students may not have had the literacy acquisition experiences that would have prepared them to enter into the kind of conversations that would best prepare them for college-level literacy, “natural (literacy) settings” within the classroom, such as practice with freewriting (Elbow, 1973) and informal sharing of work ideally play a role, giving students a little catch-up time for the “acquisition” side of the equation, helping them play with language even as they work with it.

My hopes were that clicker lessons could combine acquisition and learning—providing the exposure to peer models and the trial and error of acquisition alongside the breaking down, the analysis, and, of course, the institutional setting of a school that learning entails. Using clickers in a basic writing classroom might give us one foot in the fun, conversational, “We’re all friends,” acquisition side of literacy and extend the other toward the analytical, precise, audience-aware learning side of literacy. Rose (1983) writes about the need to bring liveliness and connection to learning, oneself, and one another to the basic writing classroom:
How flat some of our remedial courses feel. And how distant the eyes of too many of our students. We sometimes take this flatness, this distance as signs of intellectual dullness. They are more likely the signs of boredom, humiliation, even anger. But in my experience anyway the flatness dispels and the distant gazes revitalize when students are challenged, engaged, brought fully into the milieu they bargained for. Yes, we teachers will work slowly, scale carefully, provide as much assistance as we can. But we will still be creating an edge to our “remedial” classroom. Our students will grumble about the strain—grumbling is part of the student’s drama—but they will know they are participating in the university. And that is a strain that can make one feel worthwhile. (p. 128)

That manifesto served as a template for me as I attempted to use clickers in a place they have rarely been used—the basic writing classroom. I wanted to see if clickers could provide a zone where work and fun, discussion and re-evaluation, strain and participation, edge and involvement could make all our effort worthwhile.

This chapter is organized into three sections: the first on basic writers and basic writing classes; the second on personal technologies with an emphasis on their use by the young; and the final part on interactive technology, particularly clickers in the classroom. Where appropriate, I will make connections in the first two parts on basic writers and personal technologies with clickers in the classroom.

Basic Writers: Class Participation and Knowledge Construction

Two of the three questions of this research project examine the issues of knowledge construction and class participation, two constructs that are profoundly interwoven: one constructs knowledge in large part through participation in class—one’s own and observation of that of others. To construct knowledge, “active interpretation on the part of the student” is necessary (Norman, 1980, p. 42). ”The student comes to the learning situation with a large set of preexisting ideas, and the material that is presented is interpreted according to those ideas.” The teacher encourages students to reveal those
preexisting ideas, and the class works with them, ideally reshaping the old ideas and developing new ideas.

Bruner (1997) gives a summation of social co-construction of knowledge with his description of a classroom in Oakland, California, where the students are “studying the Exxon Valdez oil spill, its cause and consequences,” and

The kids were not at the receiving end of an educational transmission belt, nor were the teachers at the sending end. They were all in the business of constructing knowledge. Answers were not in books or teachers’ heads. They were something you had to construct, and construction was the real business. The kinds of questions you asked mattered. So did your guesses. Hunches could be checked against information and other’s opinions. But you could also reason out answers, either by yourself or with someone else…knowledge is made, not found. (p. 40)

As Bruner suggests, this is difficult, painstaking, and time-consuming, a process of turning-the-classroom-and-old-world-upside-down. The literature is rife with examples of well-meaning teachers who did not really hear or use the prior knowledge that equally well-meaning students brought to the discussions, their attempts to co-construct thwarted by misunderstanding and under-estimation. Gee (2003a), writing of the cultural gulf between some first-grade teachers’ views and their students’ views of the students’ show-and-tell offerings, says, “the teachers were listening for certain ‘ways with words’ they weren’t getting from some children and failing to hear and appreciate the ‘ways with words’ they were getting” (p. x).

A similar example from Hull and Rose (1990) shows the “mismatch between what the teacher expects and what students do” (pp. 287-298) where Robert, a developmental writing student, made an unconventional reading of a poem that nonetheless had merit rooted in his own life experience, an understanding of the physical setting described in the poem, which the conventional reading of the poem offered by six
English studies professionals did not have. Robert actually saw a meaningful detail in the physical setting of the poem that the professionals did not, causing his teacher to misread Robert. Hull and Rose write,

In calling for a richer, more transactive model of classroom discourse, we want to acknowledge that such a model removes some of the control of teacher-centered instruction and can create moments of hesitancy and uncertainty…But hesitancy and uncertainty—as we all know from our own intellectual struggles—are central to knowledge-making. (p. 297)

In another piece written the next year, Hull and Rose joined with Fraser and Castellano (1991) to look at knowledge construction within a basic writing classroom and found that 52 percent “of the conversational turns” of the lesson they observed followed the IRE sequence—initiation by the teacher, reply by the student, and evaluation by the teacher (Cazden, 2001; Meehan, 1979; and Sinclair and Coulthard, 1977). This classroom discourse pattern was interspersed by what Hull, et al. (1991) call a “‘mini-lecture,’” a little speech by the teacher, “which served either to elaborate on information already provided or discussed, or to introduce new material” (p. 289). During such “mini-lectures,” “June, the teacher, did not acknowledge interruptions or entertain questions,” particularly from Maria, a “student whose discourse patterns…did not always abide by the tacit,” IRE patterns “that governed talk in this classroom” (p. 289) and who seemed to frequently exasperate June. While June was “amazed” to note that Maria’s writing was “not really too bad” (p. 310), she believed that Maria’s eagerness to speak out in class and what she said demonstrated the girl’s “thinking continuity problems.” In an interview with the researchers, June said that she thought that because of these “problems,” Maria might not succeed in future writing classes.
However, Hull, et al. found examples within the class transcript that show June essentially dropping the ball that Maria had passed her, failing to “provide some…verbal scaffolding, for Maria is struggling to express a partly formed idea about the importance of political contexts for music videos” (p. 309). Later, it “occurred” to Hull, et al. that “Maria’s conversational patterns more closely resembled” the kind of assertive, initiative “talk that is allowed in classrooms geared toward the honors student,” similar to the kind of class Maria indicated she had taken in high school, where she may have been accustomed to speaking up and having her contributions “acknowledged by her teachers” and having “some import to the lesson” (p. 317), efforts that fell flat with June. Potential co-construction of knowledge is thus untapped by unfruitful discourse patterns and, according to Hull, et al., underlying teacher assumptions about students in a developmental class.

Cazden, whose own classroom discourse patterns were refined into the initiation-reply-evaluation pattern by Mehan (1979), posited a criticism of such a lesson structure as being “‘inauthentic’” because the questions the teacher initiates are always those for which they know the answer, which is usually a short answer (p. 46), “co-opting students to participate in what could otherwise be a lecture.” While she holds that such traditional lesson patterns have a place in some classes, she advocates more of what “Mehan calls metaprocess questions,” such as “How did you know/remember?” (p. 46).

Such questions are in keeping with the kind of questions a writing teacher might ask students: “How did you get that idea?” “What do you think of that advice?” “What are you going to do with that suggestion?” Such metaprocess discourse can lend
authenticity and encourage student knowledge construction in any subject area. Cazden gives three such metaprocess templates, using elementary math students (pp. 49-55):

1. “Finding the Difference in Heights”: Students were asked to figure out the difference in height between 62 inch Jorge and 37 inch Paulo (p. 49). For 10 minutes, students worked with peers in a variety of ways devised by them. When Gabriela gave the correct answer at the beginning of that 10 minutes, the teacher responded with an “OK,” meaning “acceptance of Gabriela’s explanation rather than a positive evaluation that ends the discussion” (p. 49); “explanations are as important as answers” (p. 50).

2. “An Introductory Lesson on Functions”: It had become apparent that the whole class had had difficulty with a particular problem. The teacher put it on the board and asked students to “state the rule’ for getting the numbers from the first column to their corresponding ‘outputs’ in the second column” (p. 51). There was “disagreement among the students” and again, the teacher avoided proclamation of right or wrong, instead, opening “the floor to other ideas” (p. 51). The salient point here was that it took a teacher whose “understanding of mathematics” that went “beyond what may seem to be required by the curriculum” (p. 53) to assist students in voicing understanding that exceeded the confines of that lesson. The teacher is thus led by (and leads) the most capable students along ground not usually traversed in this level of class. This demonstrates that true knowledge construction is not bounded by a set curriculum, an authentic discovery that may well delight some of the more capable students in the class.
3. “Equivalent Fractions”: This involved “facing the dilemma of honoring child logic and teaching conventional knowledge” (p. 54). This example was the most problematic and unresolved of Cazden’s examples and illustrated the thorny realization that “teachers will finally confront the dilemma of reconciling the goal of respecting children’s thinking with the goal of helping them acquire ‘conventional’ knowledge and procedures.” (This was further complicated by the differing races of the students expressing opposing views) (pp. 55-56).

The first two examples illustrate how the teacher’s delay of answers allows for a fuller exploration by students of the questions, their ways and means to an answer, and emphasizes process over product. The final example shows how eventually, most teachers who seek to pattern their classroom discourse after the inquiry-based model in the first two examples must eventually present factual truths in ways that respect (and convince) the students who may have come to other conclusions.

Hull, et al. (1991) also show the saving graces of some of the more fruitful strings of knowledge construction by June and her students, including her asking a student “a follow-up question, incorporating the student’s answer to her next question in order to elicit an elaboration on the student’s answer” (p. 319). In another moment, June admits “that a student knows something that she doesn’t—an admission that might lessen the power differential” and make “authentic discourse more possible” (p. 320). These examples from Cazden and Hull, et al. encourage teachers to resist overlaying their own conceptions and interpretations (at least at first, and if later, with a light hand) so as to prevent the potential smothering of students’ knowledge construction.
Basic Writers: Challenges of Egocentrism

Particularly in the early scholarship on basic writers, a keyword that repeats is *strangers*, characterizing these students and their tenuous, tentative relationships with the institution, the classroom, and readers. Shaughnessy (1977) calls them “strangers to academia, unacquainted with the rules and rituals of college life, unprepared for the sorts of tasks their teachers were about to assign them” (p. 2).

Or, as Maimon (1979) writes,

Like strangers in a foreign culture, they try to draw as little attention to themselves as possible, sitting near the back of the classroom, rarely volunteering any comments, writing essays filled with ‘safe’ clichés, which they hope are spelled accurately. (p. 365)

Maimon continues: basic writers “are strangers to the idea that writers generally follow certain conventions and then feel free to make some choices” (p. 365). The idea that they might be given the authority of choices, of making and then being held as responsible for those choices, flummoxes them. As in the Perry (1970) study on incoming college students, they would rather be given the keys than have to design and build a structure of their own—even with their teacher talking them through it.

That word “stranger” also signifies student writers’ unformed view of those whom they would write for, as Maimon does in the title of the essay where the previous quotes originate: “Talking to Strangers” (1979). Here, another oft-repeated word, *egocentrism* asserts itself: Lunsford (1980), Perl (1979), Shaughnessy (1977) and Maimon (1979) are among those that hold that basic writers’ rhetorical stance puts them into a place where they easily follow Part One of the advice that popular novelist Stephen King (2000) received from a newspaper editor as a teenage sportswriter and recounts in
On Writing: “write with the door closed,” (p. 57) not realizing that it must be followed by Part Two of the advice: “rewrite with the door opened.” Successful writers, from professionals like King to upper-level college writers, know implicitly or explicitly that in the early stages of writing, they must find and create a personal vision only to, at some point, turn attention to crafting their work so those beyond one’s “door” can also “see.”

This egocentrism on the part of the basic writer is not a braggadocio so much as a naiveté. Vygotsky (1962), while talking about children, summed it up when he described egocentric speech among a group of children as being “a collective monologue…The child is under the illusion that his egocentric talk, directed to nobody, is understood by those who surround him” (p. 156). An example illustrating an egocentric basic writer’s need to reorient to a reader is of a student writing of his successes as an all-city basketball player, but by not including that the city was the large, competitive city of Chicago, he failed to put that accomplishment in a context that a reader would need to fully appreciate it (Kroll, 1984, pp. 179-180). For the teacher of such “egocentric” students, helping them to recognize and increasingly account for readers’ needs requires they use varied tools, most of which come back to dialogue—listening and responding again and again.

That is what Andrea Lunsford (1980) addressed when, tangled in her data for a study of basic writers, she sought advice in research methods from Mina Shaughnessy, who advised that beyond counting and categorization, “(D)on’t forget to listen to what the students are telling you” (p. 278). Perhaps the most common venue for teacher and researcher “listening” has been examination of students’ essays, including those generated in the classroom and those that form the basis of published studies; two such analyses from Lunsford (1980) and Lederman (1973) have import here. Asked in
placement essays to describe who or what they would choose to be reborn as the next morning, students who placed into the highest category selected powerful persons and creatures, like a Bengal tiger, while most basic writers wrote about being reborn as small creatures like birds and mice and used images like “freedom,” “escape,” and “shelter” (Lederman, p. 686).

Lunsford (1980) also compared entrance essays of advanced and basic writers and also found that “Basic writers have difficulty decentering...they cannot distance themselves in order to gain a variety of perspectives on that topic” (p. 281). When writing about advertising, they wrote about being victimized by advertising while advanced writers took an analytic, distanced stance. This is the two-way isolation of a “stranger”: not knowing others and not being known, being unable to count on the comfort and support of familiar others.

**Visualizing Readers and Joint Attentional Scenes**

Lessons that help student writers “become more proficient at abstracting and conceptualizing” (Lunsford, 1980, p. 287) are indicated. Experience in separating from and viewing their work in an abstracted, distanced way and discussing what they see may help basic writers develop a writer’s social instinct—the taking seriously of the duty of providing for a reader. Kroll (1984) addresses a way beyond students’ absent or blurry view of audience:

If we assume that egocentrism is checked and finally conquered through social experiences, then perhaps our composition students need to experience writing as a form of social interaction… (O)ur students have far too few opportunities to experience the social dimensions of writing. Because the process of writing is typically a solitary enterprise, because writing tasks can often be perceived as mere exercises, and because written products are often only seen by a
teacher/judge, the essentially social nature of writing may easily elude students, some of whom appear to view writing as a mechanical task with no more social implications than completing a set of arithmetic problems (p. 180).

To undo egocentricity, “students need not information but awareness,” which comes from opportunities provided by the instructors where students can make comparisons between their own thoughts (as well as writing products) and those of others (Moffett & Wagner, 1992, p. 34). One reason teachers’ attempts to teach writing are “usually so ineffectual” is because such lessons are full of “prescribing and proscribing” instead of doing “something together” and comparing “results” (p. 34). Thus, “a writer needs to ‘express something and heed others’ reactions—to compare’” (Kroll, 1984, p. 180). Classroom experiences that encourage students to put ideas (or composed products like essays, descriptions, sentences, etc.) out for comparison, discussion, and consideration will help achieve this.

The literature on joint attention, which has influenced the scholarship of video gaming, is relevant here. Joint attention is the “complex interaction entailed in sharing attentional focus on a single object” (Bruner, 1995, p. 1). Michael Tomasello (1999) lists behaviors showing attentional focus that humans exhibit but that non-human primates in their natural habitats do not, such as pointing “to outside objects for others,” holding up objects to show others, bringing “others to locations so they can observe things there,” and “intentionally” teaching other individuals new behaviors (p. 21). These behaviors depict familiar scenes of acculturation, more reminiscent of Gee’s (1989) “acquisition” than his “learning” (p. 20) as discussed previously, occurring in a natural, familial setting of a parent showing a child how to do a chore, for example. Joint attention is a “new form
of social cognition” evolved by humans, “which enabled some new processes of sociogenesis and cumulative social evolution” (Tomasello, 1999, p. 7).

Janet Murray (2007) references Tomasello (p. 6), saying that joint attention allows humans to regard peers “as intentional agents like oneself,” allowing “us to engage in cultural learning” (p. 11). Giving a view of primitive games that nonetheless can be visualized as a contemporary scene, Murray continues:

Taking turns dropping seeds into a special set of holes in the ground, or throwing pieces of animal bone or clay dice, the players are aware of each one’s turn, of each one’s separate actions and history in the game, and of the relative position of each to one another in the scoring of the game. Watching one another play is an opportunity for passive and active learning, for metacommments on the play of one another. (p. 13)

Murray’s primitive game calls to mind board games, video games, and even a writing class where students are doing “something together” and comparing “results” (Moffett & Wagner, 1992, p. 34), perhaps something like answering and discussing questions in a lesson using clickers. Judson and Sawada (2006) describe the instructor’s showing of the histogram as something that matches the characteristics of a joint attentional scene:

A technical difference between older and more modern audience response systems is that today’s systems allow effortless display of student responses as histograms. These graphs can easily be displayed, and under the guidance of a constructivist-minded teacher, can become the focus of intense discussion as students defend their reasons for selecting a particular answer. (p. 33)

Characteristics of joint attentional scenes that Murray presents (p. 13) paired with relevant descriptions of a clicker lesson are given in Table 2. Given these parallels, there is promise for clicker lessons in encouraging students to attend not only to their own evolving thought process but to that of classmates, thus tapping more opportunity for
social learning, undoing to a certain degree, the egocentrism some of them bring to the basic writing classroom.

Table 2: Characteristics of Joint Attentional Scene and Clicker Lesson Parallels

<table>
<thead>
<tr>
<th>Characteristics of Joint Attentional Scene</th>
<th>Clicker Lesson Parallels</th>
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<tbody>
<tr>
<td>“Shared limited focus on external objects”</td>
<td>Students share focus on PowerPoint questions and histogram results.</td>
</tr>
<tr>
<td>“Mutually witnessed intentionality among participants within the shared context”</td>
<td>Students see classmates also reading, entering answers, reading results, and hearing discussion of choices.</td>
</tr>
<tr>
<td>“Symbolic communication between participants”</td>
<td>Students read in the histograms the answers of classmates and consider this input.</td>
</tr>
<tr>
<td>“The ability to shift perspective from one’s own point of view to the point of view of others, to imagine what someone else is thinking, and to see oneself from the point of the view of the other”</td>
<td>When a student answers a question, he or she considers options and fixes on a choice. Upon seeing the histogram, the student is presented with evidence others have arrived at another view and may begin to wonder, “Why? How?”</td>
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Basic Writers: Affective Factors

A variety of noncognitive factors influence and reflects a first-year student’s need for a developmental class and overlay upon his or her experience there and chances of success beyond there. According to Boylan and Saxon (1998) those “noncognitive or ‘developmental’ factors that influence student success in higher education…” include “locus of control, attitudes toward learning, self-concept, autonomy, and ability to seek help, and a host of other influences having nothing to do with students’ intellect or academic skill” (p. 7). In addition to whatever prior learning they bring to the post-secondary classroom, they may also bring some of this affective baggage, limiting their ability or willingness to actively participate in their learning.
Hardin (1988, 1998) in her typology of developmental students, among other types that are often demographic—like the returning student or the non-native speaker, includes “poor choosers” (1988, p 3). The faulty decisions they made prior to college regarding high school course selection or their dropping out of high school add up to a succession of missteps that landed them in need of developmental classes. Unfortunately, impulsivity in decision-making may follow these students to college, for example, leading him or her to habitually miss class to finish an essay at the last minute or to procrastinate with the purchase of textbooks (assuming they can afford them). In their writing, decision-making difficulty is seen in the too-hasty “rate at which they reach closure upon a point” (Shaughnessey, 1977, p. 227). Basic writers need to talk about writing decisions openly but safely and in ways that encourage them to slow the rush to closure, helping them see (and even create) options and choose wisely among them.

*Empathy and the Affective*

Empathy has long been a means for encouraging dialogue between basic writers and their instructors. “It was empathy that allowed Mina Shaughnessy to look at the error-filled pages of open-admissions writers and see the logic behind the errors, to understand the ‘incipient excellence’ (Shaughnesssey, 1976, p. 238) of basic writers” (McLeod, 1995, p. 375). When students understand that what they say and write will result in dialogue (and improvement that comes from it) rather than judgment (and the discouragement that ensues), educational opportunities arise.

McLeod advocates the “cultivat(ation)” of “a particular affective state that Carl Rogers has singled out as a central ingredient in the learning process: empathy” p. 375).
According to Rogers (1980), “When the teacher has the ability to understand the students’ reactions from the inside, has a sensitive awareness of the way the process of education and learning seems to the student, then…the likelihood of significant learning is increased” (p. 227). Classroom activities that encourage student-teacher exchanges that help teachers understand what is going on with students “from the inside” cannot help but allow them to partner in learning more effectively.

McLeod describes an empathetic teacher as one who responds “to students in an active listening mode…sometimes called ‘Rogerian reflection’” where teachers pay “careful attention to what the other is saying, reflecting” in the dialogue between them “the meaning and attempting to clarify or focus it more clearly” (p. 376). Paying “careful attention” to students increases “agency” (Piorkowski & Scheurer, 2000, p. 75) in them, a personal sense of empowerment, a sense of being the subject, not the object of action.”

Further,

We tend to think of student responsibility as a freestanding entity, as something over which we as teachers have no control. It’s true; you can’t make someone be responsible, to feel a sense of agency, or take on the role of a writer. But what we are learning from our students suggests that responsibility does come in response—in response to a surrounding context which includes care. (p. 85)

To reverse that, perhaps a classroom activity that invites response may help provoke student agency, responsibility, and willingness to take on the role of a decision-weighing writer. Clicker lessons, where all students are invited into the same questions, may, in their repeated call for student response, initiate a virtual dialogue in addition to the real one, increasing student willingness to take responsibility and provoking teacher empathy for student writers as they learn what students think.
Lessons that invite learners to think about the questions posed in class and that allow instructors inside the minds of students (or at least, through their answers, at the thresholds of those minds) may increase student agency and teacher understanding of students. In a different sort of interactive lesson but with a relevant result, teachers had students use their cell phones to text message answers to the teacher; researchers Jones, Marsden, and Gruijters (2006) noticed that even though some students did not have or use their cell phones, “there was a noticeable effect on the entire audience. The approach helped to strengthen the rapport between the lecturer and the students” (p. 365). With such lessons where there is a greater emphasis on the electronically captured thoughts of others in the room, perhaps there is more imagining, a silent constructing of the possible rationales for the reasoning of others, resulting in increased empathy and rapport.

**Personal Technologies: An Overview**

In the last decade or two, technological options for communicating have multiplied, bringing various and new ways of being in touch with the people in one’s life. Phones have become untethered, and with them, talkers are loose upon the land. Traditional age college students do not just talk; they text each other messages and leave virtual albums of personal photos online to share with hundreds of their dearest friends. As teachers, learners, and people, this is the world we live in, so sometimes it is easy to forget how recently it was that things were quite different.

In the 1990s the phrase “the digital divide” was coined to describe the cleft between the have’s and have not’s of the tech world. Some people had computers while others did not; some schools had Internet access while others lagged behind. One of the
earliest uses of the term came in October 1996 joint campaign speeches by President Bill Clinton and Vice President Al Gore (Clinton Presidential Center Archives). The premise of the term was that those who cannot afford a personal computer or Internet access cannot participate in or benefit from the ways technology may bring them into the mainstream of scholastic and career opportunity. As Selfe (1999) wrote, “(a)lthough the push for technological literacy is supposed to benefit all Americans, it has instead supported, and perhaps exacerbated, inequities in American culture” (p. xxi).

Today, even as economic disparity has remained wide, the digital divide has narrowed. Technology is literally in the hands of most in the United States and beyond. African Americans, for example, often considered to be on the less-fortunate side of the digital divide, are more active users of wireless access to the Internet through cell phones than the general population, with 48 percent using “a mobile device to access the Internet for information, emailing, instant-messaging,” (Horrigan, 2009, p. 4), compared to the overall average of 32 percent. This is, logically, paired with African Americans’ lower likelihood to access the wireless Internet through a computer; 59 percent of white Americans accessed the Internet with a computer compared to 45 percent of African Americans (p. 4). Therefore, for African Americans, Internet access comes more through their phones than a computer; they are “connected,” just not in the expected way.

Two sets of people who would also fit the profile for the unconnected side of the digital divide, teens from households earning less than $50,000 and teens from single-parent households (Lenhart, Madden, MacGill, & Smith, 2007), are more likely to blog, or write an online journal, than those from upper income families or those who live with parents who are married; 35 percent of lower income teens blogged versus 24 percent of
upper income, and 42 percent of children of single parents blogged opposed to 25 percent of children of married parents (p. 9). That people from these groups once thought to be digitally disadvantaged have become active producers of online content shows that the digital divide is not what it used to be.

Even the homeless have cell phones; homeless advocates in Washington, D.C. estimate that 30 to 45 percent of the people they help have cell phones (Dvorak, 2009). This is partly because “the technology is advancing so quickly that a simple cellphone is fairly cheap,” with minutes sometimes paid in coins, but also because ownership of a wireless phone serves the needs of a professional life (a number where one can be reached increases opportunity for work) as well as personal life, allowing a point of access for worried family and friends. Email accounts, accessed at the library, have the same function and are increasingly common. As a homeless man quoted by Dvorak said, “I still have a life even though I don't have a house” (¶14).

More evidence that technology is increasingly within reach of a greater number comes from a 2007 survey of families with young children by the Michael Cohen Group, LLC. Even in families with incomes below $25,000, over half had mobile phones, about a third had home computers, and one-quarter accessed the Internet from home (p. 3). A more holistic finding from the study was that having a form of technology in the home is not necessary to have it in one’s life: “Access equals ownership” (p. 3) as individuals using the computers and Internet access available at libraries and places of employment enjoy a kind of virtual ownership. “(T)he dynamics around ownership are changing rapidly and there is widespread motivation to own, gain access to, and learn how to use new media” (p. 8) that does not require physical ownership of a computer.
Adoption of personal technologies has been even more rapid among teenagers and young adults, as Prensky (2001, 2006) holds with his “Digital Natives, Digital Immigrants” idea where young people, “natives” in this new world, communicate (2006, p. 41), buy and sell (p. 44), create (p. 45), evaluate (p. 47), learn and search (p. 48), and socialize and grow up (p. 50-51) differently than previous generations. Tapscott (1998) has written similarly about the “N Generation,” or “the Net Generation.”

A relevant illustration of very young people’s unexpected habits of attention is provided by Gladwell (2000) in *The Tipping Point* (pp. 100-102), where he cites Anderson and Lorch’s (1983) research on children’s television viewing. In one experiment, two sets of 5-year old children watched the same television show, but one group had an attractive set of toys to play with while the other did not. Not surprisingly, without the toys, they watched 87 percent of the time; with them, they watched the TV 44 percent of the time. Surprisingly, in both settings, the children remembered and understood the program equally well. In the toy group, the children attended the program “strategically, distributing their attention” while enjoying the toys (Anderson and Lorch, p. 14). It is as if habits of attention are evolving with each generation.

Another important finding of this research is that the children paid closest attention to well-organized, continuous threads; Anderson and Lorch reedited an episode of *Sesame Street*, putting sketches out of order, redubbing some segments in Greek, trying to see if the flashy segments were what captured children’s attention (p. 12). They were not. “Kids don’t watch when they are stimulated and look away when they are bored. They watch when they understand and look away when they are confused” (Gladwell, p. 102).
Gladwell gives the example of the more recent children’s television show *Blue’s Clues* (pp. 111-132), where its half-hour “single story line” focuses on the need to solve a puzzle. Names of characters are quite literal; Blue is a blue dog, and Shovel and Mailbox are other characters that are what their names say. After the young adult male host questions the children in the home audience, “excruciatingly long pauses” (p. 111) invite children to think of their answers. The same episode repeats for five weekdays, allowing children to solve the puzzle with increasing success, day by day. Just about everything about *Blue’s Clues* bores adults but engrosses children. The attentional habits of young people are not what their elders would expect, making teaching, parenting, and understanding them a challenging task.

To consider this issue from the vantage point of college-age students, the interpretations they often make are “up to the student, and sometimes” the teacher has “remarkably little control over the process” of knowledge construction, Norman (1980, p. 42) writes. Similar to the redubbed *Sesame Street* example, “many learners ignore critical material when it does not make sense...casually” skipping “over huge aspects of their material” (p. 43). Norman uses an “Iceberg Model” for the way students interpret material from a class:

From the point of view of the learner, the part of the iceberg that is above the surface of the water is the material that is presented. The learner must then determine what the underlying structure might be. From the point of view of the teacher, the behavior of the student is like the part of the iceberg that is visible. The student has erected a huge structure, and if the teacher is to understand the difficulties eventually faced by the student, this structure must somehow be uncovered. (pp. 43-44)

Knowledge construction is a complicated endeavor from both ends. Certainly, the teaching implications here are first, that a well-organized and logical lesson is more likely
to command and maintain students’ attention than one that is haphazard or even one that *seems* haphazard to the student. For a student to make meaning of a lesson, its pieces and parts must fit together and dovetail with the student’s prior understanding and hunches.

Second, plenty of communication is necessary between teachers and students to ensure that on both sides, they increasingly understand and work with the massive structure beneath the respective surfaces.

Before I focus on the literature on three clusters of personal technologies studied in this project, I want to consider three metaphors offered by boyd (2007a, p. 1) for educators’ typical reactions to student embrace of personal technologies:

- The conservative view: “(S)ocial technologies” are “a product of the devil.” Cell phones, social networking, Internet research, etc. are located somewhere between risky and evil. Looking at this from the teachers’ point of view is not hard; many have had to run a suspicious section of an essay through a Google search to see if it was plagiarized, to remind students to stash cell phones, or to find that students have been using texting as a high tech way of cheating or passing notes. Even (and especially) the most tech-friendly educator knows of the dark side.

- The middle view: “Utterly confused, the vast majority…are playing ostrich” in hopes “that the moral panic and chaos that surround the social technologies will just disappear.” Such involvement by students may be impossible to ignore, but the option of seeking an understanding of it is easy to ignore. It *is* confusing, difficult, and outside the realm of the adult world, so sometimes the temptation to tolerate these technologies as a diversion or fad is a strong one.
The “emerging” view: the navigator, who holds “that it is essential to understand and embrace the new social technologies, so as to guide the students through the murky waters that they present.” While this metaphor is the most evolved one that boyd offers, I see two problems with it: first, it presumes teacher-as-leader in an area where some students may be more knowledgeable. Prensky (2001, 2006), for example, would argue that the “Digital Native” students have something to teach the “Immigrant” teacher. Second, this teacher-at-the-helm metaphor does not seem quite right for the constructivist, co-creating vision that I would prefer.

To these three metaphors, I would add a fourth: an engineer who recognizes that natural forces like sun, wind, and water have manifestations that can be constructive or destructive, all depending how they are channeled. Young people’s attachment to personal technologies represents a source of potential power, and if their teachers can better understand and channel those forces, that may generate power, energy, and output in the classroom and represent a more co-constructivist learning environment.

For the traditional age post-secondary student, personal technologies are inextricably woven into their lives. For this part of the literature review, I will cluster the six personal technologies studied in this research into three categories: video games; cell phones for talking and texting; and Internet use including social networking and email. (I must acknowledge that one of my realizations in conducting this literature search is that these personal technology categories spill into one another; one may play video games online and access the Internet on a cell phone, for just two examples.)
Video Games

Scholars have sought to connect video gaming and literacy studies for at least six years. Gee, whose first book connecting video gaming and learning theory was published in 2003, started out as a linguist (2004b, p. 1). Selfe and Hawisher (2007) edited an anthology, Gaming Lives in the Twenty-first Century, which “explores the complexly rendered relationship between computer gaming environments and literate activity” (p. 1). Finally, the 2008 (3) edition of the journal, Computers and Composition, focused on the theme of computer games; in response to their call for papers, guest editors were met with “a torrent,” an “overwhelming…number of proposals…and diverse academic foci” (Johnson & Lacasa, 2008, p. 255). As quirky as this cross-pollination appears, it has a rich and deep, albeit short, history.

According to a 2008 survey (Lenhart, Kahne, Middaugh, Macgill, Evans, & Vitak) by the Pew Internet and the American Life Project, “Teens, Video Games, and Civics,” 97 percent of 12-17 year-old teenagers played “computer, web, console, or mobile games” (p. 8) including 99 percent of boys and 94 percent of girls (p. 9). As with the point made earlier in the Michael Cohen, LCC report, use does not require ownership (p. 15); still, 60 percent of the teens owned three or four devices (Wii, Xbox, etc.) for playing video games, more evidence of the place these games have established in their lives. Relevant to the age of students in my study, younger teens (ages 12-14) are more active video game players than older teens, 54 percent saying they played yesterday opposed to 46 percent of the 15- to 17-year olds (p. 10). It is a frequent activity with 31 percent playing every day and another 21 percent playing 3-5 days a week. Those who play daily play for an hour or longer (i).
Video gaming is often a social activity for teens, whether it occurs in the physical or online presence of others (p. 26). The nature of the social experience goes beyond the play itself as they “talk and engage with others about games—by posting comments on discussion boards and websites or by writing reviews and ‘walk-throughs’ that assist newcomers to a particular game by showing them how to play the game” (p. 26).

That last finding is particularly in tune with Gee’s theories on the learning principles of video games (2003b, 2004a, 2005, and 2007b), which interested me to the point of provoking my decision in this study to seek a connection between clicker pedagogy and personal technologies, particularly video gaming. Some of the links I saw between Gee’s learning principles of video games (2007b, pp. 30-43) and reflections of those principles that I saw in clicker lessons include:

1. “Co-design: Good learning requires that learners feel like active agents (producers) and not just passive recipients (consumers)... Do student decisions and actions make a difference in the classroom curriculum?” (pp. 30-31) In clicker lessons, student decisions drive the lesson through answers they input, as the teacher may spend more time in areas the majority of students do not understand and less time for what they do understand. Teachers can also use this real-time data to tease out discussion on differences of opinion.

2. Fine grained manipulation (p. 33): “(M)anipulating a robot at a distance or watering a garden via a web cam on the Internet—causes humans to feel ...expanded and empowered” (p. 33-34). Remote-control-like clickers where student input of answers fulfill this function; “Yes,” a student may think, “There ‘I’ am: that is my ‘B’ answer up there in the ‘B’ column.”
3. Well-ordered problems (p. 35): This is similar to Gladwell’s point (2000) in the previous section about how children’s attention focused better on the well-ordered, starting easy and becoming progressively more difficult, continuous (but pause-spliced) narrative of Blue’s Clues rather than the frenetic, Laugh-In style of Sesame Street. “The problems learners face early on are crucial and should be well-designed to lead them to hypotheses that work well” (Gee, p. 35). In a well-designed clicker lesson using questions with right-wrong answers, a teacher could proceed in these ways:
   
   a) Begin with easy questions and move to the increasingly difficult
   
   b) Begin with a difficult question that aimed to shatter a common misconception, thus provoking curiosity
   
   c) Cluster questions in such a way that one area of common error is practiced for awhile before another area is introduced

4. Presentation of information “Just in Time,” (pp. 37-38): Learning should be presented in context when it is needed, not disembodied at a time when it seems more like trivia than information needed to accomplish a task. “Humans are not good at learning through hearing or reading lots of words out of contexts of application that give these words situated or experiential meanings,” (p. 38). While the setting of answering questions with a clicker is not quite as situated or experiential as other settings may be, it comes a little closer to this goal than presenting material in a lecture would be. Students make a little more personal investment in making a decision about a writing issue than they would just listening to material or watching classmates answer questions.
5. Pleasantly frustrating (p. 36): “Learning works best when new challenges are pleasantly frustrating,” putting learners “at the outer edge but within ‘the regime of competence.’” This is reminiscent of Csikszentmihalyi’s (1975) concept of “Flow,” a state of timeless, almost enjoyable problem-solving where the challenges posed and the learner’s skills are so perfectly balanced, the learner is neither discouraged (the case if the task is too difficult) nor bored (the situation if it is too easy). In clicker lessons, students are sometimes correct and sometimes incorrect, sometimes in the majority and other times the only one to “vote” for a particular choice. They may take this feedback internally and have the opportunity to make something of it.

6. Sandboxes (p. 39): Like the real world but safe havens, sandboxes are especially good for “so-called ‘at risk’ learners”; Gee cites Goto’s (2003) “horizontal learning” (p. 7) where these learners benefit from time to “play around,” to explore the area they are about to learn, to see what is there and what the lay of the land is, before they are forced up the vertical learning ladder of ever new skills. They need always to see failure as informative and a part of the game, not a final judgment or a device to forestall creativity, risk taking and hypothesizing (p. 40).

Like games, clicker lessons may provide a “moratorium on any failures that kill joy,” bringing an ironically generative failure that is paradoxically “part of the fun and central to the learning” (p. 40).

These are only six of the 13 learning principles Gee attributes to video games in this iteration; he has 36 in his 2003 book (pp. 211-213). The six above give a glimpse to
the relevance and connection I saw between classroom use of clickers and student involvement with a personal technology.

*Cell Phones: Talking, Texting, and More*

According to a June 2009 survey conducted by “Common Sense Media, a San Francisco-based education company,” 84 percent of teenagers have cell phones (Toppo). At the end of the first decade of the 21st century, everyone with a cell phone has by default a computer, a device that not only makes and receives calls but can be used to send and receive text messages; to take, send and receive photos and video; calculate sums, time races, restaurant service, or anything; be set as an alarm; or used as a music player or a miniature TV. By upgrading to a smartphone, one may also surf the Internet and juggle an ever-expanding array of “apps.” The prediction that “the lowly handset” will “one day replace the mighty PC as the center of our digital lives…is getting closer” to being fulfilled (LaGesse, 2009, ¶1). All the personal technologies studied in this project, for example, video games, social networking, email, the Internet, can be accessed on a cell phone, giving it a unique centrality of function. This is a universal phenomenon, too; cell phone technology is quickly being adopted across the world at all income levels. As of March 2009, global mobile phone use topped 4 billion, quadrupled since 2002, with almost two-thirds of the world’s population maintaining cell phone subscriptions (Jordans, 2009).

The preferred term in the United States, “the cell phone” is appropriate because “like organic cells…it can generate new communities, new possibilities and relationships” and “is not only mobile, but generative, creative” (Levinson, 2003, p. xiii).
It satisfies a need—“to walk and talk, to communicate and move at the same time” (p. 13). “(I)n the new capitalist world mobility is a form and source of power” (Gee, 2004b, p. 99) as these people “move, either physically or virtually, from place to place, creating multiple weak links to other people and organizations.”

Text messaging may be defined as “brief messages limited to 160 characters that can be sent or received on all modern mobile phones” (Austin, 2009, ¶1). For young people, texting is as common a phone activity as talking; the proportion between talking and texting for teens is closely balanced, each ranging between 45 to 55 percent across age, gender, and cell phone versus smartphone users (Harris Interactive, 2008, p. 13).

The use of text messaging shows the greatest generation gap in uses of personal technologies. In a 2009 survey from The Pew Internet & the American Life Project, 92 percent of 18-29 year-olds sent or received text messages, compared with 76 percent of 30-49 year-olds, 50 percent of 50-64 year-olds and 17 percent of 65+ year-olds (Horrigan, p. 26). This is a much wider “gap” between the age groups than the survey showed for use of any personal technology measured, including sending or receiving email, taking a picture, or playing a game. (For the other technologies, the percentage for the youngest group’s use is lower and the percentage for the older age groups’ use is higher; for example, 87 percent of the youngest group and 29 percent of the oldest group have sent a photo.) It also must be added that this data comes from a survey on wireless Internet use, so it only includes those who text message, etc. from cell phones that access the Internet.

Clark (2003) gives an easily recognizable illustration of a text messager, present physically but otherwise in the company of a distant other at what was supposed to be a social Christmas gathering. For this texting young professional, the
phone was hardly ever out of his hands. He wasn’t using the phone to speak but was constantly sending and receiving small text messages from his lover. Those thumbs were flying. Here was someone living a divided life: here in the room with us, but with a significant part of him strung out in almost constant low-bandwidth (but apparently highly satisfying) contact with his distant friend. (p. 9)

The engrossment with which individuals devote themselves to text messaging, and the attempt by some to combine texting with other activities in an attempt to multi-task has given rise to the term “distracted driving”; universally, the distraction singled out for possible legislation has been text messaging. Several high profile transportation accidents involving text messaging have brought this problem to public attention, including a 2008 train accident in California where 25 people, including the texting conductor, died (Lowy, 2009, ¶6). A study from Virginia Tech’s Transportation Institute released in July 2009 showed that texting truckers are 23 times as likely as their non-texting counterparts to be involved in a crash or a near miss. Researchers analyzed commercial trucking data from 2004 to 2007 that involved 203 truckers and 3 million miles of driving. (Freeman, 2009, ¶2.)

Rich Hanowski, of the Virginia Tech’s Center for Truck and Bus Safety, has said that in 2008, 14 states plus the District of Columbia passed laws outlawing texting while driving (¶11). In August 2009, the U.S. Secretary of Transportation Ray LaHood announced plans to convene a summit of experts to determine what might be done on a federal level about texting while driving (Lowy, 2009, ¶1).

Clearly, there is the apparent spell of intense concentration with which individuals text, so the obvious question is why—why do people like to text? Why are they seemingly possessed while in the act of texting? In The New York Times series “Driven to Distraction,” (Richtel, 2009), John Ratey, an Associate Professor of Psychiatry at
Harvard who studies the science of attention, said that when people use digital devices, they get a quick burst of adrenaline, “a dopamine squirt.” Without it, people grow bored with simpler activities like driving. Mr. Ratey said the modern brain is being rewired to crave stimulation, a condition he calls acquired attention deficit disorder. “We need that constant pizzazz, the reward, the intensity,” he said, (p. 4, ¶1-2)

New York Times columnist Maureen Dowd adds: “That explains the Pavlovian impulse of people who are out with friends or dates to ignore them and check their BlackBerrys and cell phones, even if 99 out of 100 messages are uninteresting. They’re truffle-hunting for that scintillating one” (2009, ¶13).

Reasons teens give for why they like to text focus less on the narcotic-like lure of texting described above and more on their preference for texting over other communication options (Harris Interactive, 2008). When asked to pick their top 3 out of 9 reasons provided for why they liked texting, they gave “I can multitask” (46 percent), “It’s fast” (42 percent), and “I don’t have to talk in person” (36 percent) as their top choices (p. 15). Those latter answers get at a communications choice, that texting is faster than other modes of communication and removes the complication of that message-recipient; a message can be sent without having to reply in real time to a person who may have a complicating, unpredictable response.

Another difference between texting and talking (whether by phone or face to face) is that texters generate only about one-third as many words in a conversation as talkers, according to Robert Kraut, a professor of human-computer interaction at Carnegie Mellon University (Weiner, 2007). With a 160 character limit, texts need to be brief, so elaboration is curtailed, making it similar to the kinds of discourse discussed in the previous section where the work of Labov (1972) and Elsasser and John-Steiner (1977)
holds that for children from impoverished backgrounds, where working from common assumptions, conversation does not give the child the experience in elaboration that future college writing instructors will expect of them. As Lorenz writes, instant messages (and text messages and tweets, one could add) are “Post-it notes, handy for a few minutes but hardly worth saving” with “a throwaway quality” (2007, ¶8). This is opposed to “(a) well-tended e-mail inbox and outbox,” which “can serve as a sort of diary, an evolving record of your curiosities, obsessions, introspections, apologies, and heart-to-hearts” (¶8). As the next section illustrates, teens have been turning from email to other communication modes for years.

**Internet: Email and Social Networking**

Because of the Internet, coming to college is a very different experience than it was before students had the option of such interconnectedness with new and old friends. Students who meet at orientation may “friend” one another on Facebook, develop that virtual relationship over the summer, and when they begin the term, it’s “Oh, I remember you. I know you” (Weiner, 2007). As the subtitle for a 2007 Pew Internet & the American Life survey puts it, teens “embrace the conversational nature of interactive online media” (Lenhart, Madden, Macgill & Smith). According to Lenhart, et al., 93 percent of teenagers use the Internet, up from 73 percent in 2000 (p. 2).

Email and social networking are two ways the Internet provides for engaging in virtual conversation, the former being the older, one-on-one medium with often longer messages, and the latter being a newer, more public, visual medium (allowing pictures and other personalization) with shorter messages. Teens are turning from email to other
means of communication, however. Lenhart, et al. (2007) separated teens into 5 groups (cell-using, Internet-using, Internet and cell-using, and social networking, and an all category); all 5 sets of teens ranked email as 7th of 7 choices (including landline, texting, face-to-face, cell phone, social networking, and instant messaging) (p. 17).

According to Lorenz (2007), texting and social networking are preferable to email for teens because each gives the capacity to send a message out to masses of friends in confidence that messages will be read and responded to immediately. Social networking’s advantage over email is its public dimension: one can “tell those friends how awesome they are: for attending one’s party with “a message on their Facebook or MySpace page so the world can see” Post-email communication offers more options for these teens, more pluses and fewer minuses. Recent numbers rank the social networking site Facebook atop the list of not just social networking sites, but all sites for time spent. Compete.com, a web analyzing company, found in March 2009 that in terms of time spent on a website, “Facebook is now the #1 site in the US by time spent by a large margin, with Yahoo, Google, Live.com (now bing), and eBay rounding out the top 5. Americans spent over 7 million hours on Facebook in March” (Smith, 2009, ¶1).

On social networking sites, members post photos and leave messages that while addressed to one person are nonetheless visible to any other friends of the page host (and sometimes “friends of friends” as well if privacy guards are set that way). People use these sites for maintaining connections with friends but also appreciate the “entertainment” value of “social voyeurism” that “passes time while providing insight into society at large” (boyd, 2007b, p. 10).
Almost two-thirds of teens (64 percent) are “content creators,” creating webpages for themselves or others, working on a blog, or uploading media, much but not all of this occurring on the social networking sites (Lenhart, et al., 2007, p. 2). Over half or 55 percent of teens surveyed used social networking sites (p. 28), 47 percent posted photos online (p. 13), and 14 percent posted videos (p. 14). Posted photos were seen as “anchoring elements of online profiles and blogs,” and of those who posted photos, 89 percent said that people commented upon them, starting “a virtual conversation” (p. iii).

Massachusetts Institute of Technology Professor Henry Jenkins (2006), quoted in this Pew Report, calls these “participatory cultures,” where there are “relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one’s creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices” (p. 3). That sounds similar to Gee’s (2004b) “affinity spaces,” defined as

1. Content is influenced by interaction (p. 85).
2. “Individual and distributed knowledge are encouraged” (p. 86).
3. “Tacit knowledge is encouraged” (p. 86).

4. “There are many forms and routes to participation” (p. 87).

These characteristics of affinity spaces are also characteristics of video gaming, as Gee illustrates throughout this chapter (pp. 77-89). They also overlap with what Jenkins says above about “participatory cultures.” Along with much of what I have reviewed here, here too, these cultures lack clear delineation between public and private. As boyd asserts, particularly “in tech circles,” the formerly opposite terms of “public” and “private” are now “seen as two peas in a binary pod…What it means to be public or private is quickly changing before our eyes and we lack the language, social norms, and structures to handle it” (2007a, p. 1).

An example of college students using the Internet to make public declarations of private feelings came in the aftermath of the Virginia Tech mass shooting in April 2007 when students’ immediate postings on their MySpace or Facebook pages assured family and friends they were safe; at the same time, recent alumni and friends of the university at a distance used such sites as a gathering place for virtual mourning (Lane, 2007). In the days following the tragedy, a Facebook site titled “‘A tribute to those who passed at the Virginia Tech shooting’ had 290,000 members; the group's ‘wall,’ where members can post brief messages, has nearly 16,000 entries from all over the world” (Lane, ¶3).

In many of these examples, it is as if there is an impulse to escape from the corporeal bounds of face-to-face real-time existence even though, according the 2007 Pew survey by Lenhart, et al. said, one is not a substitute for the other. Teens with the fullest online lives were also most active with “offline activities like sports, music, or part time employment” (p. 9).
Still, for new college students, online and cellphone dependence on family and pre-college friends “can hamper their adjustment by making it easy for some students to hold too tight to the life and friends they’ve left behind” (Weiner, 2007, ¶3). Further, “Helen Johnson, a former assistant dean of students at Cornell University…worries, if nearly every nanosecond is spent connected, students risk losing track of their own feelings” (¶11). Similarly, Lorenz (2007) writes:

They all confessed to sending a text message while IMing with someone else, and they all said they are signed in to IM or Facebook from the time they get home from classes until they turn out the lights. When everyone’s online, kids never have to leave the company of their pals. If you're not constantly plugged in, they say, you start to feel left out (¶7).

Ironically, in such chronic connection to others, students forfeit quiet time for self-reflection, metacognition, and confronting the hard questions about past, present, and future as they live a moment-to-moment, message-to-message existence. Answering important existential questions for oneself was recently thought to be an important if not essential part of one’s maturation at college. Certainly, ideally, that still seems to be the case, but traditional age students’ attachment to personal technologies has made it a lot more difficult for them to find the time to hear, listen and heed an inner voice—or to understand the importance of taking time for that.

**Summary of Student Involvement with Personal Technologies**

The personal technologies studied as part of this project only seem to be separate categories; they all have a social, communicative purpose, and increasingly, each might be accessed via the others: playing computer games online, social networking on a cellphone, etc. This literature search shows not only how popular these are with
traditional age college students but also the sense of crowded circuits that they give to students’ lives. Young people tap short text messages but avoid email with its longer messages and slower-perceived delivery time. They retain the “technological umbilical cord” (Weiner, 2007, ¶7) to family and high school friends. They take on characters, missions, and adventures in video games and enjoy the voyeurism of an online social life that piggybacks onto that of their friends and their friends’ friends. They maintain alternate realities that are in ways more vivid and compelling than their mundane ones; this may be for entertainment or for a kind of virtual living, walking in someone else’s cyber shoes. It is also important to recognize, despite what this literature search says about the narrowing of the digital divide, for these students, the experience, the involvement, the participation with personal technologies is largely social and between peers. “Real access” to technology “goes beyond infrastructure and refers to people’s actual possibilities to use technology to improve their lives” (Pertierra, 2005, p. 24).

Obviously, texting and social networking may (or may not) increase the fun factor in students’ lives and improve their social lives, but of course they cannot accomplish what school can and must when it draws students in with meaningful challenges, reflection, and construction of that which did not exist prior to such struggles.

Basic Writers and Technology: Are Clickers an Answer?

Neil Postman, often a tech critic, writes: “Technological change is not additive; it is ecological. A new technology does not merely add something; it changes everything” (1995, p. 192). Even though technology may be called a “tool,” a word used to describe learning implements in non-tech and tech ways by Vygotsky (1978), Clark (2003) and
others, Postman’s point hints that some forms of technology constitute more of an environment than a tool and thus require even more caution on the part of a teacher in creating one than they might need to employ with use of a tool. One can put down a tool, but one must leave an environment. Even then, who among us has not been involuntarily inhabited by past environments, taking their squatter’s rights in our psyches? Certainly our students’ past school experiences are still with them in many ways.

According to Hunter Boylan (2002), Director of the National Center for Developmental Education, for developmental students, technology should not be “the primary delivery system” but a supplement (p. 81). In particular, he cautions against uses of technology that isolate students, saying, for example, that “distance learning has yet to be proven effective with developmental students” because it “requires independent learning skills, study discipline, time management skills, and a high degree of motivation” (p. 82). Returning to that Bruner quote, these are the students who may have received “increasingly short rations where live interaction with grownups is concerned” (1997, p. 45), so perhaps an increase in such interactions is overdue.

Postman suggests a rule to precede any decision to use technology in the classroom: “What is the problem” for which a given new technology “is the answer (1994, ¶2 )?” So what is the problem in the basic writing classroom for which clickers could be the answer? Basic writing students are apt to be reluctant to reveal prior conceptions about writing and grammar in particular, and if use of clickers encourages their discussion of writing decisions, it would give them an important, much-needed experience. As Shaughnessy (1977) said,
A vigorous argument with a teacher or a classmate over a point of grammar may be a surer mark of progress than a perfect score on an objective test or even an error-free composition, for it suggests that the student has invested the best energies of his mind in a problem he would once have been unable to notice or define, let alone solve. (p. 159)

Further, I pair three relevant suggestions from Bransford, Brown & Cocking (2000) followed by my own connections to clicker instruction:

1. Students come to the classroom with preconceptions; the teacher must draw these out and work to use, change, or shape these (pp. 14-15); clicker lessons, with their question-answer-discussion rhythm, mine prior knowledge and set conditions where common misconceptions (long sentence must be a run on and a short one cannot be) will be confronted and examined.

2. Students must understand content within a framework and be able to thus organize and work with it; teachers must replace a preference of “coverage” of material with willingness to teach some matters in depth (p. 16); clicker lessons in a 40-minute time frame often take only 6-8 questions since some questions raise more discussion. “Some instructors find it difficult to include as much content in their courses when they begin to use clickers but are satisfied with the tradeoff” in the opportunity to clear up misconceptions (Bruff, 2009, p. 113).

3. Students take control of their own learning with a metacognitive approach, which is achieved slowly and through transfer of responsibility; metacognition “takes the form of an internal dialogue,” (Bransford, et al., p. 21) which teachers can model and students learn, as in this example. C. L. Dodgson (Lewis Carroll) suggested adults guide pre-reading children through an
entirely illustrated version of *Alice in Wonderland* by using questions to organize children’s developing narrative skills: “What happened next?” or “Who else was there?” (p. 107). So too questions in the clicker lessons might work to develop in basic writers “habits of close observation,” asking questions like: “What would be the advantage of opening an essay this way? What would be the disadvantage?” Or “What impression might a reader get if…?”

These suggestions are ones any teacher at any level, from pre-kindergarten to graduate school would do well to adopt; they certainly can be applied to basic writers and clickers. My attempt to find a place for clickers in the Basic Writing classroom is part of attempts both similar and different in other classrooms around the world, which I will discuss in the following section.

**Clickers in the Post-secondary Classroom: Background**

According to Abrahamson (2006), clickers in the classroom are “a phenomenon that has mushroomed to its present stage, mainly within the past three years” (p.2). They are part of an effort to make the classroom a more intellectually lively place, to connect more meaningfully with more students, and an attempt on the part of the “Digital Immigrants” (Prensky, 2001, 2006) to engage the “Digital Natives.” As Guthrie and Carlin (2004) write:

Today’s students…are creating and engaging their social world in ways shaped by the technologies that surround them. These technologies are immediately interactive, and we suspect that passivity in the classroom isn’t mass ‘couch-potato’ syndrome, but instead is reflective of a group of students waiting for something they can react with in a way with which they are familiar…lecture-
fact-memorization courses may be increasingly out of touch with how our students are learning to engage in the world. (p. 1)

To connect with these students, increasing numbers of post-secondary faculty use clickers in their classes in a variety of ways and for many curricular purposes. Through coordinated use of hardware and software in face-to-face classes, clickers are used “to support, deepen, and enhance learning by promoting greater interaction between all those engaged in a learning activity” (Banks, 2006, vii). In these lessons, “a feedback loop” runs as a “question is typically displayed via PowerPoint slides,” and participants read the question and key in choices, which are received by the software on a computer, which “displays the resulting…data on a public screen” (Banks, vii). Mazur’s (1997) *Peer Instruction* provided the pedagogical underpinnings for clicker lessons and introduced the conceptest, the goal of which is to “exploit student interaction during lectures and focus students’ attention on underlying concepts.” The format of such lessons (pp. 10-11) follows:

1. Question posed 1 minute
2. Students given time to think 1 minute
3. Students record individual answers (optional)
4. Students convince their neighbors (peer instruction) 1-2 minutes
5. Students record revised answers
6. Feedback to teacher: Tally of answers
7. Explanation of correct answer 2+ minutes”

If most students click answers that demonstrate that they have the concept, time spent is short, but if the histogram shows that many are having difficulty, the instructor
can take the opportunity to find the nature of the misunderstanding and work on clearing it up. The teacher’s goal is to “challenge” students “to become critical thinkers” and to show that they can “analyze an unfamiliar situation” (p. 19). “Arguably, not since the overhead projector, has a piece of technology received such widespread acceptance as an aid to classroom teaching” (Abramson p. 2). However, the overhead projector, like the PowerPoint presentation—is a method of delivery, a truck, metaphorically, rather than a method of interaction, metaphorically a conversation among many partners, as clickers might ideally be.

The first wide-ranging curricular use of personal response devices came in the natural sciences and social sciences (Abrahamson, p. 3). Bruff (2009), who has used clickers in mathematics classes, wrote of case studies of classes using clickers coming from the disciplines of physics (p. 15), veterinary medicine (p. 18), chemistry (p. 27), psychology (p. 30), biological sciences (p. 33), mathematics (p. 36), environmental sciences (p. 40), and most unusually, a class in academic writing for international students (p. 17). This is a rare example of use of clickers by a writing teacher. In this class, students had to decide such things as whether a set of words was a “run on sentence” or “not” and discuss the reasons.

Bruff maintains an online bibliography (Classroom Response System (“Clickers”) Bibliography), healthy-sized but of course not complete, of publications on discipline-specific clicker pedagogy, where he cites 25 articles for clicker use in physics and astronomy, 19 in medical professions not including nursing, 17 in biological science, 14 in mathematics and statistics, 12 in engineering, 3-8 in subjects like chemistry, nursing, business and management, economics, earth and environmental sciences; disciplines with
the fewest articles on clicker pedagogy were in the humanities: communications, 2; English literature, 1; and philosophy, 1. From all this, it becomes clearer that there is limited use of clickers in classes like mine and little published literature on it. Further, such classroom technology is much more frequently used in the natural sciences than in the other disciplines, especially the humanities.

Initial skepticism (dating from around the mid-1980s until the mid-1990s) to lessons using personal response devices clustered in three areas (Abrahamson): first, there were Orwellian suspicions about lessons where large screens, push-buttons, and faculty seeming-omniscience loomed (p. 5); second, with increasing amounts of time and discussion devoted to answers to a few questions, all the material of a course could not be properly covered (p. 10); and third, this sort of lesson could raise questions from students that instructors might not be prepared to answer, revealing a vulnerability in the instructor that could cause students to lose confidence in the instructor’s expertise (p. 10).

These doubts have been answered thus: For those who use these systems to increase student discussion in small clusters and as a class, the dynamic is in no way a robotized classroom but rather one that is more spontaneous and active; the concern about proper coverage of material might well be answered by Gee (2004b), who urges teachers to abandon the “‘content fetish’” and instead design classes as learning experiences that acculturate students in the ways of thinking, acting, and doing as those in the given field do (pp. 117-118). A response to the third worry of teachers finding a line of questioning from students leaving them without immediate answers is an assertion that such a circumstance is not necessarily such a bad thing: after the teacher would “summon up” his or her “best elucidation” as an explanation only to “find the majority still do not
understand,” humbling and exhausting as it may be, “(T)his process cannot but help teachers from reflecting on their teaching” (Abrahamson, p. 11), and as a result of those reflections, make essential revisions in the way they teach, revisions they would not think to make had they not been so challenged. This is reminiscent of the earlier section where basic writing instructor June, in her in-class admission “that a student knows something that she doesn’t—an admission that might lessen the power differential,” makes “authentic discourse more possible” (Hull, et al., 1991, p. 320).

That discourse, as in any lesson, is threaded through the questions the instructor poses to the students, that students answer, and the discussion that results. The purpose here, as with many lessons, is to find out what students know as a means of trimming off the parts that do not work and building upon the parts that do. This is formative assessment, where “teachers need a continuous flow of accurate information on student learning” (Angelo & Cross, 1998, p. 3) so as to learn how to adjust their teaching.

“Questions are part of a larger learning flow” (Thalheimer, 2006, p. 15), and there is no seeming limit to the sorts of questions that teachers might ask students in a clicker lesson. Too, the questions could be categorized in different ways, these being just a few:

1. Pre- and Post- learning (Thalheimer, 2006, pp. 24-37)
2. Graded or ungraded (Bruff, 2009, pp. 140-150; Duncan, 2005, pp. 39-41)
3. Factual (based on lecture content) or personal (eliciting subjective opinion) (Jones, Marsden and Gruijters, 2006, p. 364)
4. Questioning based on a ladder of increasingly complex questioning, such as Bloom’s Taxonomy (McConnell, Steer, & Owens, 2003)
5. With and without images (Thalheimer, 2006, pp. 79-80)
6. Generated by a publisher, by the instructor, or by the students

7. Convergent (where there is one correct answer) and divergent (where there may be a variety of answers)

Here is a lengthy but still not exhaustive list of more specific kinds of questions that could be used in clicker lessons, with examples or explanation of each:

1. Recall: Of three options, “(t)o which position do your hands return after throwing an offensive punch?” (Bruff, quoting L. Paluti, p. 73)

2. Conceptual understanding: “(I)ncorrect answer choices are based upon common student misconceptions” (Bruff, p. 75).

3. Application: Based upon the facts of a particular court case, for which of these sides would a court find? (Bruff, quoting R. Gely, p. 81)

4. One best answer: Here is a description of a patient and his/her symptoms; which of these choices is the best treatment? (Bruff quoting S. Beatty, p. 91)

5. Matching: A table is set up, for example, with various kinds of cooking oil in the first column (olive, corn, etc.) with a list of cooking uses in the second column (to eat raw, to save money, etc.); and students are asked as a class to consider #1, olive oil: which of the uses in the next column matches? (Thalheimer, 2006, p. 97). This, obviously, would be repeated several times with the same list until the items in the first column are exhausted.

6. Prediction: Predict the end to a classroom demonstration (Crouch, Fagen, Callan, & Mazur, 2004), (Thalheimer, pp. 67-68). Run through the first steps of an experiment or demonstration and have students predict one of a few possible results.
7. Self-monitoring: “Have you finished the first draft of your paper?” (Bruff, quoting A. Hoefstra, p. 107)

8. Gauge of understanding: I understand X very well, fairly well, somewhat, a little, not at all (Jones, Marsden, and Gruijters, pp. 361-362).

9. Confidence level: “How confident are you in your answer to the previous question?” (Bruff, p. 105)

10. “Happiness level”: Given several times in a lecture with a graph made at the end (Jones, Marsden, and Gruijters, pp. 361-362)

11. Games, individually or in teams (Thalheimer, p. 87)

12. Student perspective questions: “Which of the following statements” about evolution “most closely matches what you think?” (Bruff quoting P. Levine, p. 99)

13. Taking on a different perspective (Thalheimer, p. 92) where students are asked to imagine they are a particular sort of person, like a single African American mother from a crime-ridden Chicago neighborhood. Which of these choices would she pick for something she believes the federal government should do to help her raise her children?

14. Anonymous poll (Draper, Cargill, & Cutts, 2002, ¶7): To collect demographic information or opinions, for example, asking students if they believe the pace of class is too slow or too fast, examples too many or too few, or even that teacher is making too many or too few jokes. Many clicker systems allow the instructor to choose an anonymous option, which he or she can overtly show students as it is
set up, guaranteeing that the instructor will not be able to match answers to individuals.

15. Peer assessment: After students make presentations on the “scholarly quality of websites,” students click agreement or disagreement with the group’s assessment of the site (Bruff, quoting M. Bowler, p. 95).

16. Peer review of presentation: “Pace: Did the speaker present at a reasonable pace?” (Banks, 2006, p. 375)

These question types are just a beginning of the possibilities, and they can be adapted to many subject areas, provoking thinking, discussion, and ideally both. It is in answering questions with clickers that two of its prominent features, interactivity and anonymity are tapped. In the former, interactivity, for every question the instructor poses to the students, students must key in a response, discover the results of the whole group’s response, and reprocess. For the latter, anonymity, students operate incognito, where no one has to know if they were correct or incorrect, in the majority or the only one to pick a choice. In a way, these two constructs of anonymity and interactivity are reminiscent of Maslow’s (1968) growth theory (p. 44-47) where the urge ‘to cling to safety” is opposed by the attraction by growth. In order to break free of the former and gain the benefits of the latter, one must “enhance the dangers” and “minimize the attractions” of safety and “enhance the attractions” and “minimize the dangers” of growth.

*Interactivity*

Interactivity, with or without technology, contributes to a positive, constructivist class atmosphere. Sometimes interactivity goes by a less technological term, “feedback,”
but the concept is the same. In his recommendations for developmental students, Boylan (2002) writes that these students need “frequent…timely” and as much as possible, “immediate” feedback (p. 84). Interactivity in video games is the “hook” that make people want to learn (Gee, 2004a, p. 16). Even those “excruciatingly long pauses” (Gladwell, 2000, p. 111) of *Blues Clues* where children are given time to think about their answers to questions—those illustrate an attempt by creators of a children’s television show to activate the youngsters’ urge to interact, to co-construct.

Outside school, interactivity is everywhere: links on websites invite an online voter for Major League Baseball’s All Star game to view video highlights of players in action before voting, give an online shopper the chance to see polls rating the products and read reviews by other consumers (as well as give the chance to post their own ratings and reviews), allow a driver to respond to feedback from a hybrid car and drive more efficiently, and allow viewers to vote for favorite entertainers on shows like “American Idol.” All of these applications of interactivity increase something Gladwell (2000) calls “stickiness,” a feature in a message that attracts viewers to the point where they become participants, “like playing a game” (p. 97).

Interactivity is also located in such a taken-for-granted item as the remote control, “a subversive technology” that gives a viewer “the means to construct an individualized media mix that may, or increasingly may not, contain advertising” (Bellamy, 1996, p. 1). Today’s college students have worked remote controls all their lives, starting and stopping things; altering sound; controlling the environment even to the extent of playing with time, recording what happens at one time for catching later. Remote controls are the instruments through which one operates one of Gee’s learning principles of video games,
“fine grained manipulation,” (2007b, p. 33). Clark and Chalmers (1998) call this “the extended mind” and ask, “Where does the mind stop and the rest of the world begin?” (p. 7) Today’s students take such extended reach for granted, and may improvise new ways to exercise it, as Figure 3, the “Zits” cartoon (Scott & Borgman, 2007) illustrates.

![Zits Cartoon](image)

Figure 3. Cartoon showing teen using cell phone as a remote control.

Using a remote control (or a cell phone) is a “transparent technology” (Clark, 2003, p. 37), something that while external is nonetheless easily learned and melded with one’s internal objectives, turning us into the term Clark uses as the title of his book, *Natural-Born Cyborgs*. The opposite of a transparent technology is an “opaque technology,” (p. 37), one that, until a long and often difficult apprenticeship to learn it is served, may trip the user up. It requires “skills and capacities that do not come naturally…and thus remains the focus of attention even during routine problem-solving activity.” For many, including some basic writers, word processing is an opaque technology where a remote control (or a cell phone or clicker) is transparent, an instrument that so easily integrates with one’s objectives as to become “almost invisible in use” enabling the user to “literally” see “through the tool and directly” confront “the problem at hand” (pp. 37-8).
Anonymity

Through anonymity, computers enjoy persuasive powers, conferring the ability to “go where humans cannot go or may not be welcome... the option of remaining anonymous is important in sensitive areas such as sexual behavior, substance abuse, or psychological problems” (Fogg, 2003, p. 8). Anonymity helps create an ease with “experimentation with new attitudes and behaviors”; in chat rooms, “shy people can try being bold...those who normally guard their privacy can open up and speak their minds” (p. 8). The first cartoon published about the Internet in *The New Yorker* illustrates the anonymity of the Internet with all its advantages and disadvantages, liberation and duplicity. See Figure 4, Steiner’s (1993) cartoon, which shows a dog sitting in a chair before a computer, telling another dog, seated on the floor, “On the Internet, nobody knows you’re a dog” (p. 61).

Figure 4. The first cartoon published about the Internet in *The New Yorker* illustrates anonymity.
Similarly, in clicker lessons, the answers students input with their devices can “be considered by the class without their identity being associated with the information,” (Davis, 2003, p. 301) facilitating “the ability to explore answers in a non-threatening way.” This gives the teacher the chance to ask students questions that help them “de-center,” to use Lunsford’s (1979) term, questions like: “What do you think the person who sent in this point was thinking? Or “Who can defend this answer?” (Davis, p. 301)

Anonymity also provides an inducement for students to “pick a definite answer even when they are quite uncertain,” not only getting students to generate a decision and produce an answer but also giving them surreptitious feedback (Draper, 2004, p. 12). Students may look in an abstracted way at their own thoughts. “Freed from who sent in the answer, they were able to explore what the answer was” (Davis, p. 301). The advantages of anonymity are among the facets of clicker lessons illustrated in Table 3, adapted from Cue (1998, p. 2).

<table>
<thead>
<tr>
<th>Classroom Task/Issue</th>
<th>Traditional Method</th>
<th>Clicker Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answer questions</td>
<td>Raise hands to be called</td>
<td>Answer privately</td>
</tr>
<tr>
<td>Collect answers</td>
<td>One at a time</td>
<td>Nearly parallel</td>
</tr>
<tr>
<td>Involvement</td>
<td>A few students</td>
<td>All students</td>
</tr>
<tr>
<td>Risk of embarrassment</td>
<td>Medium to high</td>
<td>None</td>
</tr>
<tr>
<td>Gender- and color-blind</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Feedback</td>
<td>Takes effort; some receive</td>
<td>Convenient; all receive</td>
</tr>
</tbody>
</table>
Davis (2003) discusses a permutation on clicker lessons’ anonymity, “public anonymity,” (p. 301), which she pairs with “private accountability” (p. 304). Publicly, one is anonymous; privately, a student knows his or her answer and finds out where it puts him or her among classmates, right or wrong; majority, minority or even alone, as in the instance below. Davis illustrates public anonymity in a high school math class where only one student chose 13, the correct answer. The teacher first

queried the class as to who had submitted the 13 as an answer. No response. He then queried the class as to why someone might have submitted that answer. There was a period of silence and then one boy exclaimed that the 13 was correct, the rest of them had forgotten to count the zeros when dividing… the teacher again queried the class as to who had submitted (the correct answer.) No response. He even pushed, he wanted to praise the person who had got it right. No response (p. 302).

Ultimately, the student who was correct claimed her answer with a whisper to the teacher as she left the class. This example illustrates two aspects to public anonymity: first, that students who are in the minority with a correct answer (especially those that, like this student, come from an inner city classroom where excelling in the classroom is not always socially advantageous) do not always want to be revealed as such, and second, that as long as all students’ private thinking processes are made public via the histogram, the secondary invitation to consider and discuss the logic of answers not one’s own leads to that “abstracting and conceptualizing” (Lunsford, 1980) that simultaneously releases individuals from the spotlight and shines the light on the question at hand, options, and reasoning.

Anonymity and interactivity also played a part in my pre-dissertation formal and informal studies of clickers in Basic Writing, as the following sections will show.
Background of My Research

In 2004, I was awarded a grant to join several other faculty members at my institution to pilot clicker technology in 2004-05 classes. I submitted and received Institutional Review Board approval for my part in the research project and planned for my lessons, adapting some PowerPoint presentations I had and creating new ones. In my classes, all the usual components of a composition class remained: we workshopped drafts in small groups, had instructor-student conferences, and did other types of recognizable writing lessons, including work with the sentence combining workbook. Clicker technology did not add new lessons; it just changed the delivery style of some lessons, particularly grammar lessons. I used clicker lessons 1-2 times a week to assess and discuss prior knowledge, to raise issues, and to spur discussion; this was a learning tool, not an evaluative one. Students earned participation points on the days we used clickers, not by getting correct answers or even talking but simply by bringing their devices and using them.

A typical lesson might begin with a question where “common sense” for those outside the field (writing in my case, physics in the example) runs counter to the correct answer, and once students realize that most of them were incorrect, they are surprised into wondering how that could be. For example, physics professor Randy Caton opened with a question that had an obvious answer based on non-physicist thinking, but which was invalid. When over 90% of the class chose this answer and found out that they were all wrong, they suddenly became interested and were more than ready to listen to the first part of the lecture. (Banks, 2006, p. 4)
This is what Gee calls “just in time thinking,” one of his learning principles from video gaming (2007b, p. 37) where information is not presented until it is needed, unlike the transmission style of traditional lectures where information is presented disembodied from student need or interest.

The first question in my run on sentence lesson fits into this template and is in keeping with what McKeachie (1987) writes about Berlyne’s (1954) suggestion for a productive start to a lecture:

One suggestion for organization of the introduction of the lecture should point to a gap in the student’s existing cognitive structure or should challenge or raise a question about something in the student’s existing method of organizing material in order to arouse curiosity. (p. 95)

The question I gave students showed them two similar sentences, a 7-word comma splice (or run on) and a 34-word long-winded, compound-complex sentence:

Which is the run on sentence?

A. There is Denise, she is my roommate.

B. There is Denise, my roommate, a girl who is neat, friendly, and the biggest flirt I have ever had the misfortune to meet; next semester, I plan to get a messy, boring roommate!

The two semesters (2004-2005) that I used this question as the opening question in the run on sentence lesson, only 16 percent of students (a trend seen even among non-English composition faculty members to whom I have shown the question at presentations) correctly chose the short comma splice as the run on sentence. Those who incorrectly chose the longer one always gave length (and the resulting out-of-breath exhaustion it induced in the reader) as their reason for identifying this as a run on. As the
mediator, I faced the challenge of how long to allow discussion to play out. I pushed students to define “run on.” Was it simply about length, and if so, how long is too long? We counted words and considered ways to cut without sacrificing detail. Or was there too much detail, and if so, what detail might be scrapped? What might be the consequences, good and bad, of such cutting?

When I finally revealed the assumption-shattering answer, that the short sentence is the run on, students (and non-English studies faculty) expressed shock. To show the structural nature of run on sentences, on the next PowerPoint slide, I used different colors and fonts to illustrate how one sentence was long but “legal” and the other, while short, used an incorrect connector in the ways many students do, resulting in a comma splice.

Answers to the three questions that followed in the run on question lesson, while not showing as clear a long-short differentiation (which could tempt students to employ a counter-intuitive strategy of always choosing the short sentence as the run on), showed students increasingly identifying run on sentences and starting to see this decision as one that hinges on structure and punctuation rather than mere length.

With the lessons using divergent questions (the metaphor lesson, for example), students had a chance to explain their answers and hear what classmates had to say, often with clear interest—Who chose as I did, and did they have a similar reason? Who chose differently, and how did they come to that choice? As a student wrote in this survey comment from the 2004-2005 study, “I believe students can see what their peers are thinking this way. It sparks conversation among teachers & classmates.”

In the spring 2005 semester portion of the study, because I was using that data for a project for my cognate class in English, Research Methodology in Composition, I
audio taped some classes and kept count of students participating. During the clicker lessons, over 75 percent of my students participated verbally. Even some who did not speak out in class found channels to join in; listening carefully to an audiotape, I caught the voice of a student who I had not counted as a participant, responding softly (and on topic) to a student who was interacting with me. Another student who did not speak in class wrote me two emails on topics of the clicker lesson, including this one, quoted in part below:

I don't think you covered this in the 2:15 class I attended that one day, but I have a question concerning apostrophes when using a person's name that has an "S" at the end. When do you use just the apostrophe, and when do you use the apostrophe and the "S"? Say someone's name is Darius. When would I say Darius'? When would I say Darius's?

While I would prefer this student have asked his questions in class, these emails showed how some students chose to keep interactivity at a level that if not anonymous, is at least hidden to classmates, similar to that female math student in the Davis study who only admitted her correct answer to the teacher on her way out the door. My emailing student had somehow internalized enough of the lesson to give rise to a question about it (maybe during class, and he was too shy to ask it, or maybe later, after further thought). Further, he sought (and received) a response from me via email.

At the end of both semesters, I surveyed my students with the survey that all others in the research project used, and Table 4 shows partial results from my class, showing four of the original seven categories. The question stem for the top row was “The use of conceptests and CPS....”
Table 4: Partial 2004-2005 Survey Results of My Students

<table>
<thead>
<tr>
<th></th>
<th>Improved performance in the class</th>
<th>Increased willingness to ask questions</th>
<th>Would recommend use at (this school)</th>
<th>Made class more enjoyable</th>
</tr>
</thead>
<tbody>
<tr>
<td>My Students</td>
<td>2.39</td>
<td>2.18</td>
<td>1.82</td>
<td>1.76</td>
</tr>
</tbody>
</table>

Note: On a scale of 5 with 1 as the highest rating and 5 as the lowest rating.

Like the undergraduates in other lower level classes with 100 or fewer students throughout the study, my students saw “greater benefits in these methods than students in sophomore, junior, and senior level courses” (McConnell, 2005, p. 5). Maybe this sort of lesson has a more cognitively stabilizing effect on more vulnerable students, such as those who are developmental, returning adult, or English as Second Language students, as this finding from a study done in the United Kingdom shows:

(TH)e greatest change in behaviour was evidenced with the students from the Far East. They were keen to contribute to discussions and ask questions after voting; the PRS appeared to enable them to overcome their inhibition and lack of confidence to contribute to class discussion, resulting in a more engaged approach to learning. (Beekes, 2006, p. 31)

My students’ survey written responses to the question about what they liked best about these lessons illustrate their views on how these lessons affected their participation:

- “You start to feel like your (sic) on jeopardy (sic) a little bit. I actually find myself wanting to participate.”

- “This concept gave us a way to speak and interact with other. This is also a good way to keep our attn. in class.”
• “I like the fact that everybody in class gets to participate at the very same time.”

My pilot students also mentioned anonymity as an advantage. They wrote:

• “(I like) the fact that I can anonoumously (sic) participate in class discussions. This in itself has allowed me to absorb much more than a normal lecture with hand raising.”

• “When a CPS lesson is being taught I listen and pay more attention cause (sic) I don’t have to answer verbally and no one kno (sic) my answer.”

• “The CPS helps me to participate more without pointing people out…”

• “It (is) secret balloting. It allowed one to express their answers and questions without been (sic) (illegible) by others.”

Student responses to the survey, their written comments, as well as the over 75 percent participating verbally in this pilot project made me interested in continuing to use clickers in my classes and to follow this as my research interest for my dissertation.

Evolution of My Use of Clickers since Pilot Study

In the time between the 2004-2005 study and the fall 2007 data collection for the dissertation, I continued using clickers in my Basic Writing classes. In keeping with the ideas in Gee’s (2007) “sandboxes” principle (p. 39), I gravitated further toward using clickers as a formative assessment, using them about 15 times a semester for preview, review, and discussion, and only once or twice for quizzes. I also moved away from part of the Mazur template (1997, p. 10-11) where students discussed answers in small groups before discussing as a whole class; a class of 12-17 is almost a small group in itself, at
most, divisible into 3-5 groups. It seemed an unnecessary step for a small class, and sometimes I noticed students from one group not talking amongst themselves but instead eavesdropping on more active, talkative groups.

I also used more divergent questions, those without correct answers, such as self-assessments done the day an essay was due and opinions. Increasingly, I solicited questions by students (usually done as assignments and used only with permission). I also integrated questions where it did not always encompass a full-class session, for example, two questions and discussion followed by a move to other activities.

Through this three-year learning process, clickers enabled us to place at front and center issues that for many students have been private, or, at most, between them and their teacher: a writer’s choices, that whole range of decision making that occurs along the range of the writing process: What shall I write about? What might a reader want or need to know that I have not included? What impression might this sentence give, and might it be better done another way? Do I use “I” or “me” as my pronoun here? Basic writing students do not always ask themselves enough questions mid-process, and clicker lessons may provide a place where students could, to use Vygotsky’s (1962) term, to profitably stimulate “inner speech.”

Summary of Literature Review

Basic writers in the 21st century are multi-faceted beings: as writers, they are hampered by an egocentric orientation and need help visualizing and providing for readers generationally, most of them are awash in a sea of messages from others but lack a strong channel of communications with themselves. Clicker lessons, with their
dimensions of interactivity, anonymity, and the way they provide the class with a joint attentional scene where all participants are imbued with realization that classmates are co-constructors of knowledge, are worth investigation for the basic writing classroom.
CHAPTER III
RESEARCH METHODOLOGY

Introduction

In an attempt to gain credibility within the academy as a discipline that conducted research according to strict scientific procedures, research in English composition in the 1960s and 1970s was marked by a resolve to emulate research in the hard sciences, including an emphasis on error analysis and comparisons of competing instructional treatments (Smagorinsky, 2006, p. 1-2). By the 1970s, case studies, beginning with Emig’s (1971) work on the writing processes of twelfth graders, broke ground for research written in a more naturalistic voice and with content that was more meaningful to classroom teachers (Smagorinsky, p. 3). Many of these case studies focused as Emig’s did, on writing processes of individuals, including studies on basic writers (Perl, 1979) or on composing and revising on computers (Haas, 1990; Jones & Pellegrini, 1996). Case studies may also examine “individual issues, texts, concepts, programs and curricula” (Birnbaum, Emig & Fisher, 2005, p. 125).

Reflecting Vygotsky’s (1978) premise that literacy learning is at its foundation social, research interest has turned in recent years to “writing as embedded in sociocultural practices and identities” where research questions include “How are an individual’s writing practices and identities shaped by the social, cultural, and ideological
contexts he or she inhabits? How does his or her writing, in turn, shape these contexts?” (Schultz, 2006, p. 365) As Gee writes,

> Over the last several decades, in and across a wide variety of disciplines, there has been a massive “social turn” away from a focus on individual behavior (e.g. the behaviourism of the first half of the twentieth century) and individual minds (e.g. the cognitivism of the middle part of the century) toward a focus on social and cultural interaction (2000, p. 180).

This study aimed to follow that thread by examining the social milieu of two Basic Writing class where some lessons were conducted using personal response devices; further, this study examined students’ use of personal technologies, seeking to see how the students’ practices with and attitudes about the latter might inform their work in the former. Like other socially-oriented studies, this work aimed “to draw the literacies of others into a clearing where they will have wider meanings, relevance, and social significance” (Sullivan, 1996, p. 104). This study sought to make connections between practices and relationships that many students have eagerly established with personal technologies with communication practices they developed as first year college writing students.

Both as readers and as researchers, writing teachers have long been drawn to case studies, uncomfortable with the experimental approach that Braddock (1974) and others used to legitimate composition research in its earlier days; further, narrow, statistical studies seemed to have little application to their lives in the classroom (Smagorinsky, 2006, p. 3). “They could not see their schools, classrooms, or children in the data” of such studies, writes Graves (1980, p. 914) and so writing teacher-researchers often gravitated to qualitative methods, such as the case study. The “personal voice” of case studies, that of “one individual to another, rather than in the impersonal tone of one
authority to another” (Bissex, 1987, p. 9) holds a more relatable validity for many writing teachers.

The case study was also a fit for the goals of this study since unlike “experimental designs with control groups” that “assume that the crucial variable in learning is the instructional method” revealing “a top-down vision of control, with students viewed as receivers of instruction, and learning as a product of external conditions,” a case study design reveals views about learning that put the focus on learners and learning, reflecting “various educative influences including, of course, teaching” (Bissex, 1987, p. 12).

Case studies in writing have focused, since Emig’s (1971) study on the writing processes of twelfth graders, more on individual processes and choices rather than group processes, group decision making, and making meaning as a class, activities pivotal to basic writing students, and as in the Gee quote earlier, fitting with the trend to study social rather than individual phenomena.

Research Setting and Study Participants

I collected data for this study in my own Basic Writing classes primarily over the final six weeks of the fall 2007 semester (with two pieces bookending the semester: a written assignment students did the first week of classes and interviews I conducted the following semester). This course, the only basic writing course offered at this institution, is a non-credit, four-hour class held over a 15-week semester at a large, Midwestern, urban, open admissions university. These classes have 14-17 students apiece. My fall 2007 classes had a mix of gender and race that was not unusual, and only two students from all classes combined were nontraditional age. According to this university’s
Institutional Research Office, in fall 2007, the semester of this study, 10.6% percent of incoming freshmen were required to take Basic Writing. Incoming students lacking recent ACT or SAT scores or having scores in the 25th percentile or lower (1-15 for the ACT and 200-340 for the SAT verbal test) had to take the COMPASS test. Students scoring 60 or above on COMPASS placed into English Composition while those who score 1-49 placed into Basic Writing. Students scoring in the 50-59 range were placed in English Composition or Basic Writing based upon a balance of these factors: their COMPASS Reading Test score, high school English grades, and high school grade point average. Of course, as a writer and composition teacher, I acknowledge that this placement practice is problematic. With these narrow measures, some students are sure to be placed into Basic Writing when they would be capable of succeeding in English Composition even without having taken Basic Writing, or they might be placed into English Composition when they would have been better off having taken Basic Writing first.

Decisions in Narrowing the Participant Pool

I started my data collection across all three classes for two reasons: first, by achieving a larger $N$ than would be possible if I used only one class, a fuller picture of students’ attitudes, usage and participation with both their past English class and involvement with personal technologies would be revealed; and second, starting with three classes would provide me with information that would give a fuller sense of individuals in the classes and help me decide which class or classes to continue with for the case study.
At first, I planned to separate the participants from three classes into four categories, based upon what I found in their responses to the personal technologies survey (see Appendix C) and what they said about their own class participation in their previous similar class. I expected to choose participants from all four categories to see how they reacted to the clicker lessons. These were the four original categories:

1) Active user of personal technology and active participant in previous English/writing class
2) Active user of personal technology and less active in previous English/writing class
3) Active participant with previous English/writing class and less active user of personal technology
4) Less than active participant in both personal technology and previous English/writing class

I expected that certain categories, such as #2, would have many students in them and that other categories like #3 and #4 would have fewer students in them. I would consider examples of students writing about having discussions or taking the lead with projects would show a student “active” in their previous class while writing about avoiding work, sleeping in class, and so forth would show a less active student. Similarly, a student who did not use all the personal technologies or spend much time with them would show a person who would be easily categorized as less active with personal technologies. Further, for the purposes of my study, I was most interested in students in group #2, the active users of personal technology who had been somewhat inactive in their previous class. If these students could become more active in clicker lessons, I
would be able to see something of a link between students’ easy involvement with personal technologies and a similar engagement in clicker lessons.

However, the more I looked at the data, the more I realized that even the students comparatively less involved with personal technology were still very involved. As Begley and Interland (2008) write, “The ideal experiment is hard to pull off: to study the effect of digital technology on cognitive processing” of young people in a rigorous way, you must randomly assign groups of young people to use it a lot, a little or not at all, then follow them for years. As one 19-year-old of our acquaintance said about the chances of getting teens to volunteer for the "not at all" group, "Are you out of your [deleted] mind?" (¶7)

Further, I found it surprisingly difficult to categorize students into categories of “active participant” or “less active” in high school English. On one hand, there was Caryn, who wrote, “In English class I was always engaged silently to what the teacher had to say about a particular author or style of writing” or Brent, who silently enjoyed his work in the creative writing class but had to endure the taunts of the “goth poetry kids” (FWA). Then there was Frank: “In my English I was good because I answer every single question in the class” (FWA). Frank was a frequent verbal participant in the Y class but often his reasoning was a one word “sentence”: “because.” Even when nudged to explain, he tended to speak in generalities and circles rather than advance the discussion. It would have been absurd to categorize Caryn or Brent, who clearly thought about what happened in class but did not speak as inactive, and Frank, who spoke a lot but did not seem to know how to think about his answers, as active. Therefore, I discarded the idea of categorization and realized I would be looking between the lines for greater subtleties regarding class participation.
I needed to find another way to make decisions about which class and students upon which to focus my attention. Through “purposeful sampling,” the case study researcher identifies cases that best provide “an opportunity to obtain different perspectives on the issue, problem, process, situation or event” (Birnbaum, Emig & Fisher, 2005, p. 127). I had two levels of decisions to make, first, which class and then, which students would give me those different perspectives? Among the three classes I had to choose from, the Y class was held in a building on one side of campus in the morning, and the G and H classes were held back-to-back in the afternoon in a classroom on the opposite side of campus.

I was torn between the G and H classes. The G class was cautious and quiet but conscientious and had more females than males (8 to 4). Ashley’s dissatisfaction at her Basic Writing placement and the synergy she had with Sherrice, a classmate who sat beside her, interested me. On the other hand, the H class had more males (8 to 5) and was lively. That class also contained appealing potential cases. For those research-related reasons as well as the logistical ease of studying back-to-back classes in the same room, shortly after I administered the survey at midterms, I sought and received a revision to my original IRB plan to use both classes and collected data in the second and third stages with these two classes.

For my choice of students to examine as cases, I sought individuals across several spectrums: those with varied experiences from high school English, those with different views and uses of personal technology, and those who expressed approval of the clickers to those who expressed slight hostility to them. I also sought demographic balance in my choices. The students I used as cases were these eleven:
1. Randy: a Caucasian male from the H class, following the musical chairs seat-switching of the first days of class, Randy found himself sitting mostly alone in the back row. He sometimes expressed antipathy toward the clicker lessons in the written responses.

2. Todd: a Caucasian male from the H class, Todd sat in the middle-front, and was quiet, attentive, and interested in the visual arts.

3. Lina: an Asian American female from the H class, Lina was six years out of high school and full of resolve. She sat in the front row and frequently spoke in class but in short responses.


5. Brent: an African American male from the H class, Brent was creative, self-contained, and usually quiet as he sat in the back row of the class. Brent was also a visual artist.

6. Derek: an African American male from the H class, Derek sat in the middle of the class and talked frequently, making requests, comments, and arguments, on- and off-topic. Derek was extroverted and academically dependent on friends, roommates, and tutors.

7. Ashley: an African American female from the G class, at the beginning of the semester, Ashley expressed disappointment at being placed in Basic Writing. She frequently spoke in class, giving answers, asking questions, engaging in long
strings of on-topic dialogue, mostly with her seatmate Sherrice. They sat in the second row.

8. Sherrice: an African American female from the G class, she and Ashley were seatmates and allies, almost teammates; they frequently acted in tandem, ambitiously pursuing the academic goals of the class and themselves.

9. Lyn: a Caucasian female from the G class, Lyn sat in the second row and took a guarded stance to the clicker lessons and expressed her doubts about this lesson style in the written responses.


11. Penny: a Caucasian female from the G class, Penny did not speak in class unless spoken to but sat front and center and always appeared attentive.

I had personal technology surveys and assignments about their previous English class from all eleven of these students, interviews from five, and spoken participation in the video tapes from six. Data I collected from these students also included most of the six in-class written responses about clickers and most late-semester essays.

Figure 5 illustrates how the study proceeded from three classes and 39 participants to two classes (with 25 participants) and 11 cases.
Access and Trust

Since these were my students, I had access to them as participants. I prepared a student consent letter (see Appendix B) and, in case a student might be under age 18, a parental consent letter but did not use it. The mid-semester class session when I presented my students with the letter of consent, I told them that I was interested in studying how students experienced clicker lessons in Basic Writing. I said that if they chose to be a participant, I might use things that they said or wrote in my study, but I would not use their names. They seemed to find this reasonable, and an average of two students per class chose to remain outside the study.

Research Procedures and Timeline

In this study, I used multiple methods because answering my research questions necessitated beginning with a wider view of my students and then proceeding toward
more detailed views of specific classes and students. “No single research design, no single vision or set of assumptions will enable us to see the whole picture,” (Bissex, 1987, p. 13). By using appropriate methods at appropriate stages, I hoped that I would see a picture that while incomplete would still allow me to understand basic writers more than I did at the beginning.

This study began with a wider angle first stage with the aim of discovering student experiences in their previous similar class and attitudes about and practices using personal technologies. Then, it followed with a focused examination of the ways those attitudes (and their related dynamics) played out among classes and students. Table 5 describes the study’s questions, data sources and operationalization.

Data Collection

Data collection occurred in three stages: the first nine weeks of the semester; the final six weeks of the semester; and the interviewing phase, which occurred over about three weeks during the following semester. A description of these stages follows.

Stage One: First Nine Weeks of the Semester

In the first nine weeks of the semester, I compiled thoughts in my field notebook and collected first week assignments from the students, and administered the personal technology survey and had students sign letters of consent. Details follow.
Table 5: Research Study Questions, Data Sources, and Operationalization

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data Sources</th>
<th>Operationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do Basic Writing students participate in clicker lessons?</td>
<td>First week assignment</td>
<td>Describe and analyze student participation as individuals and in conjunction with others.</td>
</tr>
<tr>
<td></td>
<td>Videotape transcripts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electronic responses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Field notebook</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Survey response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interview responses</td>
<td></td>
</tr>
<tr>
<td>How do Basic Writing students construct knowledge in clicker lessons?</td>
<td>First week assignment</td>
<td>Find, analyze, and seek corroboration between what students say, do, and write</td>
</tr>
<tr>
<td></td>
<td>Written responses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Videotape transcripts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Student essays</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electronic responses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>My field notebook</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interview responses</td>
<td></td>
</tr>
<tr>
<td>In what ways do clicker lessons tap features of students’ use of personal</td>
<td>Survey responses</td>
<td>Find themes in survey, examine clicker class data, and look for overlap in attitudes and opinions as well as thematic overlap.</td>
</tr>
<tr>
<td>technologies? How do findings in the latter inform the teaching and learning in</td>
<td>Written responses</td>
<td></td>
</tr>
<tr>
<td>the former?</td>
<td>Interview responses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>My Field notebook</td>
<td></td>
</tr>
</tbody>
</table>

1. Field notebook: Throughout the study, I used a field notebook to take notes, writing my impressions of the three classes, individual students, classroom moments, and my thoughts on how these things connected with my research questions.

2. First week assignment: For an assignment due on the third day of the semester, I had students write a page and half describing their previous English class, including the work that they did and their thoughts on it but also telling how they
participated in the class. This allowed me to establish early their perceptions of their previous English/writing class and their role in it.

3. Personal technologies survey: To avert glitches when giving the survey to my students, I asked several student office assistants and Writing Lab peer tutors to test a pilot version of the survey, writing comments on it to help me refine and revise. After receiving their feedback, I trimmed off redundant questions and cut instant messaging as one of the personal technologies, a decision I made because that form of personal technologies seemed to be losing ground to text messaging, which had similar characteristics. I also reworded some questions to make them clearer.

The survey (see Appendix C) asked students about past class participation, whether they used seven forms of personal technology, and to rank a list of six forms of personal technology and tell how often they used them. The survey also asked them to choose one of their most used forms of technology and one of their least used and write on why they did or did not use or like that form of technology.

I set out a two- or three-day window for administering the survey, aiming for a day when all students were present. I budgeted most of one class period, about 40 minutes for this. When such a day came (the same day in all three classes), I passed out IRB consent letters (see Appendix B), read one aloud, and emphasized that their decision to participate or not in the survey would in no way affect their grade in this class or my view of them. I added that nonparticipants would still have to do everything participants did, just that I would not use their
data in my study. Then I passed out the surveys and briefly explained the parts of the survey and directions for each, adding that they were free to ask questions of me at any time. When all the students had completed the surveys, I collected them. In appreciation, I pulled out a bag of candy treats and an assortment of small office supplies, like mini staplers and pocket calendars. I gave students a choice of one of each for completing the surveys.

**Stage Two: Last Six Weeks of the Semester**

In this stage, coming at the last half of the semester, I collected written responses to questions about clicker lessons, videotapes of five lessons, some papers and assignments and electronic responses. Specifics of each follows.

1. Students’ written responses: On six occasions in class, I gave students a handout (see Appendices D-G) that asked them to identify themselves with their student ID number and answer questions on specific clicker lessons. Usually, I gave the handout immediately following the appropriate clicker lesson, but not always. Among the six handouts, there were two pairs where each part was given a few days apart to first capture students’ immediate thoughts on a lesson type and later, to demonstrate any benefit beyond the class time, such as drafting decisions made as a result of the lesson. In a few instances, I had students do the written responses at the beginning or middle of class. Any time I asked students to do the written response at the end of class, I made sure all students had completed written responses before giving class closing remarks; in no cases did students have permission to leave as soon as they had completed their writing. I wanted to be
sure there was no incentive to answer quickly (and less thoughtfully). Students were always silent during these responses; there was no talking or sharing of ideas. I wanted each student to write down his or her ideas without the influence of others encroaching on individual thought and opinion. At the end of one of the middle collections of written responses, I gave students packages of gum as a small token, and at the end of the final collection of a written response, I gave students a choice of a small office supply item as a thank you.

2. Copies of students’ essays: Since some of the questions asked if or how something they learned from a clicker lesson was applied in an essay, I photocopied some of the subsequent student papers so as to verify any claims students made.

3. Class observations via videotape: I had five class sessions videotaped through the audio-visual department of the institution: two lessons with both the G and H class and one lesson with just the G class. Videotapes allowed me to be teacher in the classroom and observer outside of it, helping me to view, review, note and analyze parts of classes and individual comments that address issues of this research.

4. Electronic record of students’ answers: The Classroom Performance System software gives instructors access to answers students input in response to questions. For the lessons connected to the videotapes or written responses, I printed reports and checked answers they made with their personal response devices to compare them with what students said or wrote. I also printed out the
record for the seven final grammar lessons so that I might figure out student and class averages.

5. Field notebook: I continued to write relevant incidents and impressions in my field notebook throughout this stage of the study, writing about my thoughts on the study issues as they arose.

*Stage Three: Early Weeks of the Following Semester*

One day the final week of class, I gave students a letter (see Appendix H) that explained my next moves and asked for contact information. I also asked them to give pseudonyms that I could use when referring to them.

A few weeks into the following semester, I asked 15 of the 25 G and H class participants if they would be interested in coming for an interview. In most cases, I emailed them, but in two instances, I asked them when I ran into them on campus. I sought students who would provide information-rich cases, active participants in clicker lessons as well as those who did not speak, and students with differing views of their high school English experience and varied involvement with personal technologies. Five students agreed, and we set up interviews within the week.

A few days before each interview, I emailed each student who agreed to be interviewed to verify our appointment. I also reviewed these students’ data to see if there was anything that I wanted them to clarify.

I held the interviews on class days in a small private room (usually used for make-up tests or group study sessions) located in my department. I used an open-ended interview where I started by asking students to fill out a demographic profile (see
Appendix H) for the questions and the profile form). When each student arrived, I explained the purpose of the interview and what we would do. I told them that these conversations would help me better understand what they have already said and done and may further help me understand their experiences with clicker lessons. I showed them the digital tape recorder where I recorded the interviews and explained that I would be taping what we said. In all this, I sought to establish the purpose of the interview (Spradley, 1979, p. 59), that of clearing up or extending things the student wrote about or said during clicker lessons and with the students’ helping me understand how they viewed clicker lessons.

During the interview, I aimed to balance use of a “cluster of interpersonal skills” that Spradley (p. 46) advocates, such as “listening instead of talking, taking a passive rather than assertive role” and “expressing verbal interest,” but I went lightly with his recommendation to use eye contact to “show interest” in the interviewee. I did not want to forget that my role of teacher is recent for these students, and I wanted to mitigate against any tendency some students might have had to give me what they thought I wanted. For that reason, I mixed looking at them with looking down and taking notes. At the end of the interview, I thanked each student for his or her help, and in appreciation, gave each a $10 gift card that could be used at various campus locations.

Summary of Data Collection Procedures and Timeline

Data for this study was collected over one semester and a few weeks during the following semester. A summary of this research timeline is seen in Table 6.
Table 6: Data Collection Timeline

<table>
<thead>
<tr>
<th>Data Collected</th>
<th>Time Period</th>
<th>Researcher Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field notebook</td>
<td>Throughout the study</td>
<td>Wrote thoughts, ideas</td>
</tr>
<tr>
<td>First week assignment</td>
<td>3\textsuperscript{rd} day of semester</td>
<td>Collected, copied, read, took notes</td>
</tr>
<tr>
<td>Personal tech survey</td>
<td>Week 10</td>
<td>Explained, administered, and collected</td>
</tr>
<tr>
<td>Students’ written responses</td>
<td>Weeks 10-14 (and beyond)</td>
<td>Collected and organized</td>
</tr>
<tr>
<td>Electronic reports</td>
<td>Weeks 10-14</td>
<td>Printed, read</td>
</tr>
<tr>
<td>Videotaped observations</td>
<td>Weeks 12-14</td>
<td>Had audiovisual do taping; after semester, watched and transcribed</td>
</tr>
<tr>
<td>Students’ essays</td>
<td>Weeks 14-15</td>
<td>Copied, put in folders</td>
</tr>
<tr>
<td>Interviews</td>
<td>Weeks 3-6 of following semester</td>
<td>Set up, conducted, transcribed</td>
</tr>
<tr>
<td>Data analysis: looked for patterns and themes and cross-checked data</td>
<td>Mostly after semester and especially the following summer</td>
<td>Discussed with methodologist; reread data, coded and revised codes</td>
</tr>
</tbody>
</table>

Data Management

My managed data fell into two categories: data produced directly by students and data that I completed or compiled apart from them. Here is how I managed the pieces in those two categories:
Management of Data Pieces Produced by Students

As soon as I collected a set of data in class, it went in a folder marked for that class. Shortly after collecting these papers, I first sorted out those done by students in each class who had not consented to participate in the study. I had required all students to do the writing work of the study, but I removed the nonparticipants’ responses and saved them in a separate folder in case any nonparticipant later spontaneously decided to join in, but at the end of the semester when none had changed their minds, I destroyed that data. Next, of the responses by the participants remaining, I read their responses for legibility. If I did not understand a student’s handwriting or meaning, I brought the piece of paper in to ask them about it. Once I was clear on all student writing in a data set, I took those class folders home.

Next, I took the papers out of the class folders, and if there were names on them (as with the first week assignment and essays), I blotted out the names and gave students temporary code names—Y1, Y2, Y3, etc. for Y class students, for example, which I later changed to pseudonyms. (I kept in electronic form an index of student names—real names, real student numbers, temporary class code names, and pseudonyms.)

For the survey and written responses, on the top of each paper, I had asked students to identify themselves by their student ID number. If they forgot this, I told them that their initials would be okay. Again, I later replaced those with temporary class code names and later pseudonyms. (I gave students an opportunity to choose their own pseudonym with the Week 15 letter, but if they did not, or if they chose a name that was inappropriate—the name of a student in another class, for example—I gave them
pseudonyms.) Here is a more specific view of how I managed each of the student-produced data pieces:

Students’ first week assignment: I photocopied the assignments and graded and returned the originals to students. After punching three holes in each copy, I put the copies into a binder, one for each of the three classes. I sectioned off each student’s data in separate parts.

Surveys: I input the information on the computer in Excel and Word files. For the questions in Parts I, II, and III that asked students yes/no, multiple choice, or numerical answers, I entered the answers (first using their student number and later their pseudonym) into an Excel file. I set it up to tabulate either counts of numbers (for example, 36 “yes” and 3 “no” for ownership of a personal computer) or averages (average number of minutes spent text messaging in a typical day, for example).

For students’ answers to questions in Part IV, where they had to write about a most and least liked or used technology, I typed the reasons they gave for why they did or did not like or use the technology into a Word file. First, I typed up all the answers for each class together, and later, I organized the answers in different ways. Through cut and paste, in a file I called “positive and negative comments about technologies,” I put all the positive responses about each technology together in one column and all the negative responses for the same technology in the other column. Table 7 shows an example of this.
Table 7: Positive and Negative Comments about Internet Browsing

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pseudonym -- CODES</td>
<td>Pseudonym -- CODES</td>
</tr>
<tr>
<td>Response</td>
<td>Response</td>
</tr>
</tbody>
</table>

This way, I had all the opinions/reasons students gave stored together in a file on the same topic: here were the pluses and minuses of these students’ views of that personal technology. When I was done inputting the survey information in Excel and Word files, I punched the survey originals with three holes and put them in the three class binders, keeping each individual’s data together and class data together in one binder. I also printed all these files out, keeping the student data together and Excel data and class Word files together.

Written responses: Later, when I refer to these written responses by number in Chapter IV, these are what I am referring to:

WR1: The response asking students to give a metaphor for clickers, October 31
WR2: The response asking students their first impression of the peer feedback lesson, November 12
WR3: The response asking students about residual influence of the peer feedback lesson, November 14.
WR4: The grammar lesson, November 27
WR5: The response asking students about the portfolio lesson immediately following it, November 28
WR6: The response asking students about residual influence of the portfolio lesson and including a second page where students had to write comments about three categories of lessons (Clicker lessons, non-clicker lessons, and both types of lesson), December 4.

Using students’ class code names (Y1, Y2….G1, G2…), which I later turned into pseudonyms, I transcribed what students wrote in the written responses into a Word file. If students’ writing was illegible or spelled so poorly that it might not be understandable, I made the correction and put my translation into parentheses. If I believed a reader could translate a spelling or other error, I gave it as it was and used (sic). I put these transcriptions in three different Word files, in this order:

1. One Word file where all of each class’ responses were together, all of the G class’ responses to the metaphor prompt together, for example

2. One Word file where all of each case’s transcribed data was together, all of the 11 cases’ responses to the six written responses: all of Brent’s responses, all of Lyn’s responses, etc. (These were put with all other data I had on the individual cases.)

3. One where all the written responses about the different codes were put together—all the written responses on the code of easy-difficult, for example, were in one file.

I later wrote codes and margin notes in these documents and stored all the responses from each case, which went in the class binder with their other data, and stapled together the printed files on each code and put them in another binder.
Essays: I made copies of the two portfolio revisions and in some cases, other essays and other drafts of essay. I returned a graded copy to the student when appropriate and consolidated copies of the essays in the class binders along with each individual student’s collection of data.

**Management of Data Pieces Not Produced by Students**

These included the field notebook, the electronic reports, the videotape transcripts and the interview transcripts; description of my data management of each follows.

The field notebook: This was like a journal of my thoughts throughout this process. When something happened that connected to the work and ideas of this study, I typed it up in a dated entry in this Word file, adding new observations and ideas as they developed. Here, I wrote about themes and possible codes and caught some classroom moments that would not otherwise have shown up in the data, given that I only had five classes videotaped. When it was complete, I coded it for themes from the study.

The electronic reports: I printed all reports that connected to another data piece; for example, any time when I had a class videotaped or collected a written response, I printed the CPS electronic report called Question Report, where for each question asked, all student names with the corresponding letters they chose are given, and at the bottom of the page is a bar histogram summarizing the class answers. I blotted out student names. See the example in Appendix D. I read these, marked some with notes and put them in a separate binder that included print outs of the PowerPoint presentations that went with each electronic report. I matched electronic reports with PowerPoint printouts so I could see which answers students gave to the questions given. On the left side, I put
the PowerPoint slide of the question, and on the right side, I put the electronic report of how students answered that question.

Videotape transcripts: I watched the five videotapes many times and transcribed them. Sometimes I wrote in italicized notes in the middle of the transcript, and also, using the Microsoft Word comment feature, I wrote other notes, codes, and thoughts about what happened in these margin comment balloons. I printed these and kept them in the binder with the Electronic responses. In addition, whenever one of the 11 cases spoke in the videotapes, I cut and pasted those sections and put those in the binder with the appropriate student’s other data. Later, when I refer to videotaped classes in Chapter IV, these are the classes that I am referring to:

VT1: The H class, lesson on dependent clauses, October 30
VT2: The H class, lesson that started with a peer workshop for Ethan’s draft and finished with the dependent clause lesson, October 30
VT3: The G class, appositives lesson, November 13
VT4: The G class, peer feedback session for Dan’s paper, November 12
VT5: The H class, peer feedback session for Derek’s and Cassie’s papers, November 12.

The interview transcripts: I listened to these audiotapes and transcribed them. As with the video transcripts, I wrote notes in italics both within the text of the transcripts and on the side in comment feature balloons, and I added the codes of the study in the margins as well. I printed these transcriptions and put them in the binders with the individual data collections.
After I decided on 11 students to concentrate my focus as cases, I took the data of these 11 and made a binder for their data, keeping the data of each in a separate section. I kept another binder for students in the three classes not used as cases. These binder collections of student data included: student IRB consent letters, First week assignments and survey responses for all participants; and for students from the G and H classes, written responses, interviews, video transcript bits, pertinent essays, as well as things I wrote about individual students in my field notebook.

Data Name Abbreviations

For identification purposes, when I refer to these data sources in Chapter IV, I used these abbreviations. (I will not use these in sections where I am only writing about one data source. For example, when I am writing about only student responses to the First week assignment, I will not identify it with these codes.) The abbreviations for data are:

FWA: First week assignment where students wrote on previous similar class

FNB10107: Field notebook with the date following it; this is for October 1, 2007.

(Since the field notebook spanned 2007-2008, I include last two digits for the year.)

S: Survey on personal technology and previous participation (see Appendix C).

WR1-6: In class written response to questions about clicker lessons. (See Appendices D-G).

VT 1-5: The five videotaped classes

OA1127: Other assignment with the date it was due; this would be for November 27.
ER1030: Electronic report with the date following; this is the electronic report of student answers from October 30.

E1114: From an essay the student wrote; the number is for the date it was due. This would be an essay that would have been handed in on November 14. If I have an essay that is undated, it will be EUD.

PR1205: The last final draft of a portfolio revision along with the date it was handed in. This one was due on December 5.

I207: Interview with the date following it; this example is of an interview held on February 7.

**Security Measures**

I routinely saved my computerized work observations on multiple USB keys locked at home. I also locked away the videotapes and amassed student work when I was away from it. My data were dated and organized in binders, first one for each class and later one for the 11 cases and another for the students who were not cases, and one for the PowerPoint slides and matching electronic reports of responses and transcripts of videotapes.

**Data Analysis**

My initial instinct regarding data analysis was to proceed from my “lifetime English-major” (Salinger, 1961, p. 58) playbook, to look at the data as I would look at the details and relationships; contexts, positions and juxtapositions; symbolism, themes, and word choices an author left on the pages of a piece of fiction. Prior to my doctoral studies in education, that sort of analysis formed my modus operandi as a Bachelor’s and
Master’s degree student in English. As stated in the Biases section in Chapter I, speaking in the English major voice and doing English major moves comes naturally for me. While the procedures I will describe here fit the vocabulary of the educational research discourse community, at bottom, many of my not-so-former protocols and instincts remain in this analysis of data.

Certainly, one of the considerations for the analysis of this work is that I simultaneously looked at the study from three different vantage points. It was as if this was a study like a Russian nesting doll: a study within a study within a study. At the all-encompassing level, I looked at these issues of clickers, personal technologies, participation and knowledge construction through all three classes; at the middle level, I considered the participation and knowledge construction in two very different classes; and at the third level, I looked at 11 students and how they participated and constructed knowledge in clicker lessons. In all this, I moved back and forth between levels, considering individuals, individuals within his or her class, and individuals and classes within the issues of this work.

In my work analyzing the data for all three questions, I went first to these data sources: the videotape transcripts, student written responses, the personal technology survey’s written responses, and the interview transcripts. Later, I went to these data sources for corroboration of what I found in the first set of data sources, the electronic record and the student essays.

In my analysis, I combined the issues from the three research questions with themes I pulled out of the personal technologies survey and came up with this list of codes that I later marked the data with, as seen in Table 8.
With that in mind, here is how I consulted the data sources to answer the three research questions:

Table 8: List of Study Codes and Abbreviations

<table>
<thead>
<tr>
<th>Codes Derived from Research Questions</th>
<th>Codes Derived from Survey Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation: PA</td>
<td>Easy/difficult: EAS</td>
</tr>
<tr>
<td>Anonymity: AN</td>
<td>• Tools: TO</td>
</tr>
<tr>
<td>Knowledge construction: KC</td>
<td>Time/efficiency: TE</td>
</tr>
<tr>
<td>Social influences: SI</td>
<td>• Multitasking: MT</td>
</tr>
<tr>
<td>Visual: VIS</td>
<td>• Addiction: AD</td>
</tr>
<tr>
<td>Hands on: HA</td>
<td></td>
</tr>
<tr>
<td>General Learning Style: LS</td>
<td></td>
</tr>
<tr>
<td>Attention: ATT</td>
<td>Communication: COM</td>
</tr>
<tr>
<td>Reader awareness: RA</td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Research Question One

With this question, “How do students participate in clicker lessons?” I first looked at the first week assignment, the students’ response to the first survey question about their previous class participation, and what they said in interviews to get as clear a picture as possible about their beliefs about class participation, a description of their own past class participation, and a sense of the social structure of their previous similar class so as to gain a glimpse of the world and assumptions from which they had come and whatever insight that glimpse might give. In this data, I looked at the things students said that they did in class, how they acted and reacted and their feelings toward these actions and reactions. I also looked for what was conspicuous by its absence, aspects of this past class, their attitudes about it, and practices and features in it that I would have expected and did not see.
“Participation” was one of my codes, and I consolidated all the cut-and-pasted bits of “Participation” coded data into a file I called “Piles about Participating.” Here, I wrote more margin notes and read it various times. In my early Chapter IV drafting, I wrote sections on participating, and I also wrote sections looking at how the 11 cases participated and what their data said about their views toward participation. Later, I started to pay more attention to patterns of participation; here, the videotape transcripts played an important part. I could look at ways students participated: in reaction to other students, in reaction to me, in dialogue only with me, or also engaging one another. Were all students verbally “on task,” or did some try to redirect the discussion to their own interests and concerns? I also wrote down which students spoke, counting the times they spoke, taking note of the contexts for speaking, and in some cases, counting the times they spoke and even averaging the length of their speeches if it seemed important.

As I looked at student participation in the videotape transcripts, I revisited what I had read in the literature about participation: the Initiation-Response-Evaluation response pattern (Cazden, 2001; Mehan, 1979), Gee’s multiple routes to participation through Affinity Spaces (2004), or to the work by Karp and Yoels (1976) on student participation. I considered how my students’ participation as seen in these videotape transcripts did and did not fit into these ideas.

The written responses were a helpful and unexpected data source for understanding student attitudes about participation. Even when that was not the focus of the question, sometimes students gave insights into what made them want to participate, their own participation or lack of it, or ideas on why they believed others did not participate.
For a final step in my analysis of the question on student participation in clicker lessons, I went back to square one and compared and contrasted student participation in the clicker lessons with the first data I collected from the students, their first week assignment on their previous class. I looked at them, trying to figure out, how did the first piece of data and the later set of class-related data inform each other? Had students replicated the high school world in college, or were they different with regard to class participation? Was this change for the better or the worse? Could any of this change be attributed to the clicker lessons?

Analysis of Research Question Two

With this question, “How do these Basic Writing students construct knowledge in clicker lessons?” I sought to gain an understanding of how my students constructed knowledge in the clicker lessons. Answering this question was more difficult than the previous one because it required me to search for external manifestations of an internal process. First, I sought data that showed in-the-moment examples of students’ attempting to construct knowledge, for things students said in videotape transcripts, wrote in written responses about something that happened in the preceding lesson, or wrote in essays immediately after the lesson. How did they use what was presented to guide their work as writing students?

As with the previous research question, I had codes to deal with this question, and after coding all the written data for “Constructing Knowledge” and its sub-codes like “Social Influences,” and ways of constructing knowledge through different learning styles, I cut and pasted all that applicable data into new files, again with the poetic names
“Piles about Constructing Knowledge” and “Piles about Social Influence.” I read and reread these, and again, in my earliest Chapter IV drafting, wrote sections on these as well as sections on how I believed each of the 11 cases constructed knowledge or did or did not show they were influenced to construct knowledge through the clicker lessons.

Specifically, in the data sources, first, in the videotapes transcripts, I looked for sections where students asked questions of me and each other and verbally pieced together ideas. I looked for areas where students built what they said out of what had already been said, and I searched for times when they referenced previous classes, trying to connect past ideas and material with new work.

Two questions that I asked students in the written responses (for the grammar lesson and the peer feedback lesson) aimed to find if there had been any social construction of knowledge: “Did anything anyone said in class change your thinking?” I counted the instances of students who answered in the affirmative and looked at their reasoning, and I also looked at the students who said there had been no influence from peers, and I asked myself, what did each of these two sets of students have in common? How did those who believed they were influenced by others describe it, and what did those who said they were not influenced say? What does that say about basic writers, clicker lessons, or both?

Next, I looked for proof of construction of knowledge that had been done out of my sight, either as clicked in the electronic record in response to my questions, reported by the student in the written responses, or shown in written essays. This analysis involved cross-referencing these data sources after finding a claim by a student or something I wondered about in another data source. For example, if a student said in a written
response that he understood a grammar concept prior to the lesson, I wanted to see if his score on the electronic report verified this confidence with a fairly high score of say, 70 percent or higher. Similarly, if a student said in a written response or interview that she had gained confidence with using semicolons, I looked at her final drafts of essays to see if the back-up data source corroborated the first one.

There were two situations where I looked more carefully at the electronic reports to see student construction of knowledge, not that I would be able to see into their heads through these but so I might understand individuals, classes, and group influence better. I wanted to have a gauge on how the students did with the right-wrong grammar lessons, so I checked their scores under the CPS Reports and set up in a table the 11 cases as the left column and the final 7 (of 10) grammar lessons as the top row. I typed their averages for each lesson in the appropriate column and row and figured out the average score for each student and class for the grammar lessons. (I did not count the earliest grammar lessons because they were just getting situated, and the final 7 of 10 seemed to be sufficient.) I also counted the number of questions (45) and total number of options (118, usually 2 but sometimes 3-4 multiple choice options) available, and divided the latter number into the former, finding out that a student answering randomly would score 38 percent. Knowing that helped me determine if a student answered randomly, had trouble with these concepts (or both) or if he or she showed a decent handle on the subject and gave proof of answering with deliberate thoughtfulness and care.

In the electronic records for the peer feedback lessons, I looked at the electronic feedback classmates gave two of the students who presented their drafts in the videotapes. I wanted to see if there was a consistency of student response, if for example,
the choice a majority of students chose as the strongest part of the essay was matched by a much smaller percentage saying that same part was the section that needed the most work. This would show that they were answering with thoughtful deliberateness and that there was a consistency among the two groups’ answers.

Another thing I did with the data as I sought understanding of student construction of knowledge in the clicker lessons was to use tables to sort things out. For example, in written response #3, I asked students to tell which sort of peer feedback lesson style better helped them understand what was good in writing, the clicker style or the traditional small group style, essentially asking them to vote and tell the pluses and minuses with both lesson types. I counted these votes in both classes but also made tables of the reasons students liked and disliked these two types of lessons. Even if they preferred one type strongly, I asked them to tell the pluses and minuses of each. I typed those reasons (with the pseudonyms) in the table and thus had all their opinions on this topic together as they told how these sorts of lessons did and did not help them construct an idea of what successful writing is and how to achieve it. Amassed like this, I could see if there were other details in what the individuals said that gravitated together to show other patterns and trends in the data.

Finally, as I looked at how students construct knowledge in clicker lessons, I returned to Gee’s (2004b, pp. 117-118) idea that classrooms be designed as more authentic scenes of knowledge construction, where students in a science class learn not facts about science but how to proceed as a scientist and students in a writing class learn to think and act as writers. In the end, I wanted to see if or how students in clicker lessons are constructing knowledge as incipient writers.
Analysis of Research Question Three

With this question, “In what ways do clicker lessons tap features of these Basic Writing students’ use of personal technology? How do findings in the latter inform the teaching and learning in the former?” I sought to find out how clicker lessons might tap features of students’ use of personal technologies and to see how the findings in the latter might inform issues of teaching and learning in the former. For Parts I, II, and III of the survey, I looked at the numbers on the Excel spreadsheet and began playing with them, looking for different things. I pulled out descriptive statistics, answering, for example, how many said they participated in their previous English class, how many own cell phones, how many visit social networking sites and maintain their own, how they rank the personal technologies, and how much time they spent on them. I put these numbers in various charts, highest to lowest ranked, most to least used—and asked myself, what might I make of this? Were there any patterns or relationships?

Further, I looked at clusters: Did I see any difference between the students who prefer texting or talking? Was there a “type” emerging from these clusters—as seen in any tie to any other data—a type who put video games or social networking as their favorite? What might be drawn from these details that may connect with the questions of the study? To see these clusters, I created a chart for each of the six rated personal technology forms and put the students—all of them, not just the 11 cases—to see who rated these personal technologies high (1 or 2) or low (5 or 6). A sample chart looked like this, shown in Table 9.
<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Student A</td>
<td>Student C</td>
<td>Student D</td>
<td>Student G</td>
<td></td>
</tr>
<tr>
<td>Student B</td>
<td>Student F</td>
<td>Student H</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Examining six such tables, one for each of the personal technologies, I hoped to see patterns and themes in student preferences that would give me another lens through which to see how the students’ views of personal technology fit with their views of the clicker lessons.

Analysis of the survey’s Part IV was more qualitative, being that I was looking at words and opinions instead of numbers and rankings, as in Parts I-III. After typing student written responses and sorting them into the categories of positive and negative comments about a technology (as seen in Table 9), I looked for common themes, developed codes of them (see Table 8) and coded these responses. These themes and codes formed half of the foundation of the “Who Students Are” piece, the other part of the foundation being the first week assignment.

In the students’ written explanations of one form of personal technology that they liked and used the most and one that they did not like or use as much (something that would have been 5\textsuperscript{th} or 6\textsuperscript{th} of the 6 options), I looked for repeating objectives, values and themes. I hoped to discover what these basic writers value in personal technology (and later, by extension, what they may value in lessons using personal response devices.) In my typed transcriptions of these, I ran keyword searches on repeated themes and then ran similar searches on all the transcriptions I had of student data from the clicker lessons.
For example, the word “waste” as in “waste of time” was often repeated in reference to disliked personal technologies, so I used the Find feature to see if or where students used the word “waste” in the data about the clicker lessons. I also looked at hard copy transcriptions, to find and note recurring themes and patterns that might not be discernable in a keyword search. I also hoped to use student responses in the survey to tease out such things as, how do they differentiate cell phone talking from texting on a cell phone (and then later to use that to see whether such a difference has any import for my questions). I hoped to distill why my students liked what they used and why they did not like to use what they did not use. Of this, again, I sought to take the personal technologies data and overlay it with the clicker data and see what I could make of that.

I also sought to go deeper in defining the repeated words they used; for example, if students like things to be “easy,” I wanted to understand what kind of ease were they seeking—intellectual ease, emotional/psychological ease, or physical/logistical ease? Also, when they used the word “easy” or “difficult” or any other repeated theme, I counted the number of mentions to see which of the technologies they saw as “easy,” “difficult,” etc. I then looked at what was easy or difficult with regard to their use of clickers in our lessons. Did one inform the other, and if so, how; if not, why, possibly, not? Overall, my goal in looking at what students said about personal technologies—what they like, what they do not like, what they do, what they avoid—was to learn what I could about how these do and do not inform my use of clicker lessons.

I looked for conflicts and corroborations within the data, particularly comparing what the numbers said in Parts I, II, and III with what the words said in Part IV. Where
were students consistent and where inconsistent? I then sought to extend the question: If consistent, what does that mean, and if inconsistent, why might that be?

As my analysis moved from looking at numbers, creating data collections, and making and reading tables, on all three research questions, I did a good deal of drafting. As mentioned above, I created Word files with names of codes, “Piles about Learning Styles,” “Piles about Participating,” and so on, and reading those, pulling ideas from those, I wrote little sections that were like dry runs, dress rehearsals, creation of pieces and parts that would eventually be integrated into Chapter IV. Writing drafts on sections that dealt with all three research questions helped me focus on the answers I saw in the data to these questions. MacArthur, Graham, and Fitzgerald (2008) cite Hillocks (1986) when they write about this view of “using writing to discover content/ideas” (p. 222). Such an approach was part of my researcher tool box as I examined the coded, note-marked, theme-sorted data and simply wrote about what I saw there, read it, rewrote, read again and rewrote until eventually I moved these pieces and parts into official Chapter IV drafting.

Trustworthiness

As a participant-observer of my own students in and out of my own classroom with many pre-existing biases outlined in Chapter I, I understand that importance of trustworthiness and validity. I sought to increase the trustworthiness and validity of my results through these means:
1. Purposeful sampling

2. Triangulation, where I confirm results derived through one method against data derived through another method

3. Some questions posed in an indirect manner

4. Inclusion of students’ interpretations along with my own

As I made the decisions about which students to focus upon for the case study, I referenced my questions to help guide me and also used “(p)urposeful sampling” to “increase variance and thus improve the validity of the findings” (Birnbaum, Emig & Fisher, 2005, p. 127). Given that one of my research questions dealt with student participation, for my cases, I sought students at varied levels of participation in clicker lessons: students who spoke out frequently (such as Ashley), those who spoke on occasion (such as Brent and Ginny), and those who were silent throughout (like Kim). Referencing the research question where I seek connections between student experience with personal technologies and their experience with clicker lessons, I sought students whose survey responses ranged from casual users of technology as a tool to those for whom technology is a frequent pastime, lifeline, or even addiction; however, if there was a scale of 1-10 with 1 the least involved with personal technologies and 10 the most involved, most of the students in my three classes (and likely most of their peers) would have scored 9 or 10 and none lower than 7, so the variance here was slight.

Further, I sought as cases students who were academically engaged in their previous high school English class (Ginny and Ashley) as well as those intellectually and socially on the outside, like Brent. Finally, I included students whose written responses
regarding opinions on the clickers in class ranged from positive (Ashley and Kim) to mixed to slightly hostile (Lyn and Randy).

A second way of increasing validity and trustworthiness is triangulation, where I verified the results derived from one method in a comparison with results derived from other methods. According to Maxwell (1992), “(v)alidity, in a broad sense, pertains to this relationship between an account and something outside of that account” (p. 283). In my case, the “something outside of that account” may be examples of student essay writing or checks of the electronic reports to verify what they may have said in the written responses.

A third way to increase trustworthiness comes from using an indirect approach with some of the written questions and interview questions. A few of the written forms of student responses I collected took an indirect approach that may have allowed students to express interesting, meaningful truths: for example, a few days after the clicker lesson on metaphor, I asked them to use metaphor to describe their view of the clickers. Metaphor is another way at finding the truth in many fields. They may be used in qualitative research “to enrich an account by conveying connotations which elaborate on and illuminate our basic meaning” (Dey, 1993, p. 245). They have been used in counseling, harnessing “the power to reveal…hidden dimensions” for counselors and clients (Loue, 2008, xiv). In having students create a metaphor to describe their experience of clicker lessons, I sought dimensions, descriptions, and perspective that I could not find elsewhere.

A fourth and final way of increasing trustworthiness came from making sure that I would not be the only interpreter of this data, this experience. Maxwell (1990) lists
“interpretive validity” (p. 288) as one of the types of validity in qualitative research and emphasizes the importance here of “the participants’ perspective” (p. 288). Echoing Higbee, Arendale and Lundell’s (2005) recommendation of qualitative research that “centrally feature(s) student voices and the nature of their educational experiences” (p. 8), Maxwell urges such “(i)nterpretative accounts” be “grounded in the language of the people studied and rely as much as possible on their own words and concepts” (p. 289).

At least three of the written responses (metaphor, “voting” on two types of peer feedback lessons, and a chart where students had to write words and phrases to describe their thoughts on clicker and non-clicker lessons) solicited students’ views on the clickers in class; also, in the interviews, I gave students the opportunity to explain their views of the clickers in class and interpret whether, when, and how they were or were not an effective supplement to their learning.

Monitoring My Subjectivity

Given the string of biases I listed in Chapter I, it was important for me to seek ways to increase my self-awareness here and plan for ways to keep it from threatening the credibility of my work. Three such ways are: recognition of my background and how it led me to this inquiry, a recognition that flare-ups of emotion may signal encroaching subjectivity (Glesne, 2006, pp. 120-21), and recognition that while I am constructing my students, they are also constructing me (Sullivan, 1996, p. 107).

To elaborate on the first of these ways of my monitoring of subjectivity, I call attention to the “Situating Myself as Researcher: My Biases” section in Chapter I. Ever since I first saw personal response devices demonstrated in a presentation in 2003 and
began using them in class in 2004, I bonded with the technology because it reflected a value central to my life-long journey as a student and teacher, that anything that encourages greater participation from a greater number of students holds transformative potential for the classroom and the people in it. As a way of monitoring my subjectivity, I considered that not all students shared my goals here, that some preferred to learn in a more private way. Here, I sought to be aware of these other points of view and tried to understand the reasons behind them. While I hoped to persuade such students to participate more openly, I was respectful and intellectually and emotionally understanding even if I could not persuade them to join in as I had hoped they would.

My second way to monitor my subjectivity involved being sensitive to anything in my data or my collecting process (during an interview, for example) that stirred strong emotion, whether positive, negative, or a combination. “It is when you feel angry, irritable, gleeful, excited, or sad that you can be sure that your subjectivity is at work” (Glesne, p. 120). Gall, Gall, and Borg (2003, p. 449) suggest the researcher keep a subjectivity audit, to take “notes about situations connected to one’s research that arouse strong positive or negative feeling,” which results in “a list of different aspects of himself.” Periodically, I added such entries to my field notebook, and as I repeatedly reread them, I looked for the aspects and dimensions that such emotions might reveal. For example, if I was irritated with a student who said she made specific revisions, but the portfolio revision showed no such improvements, it would be important for me to step back and ask why: why would she say that—did she believe that she made improvements, or was she writing what she thought I wanted hear? Further, why did this
irritate me? What did that say about me as a researcher and my research, and how could I use these reflections to temper my findings?

A third way to monitor subjectivity is to keep alert to the reality that while the teacher and researcher constructs students of their data (and the emotions and thoughts they provoke), so too “we also need to ask how our students are constructing us,” a recognition that to a student, a writing teacher may “embod(y)...threat...to self-esteem? An athletic scholarship? A career?” (Sullivan, 1996, p. 107) Here, my students must construct me not only in the familiar role of teacher but also in the unfamiliar one of researcher. Thus, they have to contend with more complicated decisions regarding how to respond to my written and spoken questions. Responding to me as a teacher is a more familiar, safer choice, so when the researcher asks a question, students may prefer to respond to the alter ego of the teacher, giving answers they think she wants rather than stretching toward the “truth” the researcher says she wants. I sought to differentiate, using data-driven evidence, how they constructed me so that I could better construct them.

Summary

My journey to design, construct, and implement this plan to collect and analyze data turned out to be full of unexpected twists and turns. Plans repeatedly proved inadequate to the data coming in, so I had to redesign time and again. I imagined that I would find a few students “less involved” in personal technologies and that it would be easy to categorize “more involved” and “less involved” with their previous similar class, and both expectations turned out to be folly. I expected to study one class and ended up
studying two. My path of analysis was also dictated by what I discovered along the way. For example, I was not sure what I was going to do with the electronic record when I first planned to collect and use it, but it turned out to be a very helpful tracking device for seeing students’ processing in a way I would not have been able to see without it. I also had to react to the data collected, the written responses in particular, as I found themes within them and found myself shuffling and reshuffling the data to find unexpected patterns and discoveries.
CHAPTER IV
DATA DESCRIPTION AND ANALYSIS

Introduction

Here, I describe and analyze data in three parts: first, these students’ most recent experiences with literacy learning and current personal technology use; second, their participation and knowledge construction in my classes’ clicker lessons; and third, a summary and analysis that brings together the ways the first two constructs inform the third, shedding light on the questions of this study as well as on the overarching unspoken but obvious question of how personal response systems work with these Basic Writing students and these two classes.

Part One: Who Are These Students?

Regarding their previous education in composition, from “where” do these students come? Then, as users of personal technology, what do they use and like the most and the least, and what might that reveal about them as writing students, particularly in lessons using personal response devices?

Students’ Pasts: High School English Participation

In a week one assignment, students wrote about their last similar class; some wrote a miniature literacy autobiography, and a few wrote of personal creative writing. This emotionally charged, personally owned “reflexive writing” (Emig, 1971, p. 91), is
where the student writes for an audience of oneself or “a trusted peer.” Most students, however, handled this assignment using Emig’s “extensive” mode of composing, using a “detached and reportorial tone” intended for an audience of adults, “notably teachers” (91). Students inventoried books they read, papers they wrote, vocabulary they crammed, and movies they watched, calling to mind Gee’s “content fetish,” (2004, p. 117). Students, politicians, journalists, parents, and sometimes even educators assume that content that has been “covered” guarantees learning has occurred or, having had it presented to students, the onus has been passed to them.

Their response to the survey question about previous participation gave me a jolt. The question asked, “In my previous English/writing class, on average, I participated in class by raising my hand to ask a question, give an example, or voice an opinion…” See Table 10 for the responses.

Table 10: Student Self-rating on Previous Class Participation, N = 39

<table>
<thead>
<tr>
<th>Frequency of Verbal Participation</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least once every 1-4 days</td>
<td>25</td>
</tr>
<tr>
<td>About once every 1-2 weeks</td>
<td>8</td>
</tr>
<tr>
<td>About once every 3-6 weeks</td>
<td>3</td>
</tr>
<tr>
<td>Less often than every six weeks</td>
<td>1</td>
</tr>
<tr>
<td>I cannot recall raising my hand to participate.</td>
<td>2</td>
</tr>
</tbody>
</table>

While I realize that with some students, this self-reporting may not be accurate; still, I was still shocked by this result. I had expected more students to rate themselves as less frequent high school English participants or for results to fall into a bell-shaped curve; to have 85 percent of the students fall into the top 2 participating categories was a surprise. Also, since I gave this survey at mid-semester, the impression I had developed of these
students did not fit this result. G class survey results were particularly dissonant with their quietness in my class: 10 of 12 rated themselves in the highest category for high school participation, and the other 2 said they were in the second highest category. The 3 classes that I videotaped of this group showed that about one-quarter of these students spoke, always Ashley and Sherrice and usually Dan. This stands in contrast to the H class, where in 2 videotaped clicker lessons, about half the students spoke (VT 1-5). In the narrative of the study I had written prior to this, clickers would transform high school nonparticipants into college participants. Instead, at least some of the G class students were much quieter in their first college writing course, and I would have to try to figure out why.

Students' Writing on Previous Class: Feedback Deprived

Wanting to see these students’ views of their most recent similar class, I asked them to write a page and a half about it. Unless otherwise mentioned, all the data quoted here comes from the first week assignment. Themes emerging here were:

- Conflicts with teachers (especially student teachers and an intimation that some teachers were more worthy of respect than others)
- Group work that was more memorable for its social aspects than for what was learned or accomplished
- Independent work, sometimes in computer labs
- One-on-one, after-school help from teachers and tutors, often serving as the only intensive knowledge construction appearing in these pieces
• Classes where teachers had students read final drafts aloud to classmates’ applause or, under the teacher’s radar, to written derogatory comments
• Limited feedback on writing from teachers and almost no feedback (beyond “correction”) from peers

Social and academic endeavors ran on separate tracks, and rare collaboration was not about developing but fixing. Vignettes of academically focused, in-class give-and-take between these students and their teachers and classmates do not appear in these writings. It may be that such discourse was not detected by students, the opportunity of it not taken, or perhaps that it was not deemed important enough to write about in this brief assignment. None of the 39 students described an in-class academic dialogue between him- or herself and a teacher or peer. Perhaps since they were presenting themselves for a good early impression to their first college writing instructor, they wanted to deliver an academic résumé; product is more tangible, seemingly more impressive, and more easily condensed to a short assignment than process.

The most prominent thread of knowledge construction in these responses, four descriptions of after-school tutoring sessions, reveal students giving up free time to avoid failure, not to co-construct knowledge. Derek’s teacher “helped (him) with everything (he) needed,” even calling at home to see “if (he) did (his) homework.” Without her and his best friend, “I wouldn’t of (sic) passed my senior year cause they stayed on my butt to do the best I could do.”

Derek and two others who wrote about being tutored mentioned improved grades, but Penny, recounting her pre-tutoring struggles with reading literature and understanding grammar, presented a learning outcome: “I sat down with my teacher and she explained it
in an easier way that I understood.” Beyond the two years of work she invested with one
teacher, “how” she co-constructed knowledge is glossed over: “By the end of my senior
year, everything clicked into place and I finally understood what I was doing.”

Students gave sporadic mention to teacher feedback on writing, but it focused on
correcting drafts. As for peer feedback, only Ginny, who wrote about classmates’
guidance on her research paper on homosexuality, mentioned it; she believed that
collecting the “many different feelings, or opinions their (sic) were on the topic” helped
her develop the paper,

As a group, these students hold the social and academic as separate as oil and
water, or more reflective of their perspective, fun and work. The high school English
“participation” on which they rated highly themselves in the survey likely involved their
playing the role that they believed had been assigned to them in class; I had a different
role in mind for them in my class. Lina described a form of “participation” that may have
been emblematic of the way these students participated in high school English:

MM: Would you like to talk a little bit about that, especially with regard to how
you participated in class?

Lina: Umm…I would raise my hand.

MM: Okay.

Lina: And answer the questions.

MM: Um hum. So did you answer questions a lot?

Lina: Sometimes.

MM: Did you have a lot of class discussions in that class or, how did it work as
far as the lessons and stuff you had?
Lina: It was a little bit different. Like, we didn’t have that much discussions. My previous teacher would go on and on…gotta (*sic*) get this stuff done (I207).

Her interview responses show how Lina replied initially with short answers. Only after repeated questions did she open up with a more elaborative reply. Lina’s terse response style was also evident in the two class videotapes. Of the 8 times she spoke, 6 times it was in 4 or fewer words; her longest response, of 12 words, was in response to a follow-up question from me asking her to explain what she meant by a suggestion she had for Derek’s draft, that it have “(m)ore flow” (VT5). In her previous class, Lina said she participated verbally about once every 1-2 weeks; she spoke more often in Basic Writing, but it was often in these brief bursts that needed coaxing into fuller explanations, showing the sometimes multi-response laboriousness of real time construction of knowledge.

Lyn also portrayed a class that showed little student-teacher or student-student discourse as she and her classmates toiled in virtual cubicles:

(Y)ou would come in, she would have me turn in my homework. If you had a quiz, you’d do it and then you sat there and did nothing until the end of class. And if not, then she went over with what you were supposed to learn and then you sat there and did it until you had to go to your next (class) (I205).

This was the class where Lyn said she participated verbally every 1 to 4 days. I started to see why she and many of her peers were not participating in Basic Writing clicker lessons according to my envisioned script: my class was not proceeding along the lines of *their* envisioned script. Lyn, Lina, and likely others had little experience with constructing knowledge on the high wire in class; that was something students like Penny did with teachers in after-school tutoring sessions away from the judging eyes of peers.
Personal Technology Survey Results

By surveying my students’ relationships with personal technology, I hoped to find opinions, behaviors, or traits that might connect with their experience of the clicker lessons. In the survey (see Appendix C), I asked students to rate six forms of personal technology, ranging from a “1” for most used and liked to a “6” for least used and liked. I also asked them to estimate time spent on these. Results appear in Table 11.

Table 11: Three Classes’ Personal Technology Rankings and Time Estimates

<table>
<thead>
<tr>
<th>Form of Technology</th>
<th>Average Rank</th>
<th>Average Response to: “In a typical 7 day week, how many days do you use this form of technology?”</th>
<th>Average Response to: “In a typical 24 hour day, about how much time (minutes) do you use this?”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cell phone talking</td>
<td>1.5</td>
<td>6.4</td>
<td>466</td>
</tr>
<tr>
<td>2. Text messaging</td>
<td>2.4</td>
<td>5.9</td>
<td>636</td>
</tr>
<tr>
<td>3. Social networking</td>
<td>3.5</td>
<td>4.5</td>
<td>120</td>
</tr>
<tr>
<td>4. Internet browsing</td>
<td>3.7</td>
<td>5</td>
<td>98</td>
</tr>
<tr>
<td>5. Email</td>
<td>4.3</td>
<td>4.0</td>
<td>65</td>
</tr>
<tr>
<td>6. Video gaming</td>
<td>4.9</td>
<td>1.9</td>
<td>74</td>
</tr>
</tbody>
</table>

Six students said that they used their cell phones for talking “24 hours a day” or “all the time,” and another 13 said the same about texting. These assertions are certainly overestimates but demonstrate students’ attachment to cell phones and confirm Clark’s (2003) idea that cell phones have become an extension of one’s person:

The mobile is thus something you use (as you use your hands to write) and something that is part of you. It is like a prosthetic limb over which you wield full and flexible control, and on which you eventually come to automatically rely in formulating your daily goals and projects. (p. 9)
That 42 percent of teenagers responding to a Harris Interactive survey (2008, p. 12) claimed that they could text blindfolded further shows how integrated cell phones have become to young people’s lives. My brother, a middle school teacher, told me that a preferred technique for blindfolded texting involves tucking one’s hands into the pouch of a hoodie as fingers tap the keys (Miller, personal conversation, 2009).

The top three items in the survey (two cell phone uses and social networking) wound these students tightly in a social world. Students’ description of the other items in the survey (Internet browsing, email, and video gaming) showed that they saw them as peripheral activities, things they sometimes did, things they may have done for fun, things they may need to do but are not things they are compelled to do.

**Personal Technologies: Three Themes**

Most written responses about personal technologies directly or indirectly referred to them as tools. Three themes emerged:

1. Ease/Difficulty
2. Communications preferences and patterns
3. Use of Time

Below, I examine these three themes, some of which overlap. Unless otherwise specified, data mentioned here comes from the Survey.

*Texting and Email: Easy or Hard?*

Ease or difficulty of use is the most frequently mentioned theme. Writing about their most liked technology, 21 of 39 students used words associated with ease or speed while 12 others, commenting on a difficulty, used words indicating slowness,
incompatibility, or features that made for a frustrating experience. Texting was the most frequently mentioned “easy” use, and the ease they ascribed to it was not a manual or intellectual ease but an ease that made social communication less emotionally weighty or that gave perceived efficiency to their crowded lives.

Students writing about difficulties with a personal technology included seven whose comments about email said that it takes too long on both ends—too long to type and send, and too long for a reply to appear. Students inadvertently revealed their lack of facility with email. Roger, who wrote that the intended recipient may “not have the same (W)ord program as me or vice versa,” may not have realized that sender and recipient’s differing software may be a problem when opening attachments (and even then, solvable) but not in sending or receiving the message. Derek, who wrote “some times it doesn’t send when you send it,” probably did not realize that email programs allow a user to access a “sent” folder to see if a letter was successfully launched or to store backups in a “drafts” folder. However, even if aware of these checks on reliability of email, the directness of texting would still easily avert what could be a multi-step process if one was doubting enough to want to check every time to see if an email was sent.

Generational differences are also at play here, which Lorenz addresses (2007): “(T)here's now a generation gap between first-generation and second-generation Internet users. Colleges are finding that students increasingly ignore or never receive campus-wide e-mail announcements. All those clever forwards from Grandpa are going unread” (¶9).

That Randy views email as a narrow communication channel accessed only for people and uses outside his usual routine is apparent:
My least favorite would be email. I hate typing everything out online. I really only do it if I have to and even then I hate to force myself to do it. The only thing it's good for is contact with professors.

Email and texting not only oppose one another in terms of perceived ease and intended audiences, they also are essentially different genres. In a cautionary point that writing teachers should find relevant, Lorenz also writes, “e-mail provides the breathing room to contemplate what we're writing and express nuanced thoughts”; writing them is “methodical and time-consuming, a closer relative to letter writing than to conversation.”

Texting, instant messaging, the “methods of instant communication” on the other hand, share the ephemeral, real-time characteristics of conversation, “mimic(king) the interactions that kids would otherwise have in basements and dorm rooms.” E-mail, by comparison, can feel stilted and plodding.

Composition instructors want students to have writing experiences more akin to email than texting, experiences where they look back at a composed piece, reconsider and rewrite before pressing “send.” It is telling that the only two students to pick email as a favorite were cultural outliers, Jimmy, a man in his late 30s who enjoyed his computer but was the only participant who did not own a cell phone, and Kim, who had recently come to the United States from Asia and preferred the greater range of messaging capabilities that email has over texting; the option for emoticons and increased character “capacity” allowed her to “tell all my stories to my friend(s) (S).” Exceptions to the texting and talking masses, it is worth noting that these two students rarely spoke in class.
Text Messaging’s Two Kinds of Ease

While students writing about difficulties with technologies focused on email and video games, most writing about ease applied it to text messaging, using expressions like “easy,” “quick,” or “allows you to…” Their explanations fell into two categories: first, something that adds ease to life and allows them to multitask; and second, something that offers psychological ease, opening a communication channel free of the emotional static or the time investment of a real-time phone conversation.

Results of the Harris Interactive survey on teens’ cell phone use corroborate these rankings (2008). Asked to choose 3 of 9 options in response to the question, “What do you like most about texting on your phone?” the first and third responses teens gave mirror my results. The first choice, “I can multitask,” had 46 percent choosing it, and the third, “I don’t have to talk in person,” was picked by 36 percent. Students’ written responses to my survey shed light on the ways that texting helped them negotiate the crowded texture of their lives:

- “If your (sic) busy doing something you can’t really talk. Texting allows you to communicate with someone when you or the person is busy.” (Gary)
- “(T)here are times during your day when you can’t just get on your cell phone and have a (conversation) so texting is a lot quicker and easier.” (Lyn)
- “You can also tell 15 different people about something without having to call everyone.” (Ethan)

This view that young people hold that texting is “efficient” is also seen in popular culture, as in this cartoon, in Figure 10 (Amend, 2008). In the student responses, the Harris Interactive survey and Amend’s cartoon, we see young people feeling
oppressed by the unforgiving clock and seduced by the idea that text messaging is a way to use time more efficiently. That a third of the students in my survey (13 of 39) said that they used texting 24-7 shows the irony of the notion that texting is a time saver. How can something someone does all the time save time? Tradeoffs are inevitable, and wishes for efficiency are certain to be thwarted.

Figure 6. Amend’s cartoon showing teens’ opinion that texting is “efficient.”

The second form of ease students wrote about with their use of texting was a social, emotional ease. These students regarded texting’s style of communication as one that provided a more temperate emotional temperature. Darnell addressed this:

I love using my cell to communicate to friends without having to actually talk to someone on the telephone. I am not one to talk all day let alone hold the phone up to my ear for a whole conversation so I rather type a quick choppy message that gets to the point.

Darnell and other inexperienced writers may not realize how “a quick choppy message” will not give him space to find and make the kind of point that would be
appreciated by an English composition instructor, other college professor, or potential employer reading a cover letter. If “the point” is where a party is to be held, “a quick choppy message” will suffice; if, however, “the point” is something discovered slowly in a several-lap process, writing, talking, listening, thinking, circling an idea until it is discovered and shared, then reconsidered and revised some more, “a quick choppy message” can never do. This again shows how these students’ preferred mode of communication is one of terseness, not expansion; single notes fired off, not a bar of music played, listened to, reconsidered and replayed. Like Lina with her staccato replies of few words that needed to be coaxed into longer, more fruitful responses, text messagers need to be pushed to think further than they may have been asked before.

Other students expressed views showing how they saw texting as a cooler, more comfortable option for communication:

- “You can also be text messaging when you are not in the mood to talk on the phone.” (Ashley)
- “You don’t have to talk on the phone for 2 hours just to talk about nothing.” (Ethan)

These responses may seem chilly and off-putting until one realizes that humans frequently consider an array of communicating options: passing a note versus talking on the playground, telling one’s parents versus getting the younger sibling to do it, phoning when one is certain someone would be home versus calling when confident he or she would be out and the answering machine would collect the message. When options are available, humans seek to match mood, message, and recipient to an appropriate delivery
method, and the texting-versus-calling decision is only the latest such evolution of such
decision-making communications behavior.

*Emotional Satisfaction versus Refuge from Emotion*

Students writing about their preference for talking on cell phones appeared to be seeking something different from those writing about texting. Eight of the 12 writing about talking on the phone used the phrase “in touch.” Where students writing about texting referenced message recipients in a general, even *en masse* way, students writing about talking on the cell mentioned specific people, usually those with whom they share a personal relationship: boyfriend, girlfriend, parents, friends back home, or new friends. They used emotional language in describing their attachment to their cell phone:

- “It is also a security blanket.” (Dan)
- “I really think I would die without it.” (Randy)
- “It feels like I am naked when I forget my phone…when I don’t use it I feel out of place.” (Deon)

These two uses of the same device, texting (with its perceived efficiency and impersonality) and talking (with its potential emotional rewards), are used interchangeably by the same people. About half the students (19 of 39) picked texting and talking as their top 2 choices; 11 who chose texting as the top choice chose talking as second, and 8 who chose talking as number one picked texting as second. Likely, these students use each function selectively, delivering messages with texting and seeking human contact when punching a number and listening for a particular voice. Based upon conditions, these students made choices in communications methods.
Of the 6 survey items, students reported video gaming as least used or liked:
Twenty-eight of 39 said they played video games (far below the proportion of the other 5 uses reported by 36-38 of the 39 students). Twenty-three wrote negative responses about video gaming while only 2 gave positive ones. Six cited better uses of their time, including doing homework, talking to others, or, perhaps echoing mom, being outside. Females used words like “pointless” (Caryn) or claimed that it “frys (sic) peoples (sic) brain cells” (Darla) while 8 males writing about video gaming as a least used or liked technology wrote that if they had more time or money, they would play more.

Of all the forms of technology in this survey, students’ data on video gaming was most rife with contradiction. Some contradictions seemed slight, such as the fact that of the 23 students writing that video gaming was their least liked or used form of technology, 9 indicated that they do play video games, some for much as 2-3 hours a day. In his written explanation, Todd veered between the “con” side (3 times) and the “pro” side (twice): “I do not like to play video games. I might play guitar hero on my Play station like once a month. Other than that I am way to (sic) busy to play. When I was younger I loved playing my super ninetendo. When I was older I grew out of video games.” These contradictory answers hint that they may not have felt comfortable revealing video game practices to their writing instructor in the middle of the semester.
Certainly, while these students are at least one year removed (and in the ramped up environment of college, with new demands and temptations) than the teenagers interviewed in the 2008 Pew and the American Life Project study (Lenhart, Kahne, Middaugh, Macgill, Evans, & Vitak) on teens’ video games use, that study said that 97
percent of 12-17 year olds “play computer, web, video, portable, or console games” (p. 2) including 99 percent of boys and 94 percent of girls.

The other key theme from responses about video gaming was their perceived difficulty. Six students wrote about difficulties, Lina writing about her impatience with them, and Kim about how she disliked being thwarted in her wish to advance to higher levels. Ashley could “not get intuned (sic) with” video games. One of Gee’s learning principles of video games is that they are “pleasantly frustrating,” a state that comes when a learner is “at the outer edge of, but within, their ‘regime of competence’” That is, the challenges feel hard, but doable” (2004, p. 19). For these students, the frustration that video games pose is not at all pleasant, and the challenges are hard, but achieving them is just out of reach.

Doug, who could get “in tune” with video games (to borrow Ashley’s phrase), wrote that video gaming “can calm me down when I am stressed out. Playing them helps me think that I am in the game myself and it helps me relax.” When students cannot coordinate their abilities with the challenges of a game, they hate it, deride it, and resist it; those who can match challenges to skills may be transported to a more relaxing yet paradoxically and surprisingly active place.

*Time: Multi-tasking versus “Consumption” and Flow*

Time and the decisions before them regarding use of it were important to these students. They like being able to multi-task and appreciate texting for how it allows them to multi-task. They are wary of tasks that command all of their attention. Eighteen students writing about time described video gaming as a waste of time, 3 wrote of how
social networking might consume too much time while 3 praised what they saw as the time-saving efficiency of text messaging.

Six students writing about video games and time used the word “waste” as in “waste of time and money.” This view is endemic: a chapter in Gee’s book about the learning value of video games is titled “Semiotic Domains: Is Playing Video Games a ‘Waste of Time?’” (2003, p. 13), and a Google search pairing “Waste of Time” and “Video Games” pulled up 237,000 hits (October 10, 2009) showing the pervasiveness of this controversy as website authors explore the topic, pro and con.

“Waste” at least indicates a choice; 2 students used the word “consume,” indicating a person being controlled by an activity: video gaming is “distracting and time consuming,” Dan wrote, writing about its lure and its cost. Beth did not like how video gaming “consumes my boyfriend’s life. He plays hours on end. One day he played a straight day.”

Turning her attention to herself in her favorite personal tech use, Beth also used “consume” to describe social networking, saying “it does not consume my life (like) some people,” making it clear that unlike her boyfriend with the video games and others with social networking, she remained in control. Two others brought up the addictive side of social networking, Lina admitting that she may “spend too much time there.” Gary wrote, “With other tech uses I can usually multitask but when I am on facebook (sic) that seems to be the only thing I do.” These students exhibit wariness about tech uses that cost more in time than they want to spend given their increasingly limited budget.

Student caution at having their time “consumed,” their eagerness for multi-tasking, their preference for tapping out “quick choppy messages” over composing an
email, and their difficulty getting “intuned” with video games may indicate that some students have a wariness of being in “flow” (Csikszentmihalyi, 1975). Flow may be defined as a state where an individual loses track of time and self-consciousness to become immersed in an interactive activity where challenges posed by the activity and skills exerted by the individual balance out. If skills are high and challenges low, boredom results while if challenges are much higher than skills, anxiety follows (pp. 49-74). Doug’s response about video games above sounds like flow while Ashley’s, Lina’s and Kim’s show individuals in a state of anxiety. Too, Lina’s and Gary’s social networking may show students in flow (if one accepts that there are challenges posed in reading and responding to messages from friends and could-be friends). However, it is flow with a cost as both express awareness of that price that must be paid in time.

Lina’s and Gary’s responses show guilt about such a concentrated expenditure of time. They are wary about ceding too much time to such activities; unfortunately, some basic writing students may exhibit a similar itchiness about spending the amount of time on an assignment that is needed to do a good job. These students may be unaware that when applied academically, such a timeless state is actually a good thing. Being willing to cede time to task in mid-writing process will help them achieve the kind of thoughtful writing products that will help them succeed in the academy and beyond. The discomfort these two students speak to illustrates the difficulty some students have in understanding the cost versus benefits aspect of spending time; sometimes high costs may result in high benefits but not always. In these responses, it is as it they see high costs as never having a commensurate pay-off and might prefer a nickel-and-dime waste of minutes by the sack-
full to sitting at the writing table or computer to invest hours in multiple drafting sessions on a paper that might not even be any good or get a decent grade.

Part Two: My Objectives: Participation and Knowledge Construction

In the previous section, I delved into the students’ recent English classes and their current uses of personal technologies. Here, I move to what I wanted as a teacher and how I did or did not see my objectives—participation and knowledge construction—fulfilled in clicker lessons.

Two of my three research questions reveal my interest in class participation and knowledge construction. Above all, I wanted to see the overlap in these two constructs, how class participation might trigger knowledge construction not only in class but beyond it.

*Decoding the Silences, Part I: What is “Participation”?*

As a result of what students said about their previous class, my view of class participation began to evolve: how valuable could the class participation they claimed have been when the classes they described involved little productive group work, little or no exchange of writing feedback, and when they often seemed cubicled by class structure or constrained by classmates’ nonacademic priorities?

My views of participation were also changing as a result of the lack of verbal participation evident in the G class by mid-semester. While most teachers accept that some students will be quiet, most will try to find ways to verbally engage a silent class. That is what I had hoped the clickers would do—provoke more on-topic talk. The G class’s tendency to not raise hands, speak out, or even whisper to neighbors contrasted
with other classes I have had, including the H class, where a few students expressed the opinion that clicker lesson talk was more robust. Terry wrote, “Not as many people volunteer” in the non-clicker classes as in the clicker lessons (WR6). Another H class student, Brent, wrote “ask questions” as a description for non-clicker lessons and “ask more questions” for the clicker classes (WR6). Meanwhile, four G class students (Lyn, Joe, Ginny, and Ashley) remarked on their class’ silence, sometimes in frustration, as Lyn did, “I learn more on my own not from a class who does NOTHING” (WR4) and other times in a milder way, as Ashley did: “My class very seldom speaks about their feelings toward the clicker lessons” (WR4).

To quantify the verbal participation, my three videotaped lessons of the G class showed that in the class on dependent clauses, 3 of 11 students spoke; in the peer feedback session, 4 of 12 spoke; and in the class on appositives, 2 of 10 spoke. Ashley and Sherrice spoke all three times and Dan twice (VT1, 3, 4). For the H class, spoken participation was slightly higher, but here too, limited to mostly the same students. In the dependent clause lesson, 4 of 9 spoke, and 5 of 11 talked in the peer feedback session. In each instance, Derek, Lina, Cassie, and Ethan spoke (VT2, 5).

Thus, my expectation of examining student interaction was partly replaced by two new objectives: understanding the G class student silence and seeing if the external silence might be contrasted by noisy internal machinations: what were these students making of these questions and answers? Were the externals—my questions and the little discussion there was—balanced on the inside by some Vygotskian internal dialogue?
I will consider issues of participation and knowledge construction as I look at three types of lessons: grammar, peer feedback, and a miscellaneous category that includes metaphor and portfolio upgrades.

Grammar Lessons: “I Would Be Kind of Afraid....”

Despite ambivalence, I made grammar the most frequent type of clicker lesson, comprising 10 of 21 lessons. The ambivalence came of my discomfort with reducing writing decisions to “right” and “wrong,” playing into the dualism that Perry (1970) attributed to new college students. However, because such lessons gave a venue to air out prior knowledge, to define concepts, and to provide a platform for talk on the issue that most basic writing students see as their greatest vulnerability, I used grammar lessons. We averaged one clicker grammar lesson per week Weeks 3-13, starting with lessons on fragments and run on sentences and working through issues like commas with conjunctions, pronouns, quotations, and commas after introductory structures. These lessons often began with prior knowledge questions and interspersed lesson slides with question slides and were often buttressed with assignments or requirements that students use a feature of the lesson (such as quotations) in the essay we were working on at the time. See Appendix D for material that goes with this lesson.

In both classes’ videotaped grammar lessons, student verbal participation involved their giving answers and rationales. A closer look at the H class’ grammar lesson showed that their exchanges with me were short ones where each gave an answer, or in Lina’s case, she gave an answer that sounded more like a question, speaking in tones of self-doubt. This was in contrast to the G class, where Ashley, Sherrice, Dan and I
engaged in longer sets of volleys where 2-3 students and I went back and forth three, four or more times on an issue. In addition to explaining answers, Ashley, Sherrice and Dan sought to connect what they learned in the current lesson or a previous lesson with what they were getting in the current lesson. Dan, Ashley, and Sherrice all asked questions based upon the sentences and questions on the screen. Countering my fears that such lessons might reduce writing decisions to right-wrong dichotomies, there was an exchange with Dan and Ashley where they extrapolated, asking about rearranging parts within a sentence as seen in the example that follows.

In the dependent clause lesson, I had a slide (without a multiple choice question but following four clicker questions) where I asked students to look at two sentences and tell where the comma should go:

1. If we won this game we would go to the playoffs.
2. If we lost it would be our last game, and the season would be over.

After Ashley correctly said that a comma should follow game in the first sentence and after lost in the second sentence, I called their attention to the comma that followed game in the second sentence, saying it was there for another reason, hoping someone would recognize it from the conjunction lesson a few weeks previous. “I was going to ask you about that,” Ashley said. I asked her what she wanted to know, and she said that “If I have a sentence like that, I would be kind of afraid to put (another) comma because I would think it would be too many commas” (VT1). I said that the more sentence combining techniques we learned, the more they would write increasingly complex sentences needing more than one or even two commas. Basic writers often realize that having unnecessary punctuation is as much to be avoided as having necessary
punctuation, and this worry about “too many” commas is one I have heard before, and
knowing how to handle commas with conjunctions often confuses students even after
instruction (Shaughnessy, 1977, p. 33). This lesson allowed us to have an in-class forum
to respond to such a question in an organic, student-generated way; however, it is
impossible to ascertain how much it helped others in the class or even Ashley herself.

G class students (or more accurately, its three dominant participants, Ashley, Sherrice, and Dan) also made connections between parts of a lesson. With the same
sentence, “If we lost, it would be our last game,” Dan asked, “Can’t you put ‘if we lost’ at
the end of the sentence?” (VT1) He connected this sentence to earlier slides that showed
how dependent and independent clauses in sentences may be “flipped”—“It would be our
last game if we lost” and “If we lost, it would be our last game.” All that changes is the
addition of the comma should the dependent clause open the sentence. On the same slide,
Dan asked, “‘If’ can be the question?” I was not sure what he meant and struggled until
Ashley offered Dan, “You could say ‘what if.’” The exchange continued:

MM:  Okay, you can say, “What if we won this game,” and you’d have a
question mark. “What if we won this game?” Question mark. Or you
could maybe have a would in there. “If we won this game, what would
happen?” Then you’d have to have a question mark.

Dan:  Maybe the next word, capitalize it.

MM:  Yeah, then, if you had a question mark, you’d have to start a new sentence
and capitalize the new sentence (VT1).

As rudimentary as this discussion may sound, it shows a student replicating aloud
a writer’s decision making, how one considers optional ways of saying something and the
consequences that follow taking a different route. It also shows Ashley giving Dan an
idea, as she and Sherrice sometimes did, particularly to each other but secondarily to Dan, who sat near them.

Ashley and Sherrice regularly thought aloud in front of classmates, something no other students in either of these classes did in the videotapes (except sometimes Dan, who was often in their orbit of influence.) The following section illustrates their tendency to participate as a duo, as in this case where we considered the sentence “I came to school because I was tired of my dead end job”:

Sherrice: Remember yesterday when we was reading somebody’s paper, and I thought it was supposed to be a comma right there, and you said no.

MM: Yeah, I think that’s probably the same structure.

Sherrice: When is you supposed to use the comma after….before…because?

Ashley: When it’s in front of the sentence. (She spoke quietly, like she was replying to Sherrice but not the whole class.)

Sherrice: When it’s in front of the sentence?

MM: Yes, when it’s in the front of the sentence. If you’re going to flip that (pointing to the sentence) around and say, “Because I was tired of my dead end job, comma, I came back to school,” then you would use it (VT1).

This splice shows several things about Ashley and Sherrice’s participation in clicker lessons: It shows how they participated in tandem, how one asked a question and the other answered it, and how the two of them (sometimes with Dan) were a class within a class, with the rest watching and listening. Unfortunately, in Ashley’s quiet speech directed to Sherrice, we see how sometimes the two of them seemed to sometimes ignore the rest of the class, appearing to show disdain for classmates’ lack of participation. (They each were respectful of individuals in the class, but both of them showed
awareness just on the border of irritation that others were not so verbally participatory as they were.)

This classroom moment also demonstrates how Ashley and Sherrice made connections with previous lessons, a sign of attentiveness and their wish to connect the lessons, true knowledge construction. In all three videotapes, Ashley and Sherrice referenced previous lessons as they sought to clear up misconceptions and gain a holistic understanding of grammar and writing:

- In the example just given, Ashley’s question connected to a previous lesson on conjunctions and commas as she tried to get a handle on where these comma rules differ (VT1).
- In the lesson on appositives, Sherrice recognized the similarity of the structure to the previous one, relative clauses (VT3).
- In succession, Ashley and Sherrice spotted and praised metaphors (a clicker lesson from two weeks previous) in a classmate’s essay draft during the peer workshop day (VT4).

Evidence of Attentiveness in Grammar Lessons

While it was difficult to tell how much these students gained from the grammar lessons, their written responses and electronic answers provided clues of attentiveness and understanding. In written responses after the last grammar lesson, which was mostly on participial phrases, 8 of 18 students (four from each class) said that they already knew this concept (WR4). Bob, who got 7 of 9 correct, wrote, “I was basically saying the same thing” as the lesson. “Just never said it out loud” (WR4). Students’ correctness (76
percent for the G class and 65 percent for the H class versus 43 percent had they answered randomly (ER1127)) showed that most do “get” the concept of participial phrases. However, it was not a sentence structure many of them used in essays. Perhaps this may indicate a limitation of clicker lessons in provoking students to try more ambitious sentence structures in their writing, which is one ultimate test of grammar instruction.

Sometimes electronic results contradicted written responses. Ron wrote, “There was nothing that I disagreed with through the lesson. Also there were no rules shown that I did not understand” (WR4), but only 3 of his 9 responses were correct. Julie, who had 5 of 9 correct, wrote, “I already knew this information. I learned participial phrases in my high school classes. I also read (the textbook) and taught myself” (WR4).

In response to my question as to whether the discussion in the participial phrase clicker lesson changed any minds, all 8 G class students wrote that what classmates said did not change their thinking, an expected result given the usual lack of discussion in that class. H class results showed more peer-to-peer influence as 6 students said their thinking was changed by the discussion, and 4 said it was not.

Three students who wrote about how their thinking changed during the lesson, Derek, Cassie, and Kim, wrote about how the combination of deciding on and clicking an answer, finding out they were incorrect and hearing discussion provoked a change in their thinking. Cassie wrote, on “the 1st or second slide. There was a comma I didn’t agree with. And then we went over it, and it started to make sense to (me) (why) you would use a comma and why to put a comma there” (WR4). Derek wrote that he had one idea about
a sentence, found out he was incorrect, and “after someone else reading it, it made more (sense) to me” (WR4).

Kim referenced what Ethan said about the “unnecessary” rule, how commas that enclose mid-sentence structures (such as participial phrases and appositives) as helping her understand. (This “‘Unnecessary’ rule” comes from the acronym “LUCL,” which gives four rules for comma usage—Lists, Unnecessary phrases, Compound sentences with Conjunctions, and Introductory phrases—oft used in my department, original source unknown.) Unfortunately, Kim suggested a retreat for her own writing: “Actually I can eliminate the unnecessary word and still make a good sentence without using the unnecessary word” (WR 4). However, I did not see such retreats in her portfolio work, as these paired example sentences show:

- The September final draft: “I entered (XYZ) University in Indonesia as my first college two years ago with lots of expectations and hope” (E919).
- The December portfolio revision where she revised the above sentence and used an appositive, an “unnecessary” structure: “I entered (XYZ) University in Indonesia, my dream university since I was in junior high, as my first bridge to higher education in 2005” (PR 1207).

In her written response, Kim resolved to avoid complex sentences, but in her portfolio writing, she revised a sentence to a more grammatically complex one (that also included a metaphor). Therefore, the “I would be afraid” uncertainty sometimes, fortunately, while spoken (or here, written) may be abandoned for more ambitious constructions in actual revisions.
These students’ fairly high electronic averages reflect attentiveness. A doubt that I expressed in Chapter I, “unpredictability of (student) response” was laid to rest with these two groups at least. In the final 7 grammar lessons, the G and H classes averaged 63 and 61 percent correctness. Given the number of questions (45) and total number of multiple choice options presented to students (118, usually 2 but sometimes 3-4 choices per question), a person picking randomly would be correct 38 percent of the time. Only one of the cases, Derek, was lower with 34 percent, and one other case, Lyn, with 53 percent, also had difficulty getting correct answers. Sherrice and Ashley, who spoke frequently and expansively, averaged 75 and 65 respectively while Lina, who spoke often but tentatively, was correct 77 percent of the time. Ginny and Brent, whose verbal participation was rare and impulsive, were correct 71 percent of the time. Randy had the most uneven experience; absent 4 of these 7 days, for the first two lessons, he did well (100 and 75), but the third time, the relative clause lesson, where his class had an average of 63 percent, he answered no questions correctly. It was not that he did not click, either; the electronic record showed him clicking for all five questions and having no correct answers. Randy sometimes expressed antipathy for the clicker lessons in his written responses (WR 1-3), including one where he wrote that clicker lessons were “just a way of taking a quiz” (WR1).

The highest averages on these grammar lessons came from three cases who rarely or never spoke, Todd (89) and Kim (86) from the H class and Penny (82) from the G class. (While the highest scores came from quiet students, it of course does not also follow that all quiet students had high averages; Lyn rarely spoke and had a 53). Still, the electronic record allayed my worries that with students earning only participation points
for clicking, they might respond thoughtlessly. Further, it reminded me of one of Gee’s (2004) characteristics of an affinity space, that there are multiple routes to participation (p. 87). Kim wrote that clicker lessons “gave me an opportunity to participate in answering questions since I am to (sic) shy to speak up” (WR6), and her high average shows that she made the most of the response-feedback loop.

**Peer Feedback: A “Waste” or “Minds Coming Together”?**

As I read the first week assignment, it was what was not there that was most striking. Only one student of 39 wrote about meaningful experience with receiving peer feedback on writing. Granted, more students may have had such experience, but that only one chose to write about it speaks to the huge gap between what they thought was impressive to write about their classes (books read, movies watched, struggles overcome) and what I thought was important (talking about writing and how it is constructed in part through feedback). Too, this semester, the semester of my dissertation work would be the first time I would be using clickers for peer feedback, and I was interested to see how it might work. All the other lessons (grammar, metaphor, etc.) I had used with the clickers before, so here I was trying something new without prior experimentation. See Appendix E for material that goes with the peer feedback clicker lesson.

**Past Practices with Peer Feedback**

First, some background: feedback groups have been a feature of my class since the beginning. One session in a four-day week is devoted to feedback on drafts in groups of 4-5 students. A peer tutor and I work with separate groups, and sometimes there is an independent group. Writers read a draft aloud as classmates, the tutor and I make notes;
then, with students talking first, we talk about that draft and ask questions and give ideas that might help the writer focus and develop it.

Peer feedback puts student writers in interaction with classmates as readers and may guide them to better meet readers’ wants and needs in subsequent drafting. Still, peer feedback group work constitutes “one of the most diffuse, inconsistent, and ambiguous practices associated with writing instruction” (Armstrong & Paulson, 2008, p. 399). Spear (1993) attributes some of the difficulty of peer response groups to the isolation that many students associate with writing. Too, Spear continues, even though it holds them back, students may subscribe to Freire’s “banking” model of education and hold to the notion that learning is “solitary and isolating activity,” where they are subjects/recipients and not objects/co-creators (p. pp. 4-5). Talking about a peer’s writing may seem uncomfortable, unnecessary, and unconnected to the way these students believe they will progress. Spear (p. 7) and Tobin (1993, pp. 107-109) also bring up the undercurrent of student-to-student competition in peer response groups, that students sometimes feel not entertained or inspired by hearing or reading a peer’s good work but somehow diminished and even silenced. Tobin quotes a conflicted female student:

I’m not sure if I would want to help someone. It depends. It sounds horrible, I know. But I’m not sure; it depends if it was a friend. And I don’t know if it is even my place to tell them. I think every case is different. I don’t know. (p. 108)

Obviously, someone whose thought process about helping peers is this conflicted is going to have difficulty getting past her own feelings to arrive at a place where providing feedback to a peer comes easily.

Further, when students in my class are in an independent group (without a tutor or me), their work may lack the rigor or leadership needed for an effective session. They
may regress to the kind of high school group work described by Randy’s “talkfest” (FWA) or Lyn’s and Cassie’s group work examples where students talk about tattoos, music, and other non-academic issues, giving only cursory attention to each other’s writing (FWA).

With this in mind, the semester of this study I tried for the first time a peer workshop lesson held every other Monday delivered with clickers. Intrigued by Banks’ (2006, p. 375) use of personal response devices “to support peer feedback” for student presentations, I alternated the traditional small groups on odd-week Mondays with six even-week Mondays where we did full-class, clicker-mediated conversations focused on one essay at a time. By using two questions per student writer (“What was the strongest part of this draft?” and “What part most needs more work?”) I hoped to encourage discussion focused on specific student writing. Instead of sitting in a circle and discussing early drafts (as we continued to do on the odd-weeks), students, reading along on a typed hard copy, heard a late stage draft read aloud and advised a classmate via clicker responses. Even the classroom “architecture” (Selfe, 1992, p. 36) of such lessons demonstrated a different emphasis: attention in the clicker lessons was on drafts and specific questions about those drafts where in traditional groups, focus was more on swapping stories, where instead of helping the writer expand upon his or her story, sometimes peers would want to tell a similar story. Further, I hoped that the anonymity of the clicker lessons would support student honesty and encourage some students to claim and explain their answers. These were the weaknesses with the traditional groups and my hopes that a clicker-based lesson might eliminate them.
Clicker Peer Feedback Procedures

I had 3–4 students sign up for each of the four clicker feedback sessions. On their scheduled day, students brought typed, alphabetically segmented copies of their drafts for everyone (see Appendix, E). After the writer read the draft aloud and peers wrote advice on their copies, peers answered two electronic questions one at a time, and discussion followed each. Since students had a copy of the draft, peers could be specific about detail. Instead of saying, “the detail was good,” they could say things like, “I like the part where the glass of disinfectant turned red because of the blood,” a comment from a student from the Y class (FN100107).

Verbal participation was higher in the peer feedback sessions than in the grammar lessons. Four of 12 from the G class and 5 of 11 from the H class participated verbally in the videotaped peer feedback classes. Still, a quarter of the students demonstrated wariness about presenting drafts for clicker feedback as 3 students from the G class and 4 from the H class were absent or unprepared on their day and did not take an opportunity for a makeup.

Slightly more students told what they liked about a piece of writing than the part of the essay that most needed more work; however, each category of discussion spilled into the other. Too, students had different ideas about what needed work and what was the best part, so we talked about more than two segments of a draft. Students liked description (Lina, talking about Ethan’s accident detail, VT2) and use of figurative language (Ashley and Sherrice, VT4). Examples of suggestions for improvement included Ashley’s asking Dan for more description of a place (VT4), Cassie’s wanting a clearer picture of where Ethan and his friends were at one point (VT2) and Ashley’s
asking Dan if he caught a fish on his fishing trip (VT4). Of all spoken feedback addressing need for improvement, only Lina’s suggestion that Derek incorporate “(m)ore flow” approaches criticism (VT5). Students were reluctant to appear to challenge classmates, or they may not have been able to isolate within the drafts dissatisfying elements that they might articulate.

As with traditional small groups, I waited for students to give their thoughts before I gave mine. Sometimes I followed up on students’ comments, for example, bringing the writer in: When Sherrice and Ashley complimented Dan’s figurative language, I asked Dan if he had used his metaphor and simile “on purpose” (VT4). Student-initiated discourse ran about 2-6 “speeches” long. This is in contrast to when I began questioning the writer; here, the back-and-forth sometimes stretched to 10-20 volleys. At its best, the writer got a mini-Writing Lab session as classmates listened. (In sad reflection, I saw a similarity here to the “mini-lectures” that June of the Hull et al. (1991) study mentioned in Chapter IV). As Dan presented his draft, his classmate Ginny showed me that there is also potentially an “at its worst” of such teacher prodding.

Workshopping Dan’s Draft

Dan’s draft (see Appendix E) showed one of the weaknesses of a Basic Writing vacation essay draft, where all details are equal and there is no sense of what was special about this trip. Wanting to help him find something to play up as the main point of this family fishing trip story, I spoke nine times and he eight times with no others talking. Eventually, I arrived upon a sad but potentially meaningful fact: Dan admitted that there had been times that the family had gone on fishing trips without him. I was not sure how
I would have pried out the possibly painful detail that might have made the paper better if only he could write about it; furthermore, I felt increasingly uncomfortable with my line of questioning. There may have been reasons for missing those trips that Dan would not have wanted to reveal before the whole class. I did not have to pry, though, because Ginny burst out, “He says it in there. ‘I’ve done fishing before, but I never fished in Canada’” (VT4). She spoke forcefully, throwing the quote like it was evidence she presented as Dan’s defense attorney, and I’d been the prosecutor badgering him. Her impulsive defense of a classmate helped me realize that students may perceive such lessons as having an inherently confrontational dynamic in which they did not wish to participate.

The students and I examined our copies of Dan’s draft to see what Ginny was talking about, and locating it, I quoted the next thing Dan wrote, “So I was very excited to go” (VT4). Dan immediately picked up on the point I had been heading to earlier, explaining that it was an expensive trip, so we followed that track, that the expense was why such trips were a rare treat. Ginny’s interjection broke the rising tension and brought us to where we needed to go a little more quickly and a little less painfully—and with a little more occasion for reflection for me.

My interview with Ginny a few months later helped clarify how enormously peers loomed for these students, and that may well be a reason for their staying at the sidelines.

I asked her why she thought her class was so often silent. “(N)ot as many of us knew each other” in this class, she said, so

…if you know the people, that’s easier to say whatever just because at the end of the day, they’re still your friends even if you said something, you know, stupid.
Whereas, if they’re not (your friends)...you might think you’re going to go in there the next day with them judging you. (I227)

The way Ginny twice used the phrase “go in there” (including a section not quoted), she made it sound like she was talking about stepping into a boxing ring or jumping into a hole in frozen Lake Erie. This daunting image showed student wariness about one another. Note too that here, Ginny spoke not to challenge a classmate with a question but to halt the teacher in her questioning, calling attention to a detail Ginny saw but I had missed. It is thus easier to challenge the teacher than a peer. That is hardly a bad thing, unfortunately rare when focused on an academic disagreement, and it broke up a logjam, making things easier for Dan and me while advancing the discussion. Ginny was, after all, the only student who gave mention in her first week assignment to the role of peer feedback in her previous class, so perhaps she brought that to class in this incident.

Workshopping Derek’s Draft

A troubling theme emerging from the students’ written responses about both kinds of peer feedback is mutual mistrust, which may explain their unwillingness to speak and its bookend, a discounting of those who do express their thoughts (verbally or electronically). Writing about the written comments on the drafts during the clicker peer sessions, Randy said, “People don’t really care what they write” on the distributed drafts. In contrast, “People try a little hard in those groups” (WR3). Derek wrote that “The bad (thing) for clickers is people can just guess,” pressing any answer, “and it doesn’t help me in the least” (WR3).

While my first impulse was to dismiss Derek’s statement as that of a student making excuses, when I examined the electronic responses that classmates gave to
Derek’s draft on the day he presented his draft, I realized that he had a point: there was little value in the first of the two electronic answers classmates gave him. On the question asking about the strongest part of his draft, results splayed. Students could not coalesce on one section as being strong because calling any part strong was a stretch. See Figure 7 for a representation of the H class’ electronic response to the question asking for their opinion on the strongest part of Derek’s draft. (See Appendix E for the draft.)

Figure 7. Response to question: “Which is the Strongest Part” of Derek’s Draft?

In the context of these results, Derek’s comment that this digital feedback did not help him “in the least” is well taken. Classmates selected five of his seven options as the best work. Since his classmates could not unite around something he did well, he had nothing within his own work that he could use as a model with which to bring the rest of the draft up to. Derek’s classmates’ choice for the part of his essay most needing more work was clearer: Six of 13 voted for Section F, where he mentioned but did not explain
two quotations that symbolized his friendship with “Logan” (ER1112, OA1112). No students spoke about the work that needed to be done in this paragraph, but the peer tutor and I did, talking about how writers must explain quotations to the reader (VT5). In retrospect, perhaps peer unwillingness to tell Derek why they believed that this part of the essay needed more work came from their depending on the instructor and peer tutor to do the “dirty work.” Still, the students’ choice of this segment as one that needs more work showed good instincts even if they were not willing to explain the choice or able to put it into words. Perhaps this is another example of students’ expression of tacit knowledge, where they knew something is not quite right but were not able or willing to explicate it. Expression of “tacit knowledge” is another of Gee’s (2004, p. 87) characteristics of affinity spaces, and while it is doubtful that Derek “heard” what his silent classmates had to say through the histogram, at least those students could see their aggregated opinion up there keeping each other company and hear the peer tutor’s and my explanation of the work we believed needed to be done there.

Other Students’ Experiences with Electronic Peer Feedback

Derek’s difficulty in finding useable advice on the screen stood in contrast to Penny’s and Lina’s experiences with clicker peer feedback. In response to a question about what she took from the time she presented her draft to the class for clicker peer feedback, Penny wrote:

It did help me improve my draft because I got opinions from my peers so that I could improve my story. I got the “vibe” that they wanted more than what I have putten down on a piece of paper. They wanted the (whole) story (WR2).
Lina spoke similarly when I asked her how she used the feedback from her peers in the class that had occurred four months earlier (I207). She recalled that the draft was about “the car accident with my nephew,” and when I asked her which paragraph her peers suggested more work on, she remembered: “Towards the end, the conclusion when he was rushed to the hospital. I didn’t really express, didn’t give more detail. And with the clicker (histogram), it actually, you know, (showed that) the students wanted more out of it” (I207).

For Penny and Lina, advice they received within a clicker lesson was focused on a part that was good (and they could use that part as a model for the rest of the draft) or undeveloped and needing of more detail, explanation, or both. Penny and Lina realized that their classmates “wanted more,” both using those words, and as they revised the essay, they understood what kind of “more” and supplied it. They understood the electronic feedback, trusted it, and used it to improve their work. It is also possible that spoken advice in these lessons supplemented the electronic feedback; since I do not have videotapes of those lessons, I do not know. Neither Penny’s written response nor Lina’s interview named classmates’ spoken words as influential. Instead, each speaks of the advice in a manner that reflects electronic feedback.

The key questions here are: why could Penny and Lina make the kind of sense of their experience with clicker feedback that enabled them to use it for drafting where Derek expressed worries about knowing what he was supposed to do next? Could anything be done to help a student like Derek have a more successful experience with clicker feedback? Tentative answers are: The electronic answers that Penny and Lina received showed clearer majority opinions than what Derek received. When histograms
show a clear message, a student can read it, and she trusts the message and is motivated to use it, that is useable, actionable feedback. However, when results are splayed as they were when students picked the strongest part of Derek’s draft, spoken feedback is even more essential. Derek referenced one piece of spoken feedback in his written response, Lina’s comment that he needed more “flow” (VT5): “(I)f it’s not smooth or going with the flow you can help each other on that” (WR2). He apparently saw some value in this feedback but was likely at a loss regarding how to achieve “flow” in his paper. If electronic feedback is not clear; if it is not translated in a joint effort by the teacher, peers and student into an action plan; or if the student is not motivated to use it, this feedback is the quintessential unheard fallen tree in the forest.

Preferred Peer Feedback Style

By a wide margin, students in both classes preferred the traditional small groups, saying that they got better advice there. In the G class, 6 preferred the traditional workshop and 3 favored the clicker peer feedback; in the H class, 8 preferred small groups and 2 favored clicker feedback. Lina got “a better understand(ing) when kids and opinion flys (sic) around,” which gives “them a better idea” than “hitting a button about (which) of their paragraph(s) need(s) improvement” (WR3). (This is, however, a contradiction of what Lina said in her interview a few months later as quoted above. Probably Lina got something from both lessons, likely she got a more specific understanding of ideas for her revision from individual peers in small groups while from the electronic feedback, she had to make sense of the advice given as a histogram.)
Penny and Ginny appreciated having a peer tutor or me in the group to provide guidance in the traditional groups (WR3).

Four students (all of whom rarely or never spoke) who favored small groups wrote of different kinds of pressure. Randy spoke of a positive pressure to speak in the small groups, Penny wrote about less “worry” when expressing an opinion in small groups, Bob wrote about the potential of writers being “embarrassed” in clicker feedback, and Ron said the small group was more of a “comfort zone” (WR3). That silent students would be sensitive to pressure is not surprising.

Students “voting” both ways were dismayed at classmates’ lagging attentiveness or helpfulness in small groups. Kim wrote, “(W)e just hear from (in) the right ear and out the left ear. We didn’t pay attention on it. Especially when the small groups was (the) independent group, they won’t really care about other’s paper” (WR3). Marie also brought up classmate inattention: “(S)ometimes people don’t really listen to you so you won’t get any help from them” (WR3). Echoing the theme of unreliable classmates, Ginny wrote, “(D)epending on your group members,” the quality of advice could vary (WR3). Ashley wrote, “People tend to talk about other things in small groups” (WR3). Table 12 summarizes student responses about traditional small group feedback.

Only Ashley, Julie and Bob from the G class and Kim and Marie from the H class preferred clicker peer feedback. Still, because I asked students, no matter their preference, to write of the pluses and minuses of each, there were unexpected comments in favor of clicker lessons from those who preferred the other type of lesson. Surprisingly, Derek, who had difficulty translating advice from his peer feedback session
into an action plan, liked “everyone (else’s) minds coming together to make my paper better” (WR2) in these larger group sessions.

Table 12: Student Views on Traditional Peer Feedback

<table>
<thead>
<tr>
<th>Points in Favor</th>
<th>Points Opposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>• More/better feedback</td>
<td>• Lack of attention to the writer (both daydreaming and off-task chatter)</td>
</tr>
<tr>
<td>• Less pressure</td>
<td>• Some classmates are more help than others</td>
</tr>
<tr>
<td>• Pressure of a more positive kind</td>
<td></td>
</tr>
<tr>
<td>• Peer tutor or instructor provide guidance</td>
<td></td>
</tr>
</tbody>
</table>

There was also a different tone in the writing about the “plus” side of clicker lessons, which did not appear in the writing about the “plus” side of traditional groups. Writing about the pluses of peer clicker workshops, five students wrote about clicker feedback as students while six answered as writers. Answering in the student mode, Penny said that being able to see results on the screen was “like a visual aid. For me to see the problem helps me understand it” (WR3). Lyn liked seeing where her opinion stood among her classmates (WR3). Kim could “directly read…the writer’s purpose and see what’s going through the story clearly,” hinting at how, as a non-native speaker, she may have been able to learn vicariously through reading and responding electronically to classmates’ writing (WR3).

Students answering as writers included Randy, who liked being able to refer to suggestions that classmates wrote on his hard copy during the clicker lesson he presented his draft (WR3). This was another contradiction: in the same reply, Randy said that these lessons were a waste of paper and that “People don’t really care what they write” (WR3) on those hard copies. Perhaps the reason behind this contradictory reasoning is that both
parts are true: that Randy believed that some or most of the marked up drafts were a waste of paper where classmates did not care what they wrote, but there may have been some written suggestions by a few classmates that gave him usable feedback.

Bob, Julie, Marie, and Terry liked having whole class feedback: “You have more than four people helping you with your paper” (Bob, WR3). Julie liked “when I get everyone’s feedback because it makes my paper better” (WR3). Ginny and Terry used the electronic responses to help them revise, Ginny said that it helped her see “where to focus” her “editing” (WR3) while Terry said, “even if (classmates) don’t speak up to you,” writers “are able to see what paragraphs need work” (WR3). Overall, students’ positive comments about clicker peer workshop had a maturity about them that the positive comments about traditional groups did not: those responses usually focused on pressure (less pressure or a more positive sort) or made it sound like the traditional groups were just more fun: “You get to hear everyone’s opinion (sic) story and talk about it” (Derek, WR3).

Speaking to the negative side of clicker peer feedback, Lyn and Randy used the word many students used in the survey about video games, “waste” (WR3). It was a waste of paper and time, Randy said (WR3). Jean wrote, “You don’t get to hear everyone’s opinion” (WR3). While Jean could not hear everyone’s opinions (since her G classmates were so reticent), some could see them electronically. Lyn, Randy, Jean, and Derek needed guidance to help them interpret charts so they might be able to understand the advice there as a precursor to consideration of it and being able to use it. This may have been because they received splayed results, as Derek did; maybe classmates did not
give enough verbal feedback to support their clicked answers; and maybe some students had more difficult interpreting abstract charts than others.

No responses directly mentioned classmate inattention in the clicker feedback lessons; still, I wondered. Penny alerted me beyond my own small radius, writing after the grammar lesson: “No one really spoke up on why the answer is the answer. I think that their too busy, trying to do other things, or they don’t want to hurt other people’s feelings” (WR4). The comment about worry about offending classmates fit with Ginny’s comments about uncertainty opening up around new peers, but it was the “doing other things” that jumped out at me. Was there a multi-tasking “underlife” (Brooke, 1987) in clicker lessons? Multi-tasking was, after all, one of the major themes students wrote about in why they liked a personal technology in the survey.

Was Penny’s comment about student distractions in the grammar lesson as valid for the peer feedback sessions? Despite my policy that cell phones and other distracters be out of sight, working the laptop, giving my attention to the speakers rather than the silent ones, I was in my own zone. Students may have been operating on channels that sometimes took them away from the lesson and from their classmates, who, by their responses, took their AWOL status as a reason to justify their own disengagement. Trust among these students was a two-way street they may not have been accustomed to traveling —they would not open up among those whom they did not trust nor would they trust those who did not open up.

Penny’s summation of the clicker peer feedback sessions echoed another theme from the personal technology survey. For her, clicker peer feedback lessons were “too much of a hassle” (WR3), evoking Clark’s “opaque” and “transparent” technologies
(2003, p. 37). Cell phones are transparent, easily integrated into everyday lives where opaque technologies, sending an email attachment for these students, were complicated and unreliable, any possible benefits not worth the “hassle.” There were some rewards in clicker feedback lessons for some students, but were they worth the “hassle”? A summary of student views on the clicker peer feedback lessons appears in Table 13.

Table 13: Student Views on Clicker Peer Feedback

<table>
<thead>
<tr>
<th>Points in Favor</th>
<th>Points Opposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>· All students are involved in giving opinions</td>
<td>· Distrust of answers clicked by classmates</td>
</tr>
<tr>
<td>· No embarrassment about electronic answers</td>
<td>· Writers could be embarrassed</td>
</tr>
<tr>
<td>· Writers get the whole class’ opinion, not just that of a few</td>
<td>· The only good feedback comes from the peer tutor and the instructor</td>
</tr>
<tr>
<td>· Students can learn where to focus revising</td>
<td>· Too much of a “hassle”</td>
</tr>
<tr>
<td>· Histogram is a visual aid for some</td>
<td></td>
</tr>
<tr>
<td>· Students can read hard copies of drafts instead of just hear them</td>
<td></td>
</tr>
</tbody>
</table>

While I was able to look to the percentage of student correctness in the grammar lessons as a gauge of attention, the peer feedback responses would seem not to offer a similar check of student attention. However, consistency of feedback is a gauge worth consideration. In Derek’s draft, for example, the section that 6 students (or 43 percent) chose as the section needing the most work had zero votes as the strongest part of the
essay. Similarly, for Dan’s draft, 6 students (or 50 percent) said that section C was the strongest part of the essay, and only one said that it was the part needing most work.

*Other Clicker Lessons: Metaphor and Portfolio Changes*

There were two types of clicker lessons for which I had no videotapes available but where I collected student written responses, one for a mid-semester lesson on metaphorical thinking and the other for two end-of-semester lessons on changes students made in their portfolio revisions. I will describe and analyze the data here.

Metaphors for Clickers

“The essence of metaphor is understanding and experiencing one kind of thing in terms of another,” (Lakoff & Johnson, 1980, p. 5). As a teacher, I wanted to introduce students to or reacquaint them with metaphor as a way of describing detail and organizing ideas; I presented it as an option, not a requirement. As a researcher, I utilized metaphor as an indirect way for students to tell me how they saw clickers—not “Do you like clickers or not?” but “What are they to you?” See Appendix F for material that goes with this lesson.

For many years, I have devoted a few class days and assignments to metaphor. My students and I read essays by students who successfully used extended metaphor as a “main ingredient,” an organizing template for an essay; or “spice” metaphors, where descriptive figurative language provides the entertaining unexpectedness of comparison of unlike things. (The “main ingredient” and “spice” ideas, of course, are metaphors themselves.)
A few years before this study, I created a metaphor clicker lesson where students choose among 4-5 possible metaphors for friendship, studying, what game or season their life is similar to, etc. In each set of options, I included a final “Other” category for students who might think of an original metaphor. As with other clicker lessons, students explained answers aloud, showing how for them, the two unlike items were alike.

After the metaphor clicker lesson, I asked students to write a metaphor to describe their view of clickers. (Note: Since I am more interested in students becoming comfortable with trying figurative language than precise definitions, I fold simile in with metaphor, so technically, some responses are similes). Most of the students’ metaphors fell into two themes: communications and interactivity, chosen by 7 students, and games and sports, used by 7 students. Metaphors evoking communication and interactivity included remote control (Ginny, Todd and Melissa), cell phone (Kim), electronic teacher (Brent and Marie), and “a voice you hear but you don’t know who (is) talking” (Joe), (WR1). For games or sports, metaphors included wrestling practice (Bob), surfing a wave (Penny), swimming with inflatable “floaties” (Ashley), being in the “Ask the Audience” segment of the TV game show “Who Wants to Be a Millionaire?” (Ethan), and playing a video game (Sherrice and Kim) (WR1).

There was also a small but notable cluster of metaphors suggesting imposition. For Randy, clickers were “just a way of taking a quiz,” for Lyn, clickers were “like being able to cheat on a test,” and Derek wrote that at first, he “hated” clicker lessons “like hot sauce in (my) mouth” (WR1). While other metaphors gave a sense of interactivity and play, these three expressed the frustration of feeling forced into something uncomfortable. While a small minority (3 of 20), this view represented an undercurrent
among some students, even a few choosing other metaphors, and is reflected in language like Ginny’s four-time repeated use of the word “force” for clicker lessons, as in “forced to play attention” from her interview (I227). (I will further explore this theme of imposition later.)

Contrasting Views of Clicker Lessons as a Game

Of the sports- and game-related metaphors, all but one showed a noncompetitive view or a view of competition with oneself. Bob used the word “training” (WR1), evoking preparation for competition, while Ethan focused on the way the audience advises the competitor in the game show “Who Wants to Be a Millionaire?” (WR1) Kim’s explanation for video games focused on competition with self: “If you got the correct one, that means you win, but if you got the wrong one that mean you lose, and you have to play that game again” (WR1). Ironically, being shut out from higher levels was the facet of video gaming that Kim wrote about as being something she disliked (S). However, her 86 percent correct record on the grammar clicker lessons shows that at least here, she was within Gee’s “regime of competence” (2004, p. 19) where “challenges feel hard, but doable.” Kim’s “have to play that game again” comment also may suggest that at least in her mind, there were replays of questions/answers that were incorrect, as if she coached herself on the correct answer.

Only Sherrice wrote about the game of clicker lessons as one that pitted her against classmates. I contrast her answer with Penny’s metaphor, which seems to focus more on a mastery of self, in Table 14.
## Table 14: Two Views of Clickers as Games

<table>
<thead>
<tr>
<th>Sherrice’s Metaphor</th>
<th>Penny’s Metaphor</th>
</tr>
</thead>
<tbody>
<tr>
<td>The clicker lesson to me is like playing a video game on the computer. You play and try to get the highest points. After you’ve finished the game, you see that someone has gotten a higher score than you, but you don’t know who that person is (WR1).</td>
<td>Using the clickers is like surfing a huge wave. It’s a lot of information, but if you position yourself right on the board, you’ll balance it all out. I understand more than what I did because we have to participate and the information starts to click into place (WR1).</td>
</tr>
</tbody>
</table>

Here, Sherrice expressed a view of clicker lessons as a contest between anonymous individuals, a theme played out in one of the videotapes where, thinking I had heard a quiet voice, I asked if anybody in the back said anything, and Sherrice said, “No. Nobody said anything in the back” (VT1). There was nervous laughter, but in retrospect, I wondered if Sherrice saw class discussion as her and Ashley’s private province or perhaps disrespected her classmates’ typical lack of verbal involvement, any of which may have discouraged others. Perhaps Ashley and Sherrice’s role as primary class speakers was established early in a manifestation of “consolidation of responsibility” (Karp & Yoels, 1976, p. 429) where a few students establish themselves early as primary class participants. It is difficult to know without a videotaped trail from the earliest weeks of the semester instead of the Week 10-14 period alone. In the Karp and Yoels study, 5 of 40 students dominated class discussion while others contributed “civil attention” (p. 435). That 1:8 ratio was nearly replicated in the G class where 2 of 12 students spoke frequently with a third, Dan, speaking almost as much as Ashley and Sherrice and the rest of class mostly giving that “civil attention.”
In contrast to Sherrice’s competitive metaphor, Penny’s shows no recognition of others, only a challenge to self, a utilization of outside forces to achieve inner mastery. Penny’s chosen seat location is relevant; she sat front and center, seeming to want to set up circumstances for herself that would best serve concentration and success. She recognized that concentration was not a given, commenting upon classmates’ inattention, their “trying to do other things” (WR4). Consider how she coached herself in the middle: position (herself), balance, and understand. Then, as a result of this chain of concerted effort and the nexus clause “because we have to participate,” “information…starts to click into place.” The similarity of Penny’s language here to what she wrote about the conclusion of her high school tutoring sessions is striking. After two years, “(E)verything finally clicked into place, and I understood what I was doing” (FWA). In both examples, she used the word “clicked,” the first time before I’d introduced clickers to the classroom and the second time in a way that I conjecture had no conscious connection between outer and inner “clicking.” (Penny was not one to make wry asides.) While in both cases, understanding was achieved as a result of concentrated work; in her high school description, she glosses over that work and in her description of the clicker-based learning, with her use of the action verbs, position, balance, and understand, she gives a view into her process and a sense that this was a multi-stepped endeavor. Also, her expression “we have to participate” (my emphasis) overlaps lightly into the theme of imposition, introduced earlier with three metaphors of imposition, which I will explore further later.
Metaphor Use in an Essay

Clicker lessons on metaphor also influenced students through their use of metaphor in essays that followed this lesson. I asked students to experiment with metaphor in freewriting but did not require them to use it in their essays, but many did. When I asked Kim about her portfolio revisions, she said that she aimed to make her papers “more alive” and offered her use of metaphor as part of this attempt (I206). When she revised her October essay about her relationship with her mother for the late November portfolio revision, Kim used a “main ingredient” or extended metaphor, comparing her mother to a devil and angel (PR1128). I include excerpts of this in Table 15.

Table 15: Excerpts of Kim’s Extended Metaphor in Portfolio Revision #1

<table>
<thead>
<tr>
<th>Ways Mom is a Devil</th>
<th>Ways Mom is an Angel</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Her streak to make me study created her image as a devil in my eyes. She put me in piano and dance class when I was five years old, which I did not like.”</td>
<td>“Well, in this case the angel was right. It helped me though I didn’t realize it.”</td>
</tr>
<tr>
<td>“Calmly with a devil’s smile she answered me back with a question, ‘What do you want me to do then? Put some glue on your hair to make your long hair back?’”</td>
<td>“I noticed a new me in my mirror and tried to see myself from the angel’s side. Once again, she was right, and I was wrong. I looked cuter in my short hair.”</td>
</tr>
<tr>
<td>“…the way my mom wore her clothes. It was like a teenage devil. I was ashamed when I saw her just wearing a shirt and jeans whenever she met my teacher. I thought that was not the polite way to go to school and meet the teacher. I did compare her with my friends’ moms who always looked like beautiful angels - wearing skirts and collared shirts or formal dresses.”</td>
<td>“As the time went by, I became more mature and her habits didn’t bother me anymore. Slowly but surely, I started to fall in love with my mom’s style…I did not feel bad at all when I knew my mom’s influence really hit me; instead it made me happier and indeed understanding her reason - to keep ourselves young, although our age does not.”</td>
</tr>
</tbody>
</table>

--Kim, (PR1128)
Here, Kim used three sets of devil/angel (others are not included), showing how she first saw her mother as a devil, and with time and perspective, the same traits became angelic, causing her to grow appreciative, even to the point of aspiring to be like her mother. The first column “devil” excerpts were immediately followed by the right column “angel” excerpts. I asked Kim if metaphor was something she read in her home country, and she said that yes, there was metaphor in her native land. After a pause, she burst (in her quiet way), “But I never used it in my paper in Indonesia, only here” (1206).

Metaphor, clicker lessons, or maybe both helped Kim take an ambitious step in her writing. In her article, “One Size Does Not Fit All: Response and Revision Issues for Immigrant Students,” (2007) Ferris cites research (Cohen, 1987; Cohen & Cavalcanti, 1990; Leki, 1990, 1991; Radecki & Swales, 1988) that indicates that these students usually concentrate revision on micro level, grammar and sentence level work above content-related changes. In Kim’s case, her decision to use metaphor to organize her idea was not as a result of my suggestion or direct feedback of any sort but, as she volunteered in the interview, a result of her processing of the metaphor clicker lesson and likely other work we did in class and reading outside of class on metaphor models in essays. This step of using the devil-angel template to describe her mother and then to so fully execute it in her portfolio work is quite a leap for her and unusual in light of the research on ESL students’ revision practices.

Portfolio Upgrades: “You Can See the Transition”

Like most composition instructors, I have my students revise work for an end-of-semester portfolio. Of the five personal narrative essays students wrote weeks 4-12, they
chose two to revise, one due in the middle of Week 14 and the other due on the last day of class Week 15. This timetable allowed for two final clicker lessons on portfolio “Before” and “After,” where students looked at two excerpts of a peer’s essay (one from earlier in the semester and the latter the same splice improved as a portion of the portfolio revision) and had to choose which one they believed was the improved version. Inspired by my wish to provide a forum for students to show each other what successful revision looks like, I used this type of lesson two previous semesters and relied on former students’ examples to get us started. I saw these lessons as being similar to the visual puzzles where two versions of the same scene challenge the viewer to find the differences—the different brim on a hat, another message on a sign, etc. Once, it seemed to me that if my students had studied more puzzles like that as children, they might be more apt to carefully compare and contrast pieces of text. This lesson type was born of these views and, of course, my wish to help students see revision as more than proofreading. See Appendix G for material that goes with this lesson.

For the first of the lessons, I used (with permission) previous semester students’ revision pairs. I chose these examples as models of portfolio changes that went beyond “fixing.” I marked one of the splices “A” and the other “B,” and I asked students, “Which is the revision?” After this lesson, I asked students how they had determined the revision, and what would they take from this to their own portfolio revision. Julie wrote, “It was easy to figure out which one was the revision because through the semester we have become so much better at changing our sentences” (WR5).

Only Derek and Alan focused on improved grammar, which was somewhat irrelevant because errors in the “before” examples were minor and “fixing” them in
“after” examples was not the point I wanted students to take from these. Derek’s and Alan’s responses show how persistent the grammar fixation is among a few students, often the weaker writers. It may also be that they are following through on their expectation of the “right” response.

More commonly, students noticed two or more improvements, and grammar was mentioned among other features by only two others. Students noticed features like sentence structure (6) or improved detail, description, or examples (8) (WR5). Five students remarked on the empathetic connection a writer must make with a reader:

- “Have (the reader) feel as though they are really there” (Penny, WR5).
- “(S)how emotion or meaning even expressions so when the reader reads it they understand why something was so important” (Lyn, WR5).
- “(U)sually for revision, people…tend to give…emotional feeling” (Kim, WR5).
- “Really giving the reader a better understand(ing) and making them feel your emotions” (Lina, WR5).
- “I am going to put a lot more detail into it, and ask myself questions like will the audience know what I am talking about” (Marie, WR5).

These responses, showing a greater awareness of and responsibility to a reader, show a realization that a writer is not just writing for a grade or for a teacher but working to give an unseen other the fullness of one’s own remembered experience. This shows students overcoming that “egocentrism” of basic writers churning out words for an assignment or a teacher but not a reader.
Intellectual Empathy via a Joint Attentional Scene

Other ways students said they made the decision on which of the two options was the revision are:

- “I simply looked at it as if it were my own paper which sounds better and which has more detail” (Ginny, WR5).
- “It really make me take a closer look to see if their were any changes in grammar. Also, by doing that it helped me to see what they could have done to make the paper better, which was good” (Marie, WR5).

These responses by Ginny and Marie show how in comparing and contrasting two examples, looking for changes and making judgments, some students proceeded from judging two pieces to starting to put themselves in the place of the writer, even beginning to visualize possibilities for their own revision. Among some students, a kind of intellectual empathy emerged as students projected themselves into the place of the writer whose work appeared on the screen, considering their own writing choices awaiting them. The term “intellectual empathy” is defined by Paul and Elder (2001) as “an awareness of the need to imaginatively put oneself in the place of others so as to genuinely understand them...to be able to accurately reconstruct the viewpoints and reasoning of others” (pp. 9-10). However, that does not seem to fit these instances. Paul and Elder’s definition seems to say, “This is a good thing to do; do it.” Instead, as Ginny, Marie and others examined revision choices of others, the next natural step for them was to envision their own choices. They did not choose this perspective as a moral decision; instead, in a moment of consideration and decision, a connection to a classmate as equal yet role model formed, and ideas of how to proceed followed.
This is reminiscent of the Kruger study (1992) referenced by Gee (2004, pp. 55-56) about peer-peer interaction. After seven- and eleven-year old children’s moral reasoning skills were assessed, they had further discussions with a peer or with their mother. Among those put with peers, there was “much more” use of “reflective discourse (that is, discourse in which one person talks explicitly about the view expressed by the other)” (p. 56). According to Gee,

In reflective discourse students make comments or ask questions about the beliefs and desires of others or themselves: e.g. “Does she think I like X?” or “I don’t want her to want my X” (Tomasetto, 1999, p. 181). As they engage in such talk, children simulate what other people have said or done in relation to their own words, desires, perspectives, and deeds, thereby seeing what the world and they themselves look like from the perspective of the other. (p. 55)

One of the characteristics of a joint attentional scene offered by Murray (2007) also fits here as a show of how some of these students began to view peers in the portfolio clicker lesson: such a scene gives an individual “(t)he ability to shift perspective from one’s own point of view to the point of view of others, to imagine what someone else is thinking, and to see oneself from the point of the view of the other” (p. 13).

In another written response question, I asked students what they would take from this lesson to their own portfolio work. At one level, this question amounted to asking students to make a New Year’s resolution, asking them, based on what they saw, to tell their goals; like a New Year’s resolution, how many would follow through? Still, most answers showed that students’ views of revision had matured from one that fixates on “fixing” to one that recognizes the multi-dimensionality of revising. They recognized the need to serve and entertain a reader and saw improved sentence structure, the value of showing emotion in a personal narrative, and how even more detail than they imagined
would be necessary can improve a work. Terry wrote, “I know now in my second portfolio that I can use more descriptive words even when you (think) you can’t.” One of the slides showed Terry a student who had “a similar sentence to mine and was worded so much better and more detailed” (WR5). This is another example of the student-to-student influence I had not seen in earlier lessons; here, students showed one another how to do something important and interested them enough to consider trying it. Terry’s seeing his own writing reflected in a peer’s and using it to envision changes for his own is a notable example of this.

With the first week assignment on their previous class standing in as a sort of pre-test showing these students’ early semester views of revising, these responses show a more mature view of the revision process than they likely had coming into the class, where what mention there was of feedback (excepting Ginny’s) focused on proofreading (FWA).

Further, 5 of the 19 students responding to this prompt (WR5) framed plans for revision around serving the needs of a reader. Two earlier responses regarding peer feedback showed a similar connection with a reader as students realized that that their classmates “wanted more” (Penny, WR2; Lina, 1207). Certainly, this increased awareness of a reader may have come of other class activities, out-of-class work such as Writing Lab visits, or any or all of the above, not necessarily the portfolio upgrades, peer feedback, or any other clicker lesson. Still, the lesson that preceded these responses involved considering alternate views of the same piece of writing in a clicker lesson, and after they did, they seemed to have been enabled to describe a wide-range of possible
improvement moves, including improving sentence structure, adding emotion, and considering the narrative from a reader’s point of view.

Lina’s and Penny’s Contributions for Portfolio Lesson

After this Week 13 lesson using pairs from previous students, I assigned students to submit their own revision pair from their first portfolio revision. I told them I was going to use these in our final clicker lesson, and if they did not want me to use theirs, they could write that on the assignment. I chose 7 such pairs for the final clicker lesson of the semester. Tables 16 and 17 present examples of portfolio revision pairs, Lina from the H class and Penny from the G class. In both, the revision is the longer “B.”

Table 16: Lina’s Contribution for the Portfolio Lesson

<table>
<thead>
<tr>
<th>Which is the Revision?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.) I’ve been out of h.s. for 5 years now. I just never thought college was for me, so after graduating from h.s. in 2001, I never attempted trying to apply to any colleges.</td>
</tr>
<tr>
<td>B.) I’ve been out of h.s. for 5 years now. I just never thought college was for me. I hated school. I hated waking up in the morning just to make it to classes; I hated those long hours of studying for tests, quizzes (sic) and homework. So in June 2001 after graduating from h.s., I felt like a free person who can finally leave stressful studying and homework behind me.</td>
</tr>
</tbody>
</table>

--Lina (OA1127)
Table 17: Penny’s Contribution for the Portfolio Lesson

<table>
<thead>
<tr>
<th></th>
<th>Which is the Revision?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.) At the beginning of the dance competition, I received word that “Bev,” my dance instructor, said I was going to do a solo. I got really excited and we got started immediately. I’ve always wanted to do a lyrical solo.</td>
<td>B.) It was my junior year, and I was ready for a challenge. I wanted to compete against girls my own age. That’s when I decided to do a solo. I told “Bev,” my dance instructor, that I wanted to do a solo this year. Surprisingly, she said that I could do one. I got really excited, and we got started immediately.</td>
</tr>
</tbody>
</table>

--Penny (OA1127)

Lina’s improvement on the right does a fuller job explaining why she believed higher education was not for her when she graduated from high school; she recreated her state of mind and how it influenced her original decision to opt out of college. She filled in the sketchy earlier version, the text equivalent of what she did in class and the interview, moving from terse expressions of tacit knowledge to more extended explanations in response to the needs of an audience. It makes visible a growth spurt where she progressed from a sketchy story to an audience-aware revision where she layered in the detail and context a reader would need to more fully understand her story. In her response to the question about what she was going to do after the first portfolio upgrade lesson, she recognized this, saying she was going to give “more examples and detail to support what you are trying to say” (WR5). In Table 17, Penny shows similar improvements.

Penny’s example shows these improvements: she added her school grade, and like Lina, she added context (“I was ready for a challenge”). Also, in her revision, she was not just informed about this opportunity to do a solo as it appeared in the original; she
showed herself seeking it. She also included a comma where she joined independent clauses with a conjunction (“I got really excited, and we got started immediately”).

I presented Lina’s and Penny’s examples (with five other pairs) to their peers for the final clicker lesson of the semester on Wednesday of Week 14; midway between that day and the day the final portfolio essay was due, Friday of Week 15, I asked students to tell what changes they made in their portfolios as a result of this lesson. (See Appendix G). Since these choices were fairly obvious ones, G class students were correct 74 percent of the time, and the H class had a 72 percent (ER1128). For Lina’s and Penny’s examples, all classmates but one correctly identified the revision.

In response to my question about whether the peer clicker lesson influenced changes for students’ final portfolio revision, 3 of 20, Joe, Pedro, and Sherrice, said that they made no changes in their portfolio revision that had been inspired by the portfolio upgrade lessons. Sherrice wrote that she had already finished her revision (about a week before it was due), apparently valuing being done over risking having new input slow her down: “I did revision papers in high school, so I already know how to revise a paper!” (WR6) Joe and Pedro represented a more intractable problem, an inability to see in peers’ revisions possibilities for their own work. Joe could not see what these choices had to do with essay revision: “(A)ll we really had to do was just pick which one that we thought was revised, so it really didn’t help on telling us what to revise or rewrite” (WR5). Pedro also wanted more directiveness: The examples “didn’t really teach me anything or show me that I should change anything” (WR5). It takes that intellectual empathy, a stretch toward abstraction, to see in the work of others expanding possibilities for one’s own work. It also takes peers showing the way in class discussion, and unfortunately, I did not
have videotapes from these classes to see what sort of discussion transpired here. While
Joe’s and Pedro’s responses did not give evidence of that, those of others, including
Marie, Ginny and Terry, noted earlier, did.

Learning Styles and Attentiveness

Particularly with their responses on the portfolio upgrade clicker lessons, students’ writing showed utilization of auditory, visual, and even tactile learning styles. Jean gave a glimpse of her own inner dialogue as she said she read both choices and decided on the “one that sounded better to me” (WR5). Ginny and Bob also said that they made their decisions based upon what sounded better. More than the “sounds” comments, which may have been expression of learning that confirmed what a student thought he or she knew, the visually-related comments below showed students who had been brought out of themselves more to engage in a silent dialogue with something new. Brent, a visual artist, said that this lesson was a favorite of his because in it, “You could really read it and see the difference between a rough draft and a final copy. You could see the transition being made” (I211). Other such visually-oriented comments included:

- “You would have to read more carefully, because you can catch a lot of mistakes and things that don’t make sense” (Penny, WR5).

- “I made changes after we did the lesson on ‘Which is the revision’ so you could see sentence changes, detail changes, and how to elongate or shorten things. Before the lesson I had left most of them the same and did not realize the potential detail I left out” (Lyn, WR5).
• Showing a high level of attention to detail, Ashley referenced a slide in her answer: “I also wanted to work on combining my sentences in clearer ways. I included more detail like the number three B” (WR5). This was a reference to Penny’s improvement about her dance solo from Table 17.

Some students’ careful viewing of choices in clicker lessons seemed particularly noticeable in their responses to the portfolio upgrades, but it was also evident elsewhere among the students who made a stronger connection with the lessons. Todd, another visual artist, believed that clicker lessons were compatible with his learning style because he was “a hands on person. I learn better using my hands” (WR1). For him, the clicker was like a remote control: “It keeps my attention and helps me stay awake,” (WR1) an issue for him since in high school, he had a tendency to fall asleep in class (FWA). That was not the case in clicker lessons; his 89 percent correctness in the grammar lessons was higher than the other 10 cases (ER).

Todd’s point about his tactile connection to lessons through the clicker is similar to what James Poniewozik (2009) writes about his experience as a TV critic with an out-of-commission TV, where for a week, he accomplished his viewing on his laptop and iPhone:

> Here’s the important physical fact that separates online from off-line TV: you’re holding something. Watching old school TV, you flop on the couch and let the medium wash over you. New school, you hold the screen in your hand, balance a laptop or sit at a desk. There’s a small but constant effort, the tiniest bit of physical feedback…As you lean in, focusing physically and mentally on, say, an episode of *The Wire*, watching becomes something like reading (p. 58).

Poniewozik then comments that surely the English teachers reading that must be having aneurysms, but not necessarily, not this one. Perhaps the “old school” classroom
is like the “old school” TV where everything washes over the student or viewer, and in new school iterations, “the small but constant effort, the tiniest bit of physical feedback” makes an appreciable difference for tactile, kinesthetic students like Todd.

Another student who used language in her written responses pointing to a learning preference, visually-oriented Penny, sitting front and center, was one of the few students visible in the video tapes; she rarely moved her eyes off the screen, only shifting temporarily to whomever was speaking. She used visual language in her written responses and said this lesson style was “like a visual aid. For me to see the problem helps me understand it” (WR3).

Bruner introduced the idea that children’s learning advances from enactive (kinesthetic, tactile learning, the sort Todd references) to iconic (visual learning, which Penny cites) to symbolic (language learning) (1966, p. 11). Perhaps that holds for basic writers in clicker lessons too since those who expressed engagement with clicker lessons at the tactile and visual levels were most able to advance to the symbolic level that here, included that manifestation of intellectual empathy, the ability to see oneself—one’s issues, mistakes, and possibilities—in the work of others. Todd showed that sort of leap when he wrote, “classes like this help me out (because) most of my mistakes are the kind everyone has” (WR2). Like Terry, Marie, Ginny, and Ashley above, he projected himself into the work of others (peer feedback in this response), saw relevance in it for him, and used the thinking of others to inspire thinking of his own. This intellectual empathy was the most evolved use of these lessons for these students, and as a whole, made this form of clicker lessons probably the most successful of the ones studied here.
**Imposition: “Forced” or “Inclined” to Pay Attention**

For these students, attention during clicker lessons fell along a spectrum where some visually-oriented students were persuaded to pay closer attention as they studied the options on the screen; others expressed the discomfort of feeling forced to pay attention. Student answers to the metaphor prompt (WR1) revealed students who saw clicker lessons as something imposed upon them. Randy’s and Lyn’s responses that clicker lessons were like taking a test or being able to cheat on a quiz and Derek’s view that the lessons were at first like “hot sauce” in his mouth (WR1) showed students who feel they are not in control of their situation and may be frustrated about it.

Others used language that indicated that the lesson style of clickers held their attention in ways that seemed to fall along a spectrum running between the persuaded “inclined to pay attention” (Brent, I211) to the more coerced “forced to pay attention” (Ginny, I227). For Brent, the hook was that in a clicker lesson, it was “more you involved” (I211). Meanwhile, in her descriptive of the interactive lessons, Ginny used the word “force” four times in her interview, three of those times in an 82-word excerpt—as in “forced to participate,” although, as she acknowledged, at least they were not forced to talk. (Perhaps for those feeling the imposition of clicker lessons, being free not to talk was something of a haven, where several students in the passive G class took shelter.)

Returning to the point, Ginny said, “It kind of forces you to think about each of the things” (I227). Throughout the lesson, she was aware that in the rhythm of the lesson she could expect to be called upon electronically: “(Y)ou have a question right in the middle of the PowerPoint that you gotta answer, and you know it’s coming up, so...you
can think you know the material, but a lot of people just don’t pay attention” (I227).

Here, as she often did, she shows a sharp delineation between herself, thinking she knows the material, and classmates, who do not pay attention.

Similar expressions of “forced” to “inclined” attention included:

- “(I)t makes you listen more actually. You have to pay attention so you don’t miss answers” (Lyn, I205).
- “I understand more than what I did because we have to participate” (Penny, WR1).
- A clicker lesson “(k)eeps my attention (becuz (sic) you have to)” (Cassie, WR6).

Part of what captured student attention and perhaps depressed their urge to speak was the mystery of anonymity, mentioned earlier. The secrecy of the histograms not only gave students the cover of participation without speaking, it also may have made the silent voices of classmates so loud, suddenly, students had to “listen” to them in a way they might not have been inclined to had the voice been connected to a personality they might otherwise have discounted. At the same time, it was as if they were in an echo chamber where those silent “voices” may have, in the G class at least, boomed so loudly in their psyche, it may have contributed to their reluctance to raise their own real voice.

This certainly fits in with the worries Ginny expressed (I227) about the opinion of peers. Maybe for the G class, their imagined worry about peers perpetuated the silence they brought to the class.
Some students believed that the clickers provided a way to participate in class while others demonstrated the ability to listen electronically. Three students whose responses exemplified the silent “speaking” were Bob, Lina, and Kim. For the grammar lesson, Bob wrote, “I was basically saying the same thing” as the clicker lesson, “(j)ust never said it out loud” (WR4). After I asked Lina how clicker lessons were different from other lessons for her, she gave an uncharacteristically expansive answer:

I think I’m more involved because with the clicker you know, you don’t have to raise your hand and speak. With the clicker, it’s just have to press the button and pretty much that’s like speaking out, and that’s your answer. So I really enjoy the clicker. (Pause). Especially someone who’s kind of shy like me. (I207)

While clicker lessons’ allowing her to be involved at a covert level freed her from having to be involved at an overt level, she still involved herself at the overt level. She spoke in all three of the videotapes I had made of her class. Her reason for her appreciation of having that alternate channel—her shyness, did not manifest in silence but did make her verbal contributions brief and often in need of extensions and elaborations. For Lina and Kim, clicking constituted participation, as Lina said above and as Kim said in her final written response: “using clicker feedbacks gave me an opportunity to participate in answering questions since I am to (sic) shy to speak up and afraid if I’ll say something wrong,” that others would not be able to “understand what I’ve said” (WR6).

These responses from Bob, Lina and Kim, alongside my reading of two of Gee’s (2004) features of affinity spaces, multiple routes to participation and encouragement of expression of tacit knowledge (p. 86-7), showed a different manifestation of
“participation.” No matter how much teachers might want to liberate shy students from their shyness, for students as shy as Kim, that might not always be possible. For those who say they are shy but speak tentatively, like Lina, teachers must take those openings to question these students to help them generate more elaborative answers, to discover aloud what they know even as they share it with others. Despite her willingness to build her ideas brick by brick in the times she did speak, Lina still appreciated the times when the clicker spoke for her. When I asked her for the differences between clicker lessons and other lessons, she said, “(T)he main thing is that you’re more involved, like with the whole class” with “everybody’s opinions…goes straight through the clicker and you see it on the board” (I207). Here, too, she showed herself as someone who could “hear” others in clicker lessons as much as she used it for a way to “speak.”

Kim said that her quietness in Basic Writing was her usual way; she did not speak in school in her home country and could not imagine circumstances where she would talk in class (I206). Whether it is for reasons of non-native English speaking issues, cultural issues, extreme shyness, or other reasons, some students will not talk in class. As Ron wrote, clicker lessons “(a)llow everyone to participate in answering questions” (WR 6). His metaphor is illustrative:

A clicker for me is very much like a brick wall. Because the wall that is there allows me not to be seen when I give and answer. Because my biggest fear is giving the wrong answer. So when I have that clicker I can give my answer from my safe little hiding place that is my clicker. This has been a big help because it allows me to answer a question and I know no one else knows what my answer was. (WR1)
Ashley’s metaphor comparing clickers to inflatable water wings was also relevant to student tentativeness about verbal participation, but given her frequent participation, is a response that I would not have expected from her:

Since I cannot swim, the “floaties” help me stay involved with my friends that can swim. The “floaties” give me a sense of security…just as the clicker does. The clickers give me a sense of security because it is anonymous. The clickers also keeps me involved as the “floaties” do when I swim. (WR2)

As frequently as Ashley spoke, there were expanses when she was silent, watching the screen, listening to classmates or me, seeming to be receiving input at a rate even greater than what she put out in verbal contributions. Here, Ashley was like Lina, who insisted she was shy but spoke up frequently. From Ron and Kim, who did not speak, to Lina, who spoke in bits, to Ashley, who spoke often, at length, and collaboratively, students at all places on the continuum of verbal participation expressed appreciation of the silent avenue of participation in clicker lessons.

Students were not only able to “speak” through the clickers but also “listen.” Classmates’ responses on the histograms were like “a voice you hear but you don’t know who (is) talking” (Joe, WR1). Comprehending this voice or willingly entering into a “dialogue” with it was problematic for some. Besides being confused about the group feedback as Derek was, others may have rejected feedback that threatened a way of thinking and operating as a student that may have served them for many years. Similar to the small children from the Anderson and Lorch (1983) research on TV viewing who tuned out the spliced-out-of-sequence, part-Greek episode of Sesame Street, “many” college-age “learners ignore critical material when it does not make sense” or “ignore discrepancies in their knowledge” (Norman, 1980, p. 43).
Except for Derek, whose low correctness (34 percent) in the grammar lessons could be understood in light of his tendency to act randomly, no student received more negative feedback from grammar lessons than Lyn, who averaged 53 percent (ER) over seven lessons. Writing about the grammar lesson, she had said that she learned more on her own or from books or homework than in clicker lessons (WR4). The feedback informing her she was correct only about half the time may have discouraged her and perhaps, ironically, given her cause to ignore more than attend to feedback.

Meaning making, here comprehending and rendering useful input from clicker lessons “is something that happens not only in face-to-face conversations, but also in the minds of conversational partners” (Flower, 1994, p. 63). While not all students in this study were partners in an aural conversation, all responded with their clickers and paid differing degrees of attention to feedback that the subsequent histograms and discussions gave; some made more and others less of these subterranean conversations.

Flower continued on the multiple levels of meaning making:

(W)e cannot make the easy equation of conversation with knowledge construction until we can go beyond the mere appearance of ‘a lively discussion’ and can say what effect that conversation is having on the minds of live participants—how the representations, attitudes, associations they brought to the exchange are being restructured, expanded, challenged, reaffirmed or left untouched by this conversation as they interpret, ignore, fail to understand, or reject it. (p. 64)

All students here “spoke” via the clickers, and all “heard” via the histograms and discussion: whether they were correct or not, whether they were in the majority or minority, which part of a draft others believed was strong or needed more work. Some internalized this feedback and used it while others rejected it for a number of reasons: difficulty interpreting histograms, lack of spoken voices explaining votes, feedback that
did not mesh with their views, or unknown reasons. As in Lyn’s case, perhaps the affective interfered with the cognitive; paying attention to something that delivers the feedback that you are wrong may make it difficult to pay attention to something that tells you where the comma must go.

A final thought on the topic of listening electronically is this: some students gave indications that the presence of this electronic “voice” was a worrisome thing, a personification of the oppression of peers, almost an invisible Big Brother. Unlike the Orwellian doubts Abrahamson (2006, p. 5) wrote about regarding the early days of clickers in the classroom, in these students’ minds, it is not the teacher whose “Big Brother” face looms too large but that of the peers, and here, by the sometimes-lack of a voice to go with this huge, aggregate face, some students seemed to give this virtual expression of peer pressure a great deal of power over them.

While some student writing on the electronic voice seemed to be framed as a positive, that two of the students who gave this sort of response (Joe and Derek) expressed negative views of the clicker lessons in other written responses may show this presence was not welcome for all students. Besides Joe’s and Derek’s examples given above, such writing about the “voice” includes:

- Ethan wrote about peer feedback that “people would say stuff but I don’t know who said it” (WR2).
- “(Y)ou see that someone has gotten a higher score than you, but you don’t know who that person is” (Sherrice, WR1).

For good and for ill, the clicker lessons’ histograms gave students a heightened awareness that their classmates were thinking and processing in ways that may have
differed from their own. The histograms personified, to combine Ginny’s worries about classmates (I227) with a play on Vygotsky’s famous line, “a more judgmental peer.” This might have depressed students’ willingness to speak. Still, for some, like Terry, seeing how someone else voted provided encouragement: “I don’t want to say an answer out loud because I may be wrong, but I see that someone doesn’t (sic) know it too. I would feel better about asking the question” (WR1). He may have been an exception but not the only one; still, many were discouraged by this unseen but all too well “heard” mystery voice.

**Working Past Static: Lina and Derek**

Student participation can be surprisingly difficult to define: as self-proclaimed shy students Kim (WR6) and Lina (I207) proclaimed, they could participate without talking, and Lina’s record of spare but frequent verbal participation and Kim’s high level of correctness on the grammar lessons and painstaking revision demonstrate their claims. Meanwhile, Derek’s frequent talk rarely contributed to the intellectual life of the class. Where Lina spoke tersely and always on-topic, Derek often gobbled portions of class time with his issues, usually only tangentially academic. Different as Lina and Derek were, both required special attention in clicker lessons.

Even though she characterized herself as shy (I207), Lina spoke often, answering questions and giving feedback on Ethan’s and Derek’s drafts. When I asked her to compare clicker lessons to other lessons, she said, ‘I’m more involved because with the clicker, you don’t have to raise your hand and speak. With the clicker, it’s just have to press the button and pretty much that’s like speaking out, and that’s your answer” (I207).
Had I read Lina’s response without the benefit of the videotapes or experience of her in class, I would see that response as evidence of a student’s disincentive to speak. Next to the reality that Lina spoke more than many of her classmates and more in Basic Writing than she said that she did in high school (once every 1-2 weeks, S), it is not so disturbing. However, her response here represents an “I gave at the office” thread of thinking that clicking was participating; Bob, for example, defended his silence in the grammar lesson, “I was basically saying the same thing” as the answer by clicking. “Just never said it out loud” (WR4).

Lina spoke eight times, six times in the grammar and peer feedback class (VT2) and twice in the peer feedback class (VT5). Her verbal contributions were terse, often in staccato rhythms, where, for example, she would tell where in the sentence the comma belonged. Every time she interacted with me (her most common mode of talk), she answered my question or explained her answer. Some answers sounded more like questions. When I asked the class why previous teachers might have told them not to start a sentence with the word because, she said, “Because they’re not complete sentences?” (VT2). That answer moved us in the direction we needed to go, but she answered like a shy person, having thought it through sufficiently to put forth a try, pitch rising toward the end, she spoke/asked: Is this the answer?

Four of the eight times she spoke, she said only one or two words, and twice, when she gave an answer, I passed it to the rest of the class for them to respond to:

Lina: I picked C because I liked the detail of the crash scene.

MM: That was nice and clear…and the fear that he felt. Any other ideas? Anybody else? (Pause). So everybody pretty much agrees with Lina about paragraph C? (VT2)
I see three things in this moment. First, in looking at the Electronic Report (ER1030), I see that 8 of 13 students also picked C, the crash scene, as the part they saw as the strongest section, while the other 5 were scattered between A and B with no one choosing D. Since the majority agreed with Lina, and I could see that in the moment, I seemed to be hurrying her and not looking sufficiently for classmates to explain their reasoning for choosing C. This was a time where it might have been better had I not known the opinions of all those others; I might have tried harder to bring out more. I was sinking back into the old habits of answer-focused rather than reasoning-focused mediation.

Also, in retrospect, I came to realize that since the beginning of this class was a make-up peer feedback session for Ethan, I was somewhat in a hurry to move on to what I saw as the main lesson, the dependent clause grammar lesson. This, of course, was a disservice to Ethan, Lina, and the other students. The other part of Ethan’s feedback session (VT2) was more fully played out, but clearly, with Lina at this point, I was hurried.

Second, it is neither wise nor productive to ask other students to agree or disagree with a classmate’s answer. That might work in law school or someplace where students have tougher hides, but not with developmental students or even most first year students. It puts them in a no-win position. Even if they agree with a classmate, as most of these students did, as shown by the Electronic record, they may prefer to let her take the heat of the spotlight alone. If they disagree, they may not want to risk even the perception of having criticized a classmate. A better way to proceed might be to examine an idea as an
idea, removing the heat from the person offering the idea, asking students to look more closely at how the detail of the crash scene works.

Third, I am stepping on the student’s lines here, saying the sort of thing I ideally should get Lina or another student to say. I wish I had drawn Lina out more; what detail in the crash scene? Why was it good? Similarly, in another class, when Lina suggested that Derek’s draft needed more “flow,” I asked her how Derek might improve the paper’s flow (VT5). “Well, it just seems like everything’s scattered,” she said. “It just needs to flow.” Here, I wish I had pressed the question of what Derek might do to make the paper a flowing whole rather than an assortment of parts. That would have helped Derek in his drafting, Lina in her critical judgment, and others to a lesser degree in both regards. Trudging at least a step further into the deeper drifts is something I ought to have done in these two examples.

Lina’s tentative, short answer responses evoke Gee’s (2004) encouragement of and honor for a “tacit learning” affinity space principle, how students should have an avenue and support for expressing knowledge that is difficult for them to explicate (p. 86). Schools “usually do a poor job in giving students help and practice with learning how to articulate such tacit knowledge” (p. 89). I tried to get Lina to practice such articulation when I asked her what she meant by better “flow.” While I should have encouraged elaboration in other moments (like when she expressed admiration for detail in Ethan’s crash scene), it is clear that such lessons provide opportunity for this sort of practice with students like Lina, should teachers handle these moments more deliberately.

Basic writers needing help in elaboration are Gee’s (Lundell & Collins, 1999) “authentic beginners,” those who come to “learning sites of any sort without the sorts of
early preparation…that more advantaged learners at those sites have” (p. 1). They need help explaining their answers, even discovering their answers as they talk; it is a dangerous endeavor, “going in there,” as Ginny put it (I227) with all classmates watching, listening…and perhaps judging, at least in the students’ eyes, if not in reality.

While less academically motivated than Lina (who, six years out of high school, had the focus and drive of a non-traditional age student) and often infuriating for his carefree/careless manner, Derek is another student who needed special care in clicker lessons. Derek appeared to have no self-editing feature; what ran through his mind generally ran out of his mouth. While teachers want students to talk, they do not want them to monopolize class time with negotiating for expired points (VT2) or randomly calling out orders for push-ups: “Drop down and give me fif-teeen!” (VT2) Derek was such a distraction that it often seemed that he had divided the H class into three groups: a few in his inner circle; a few who looked at him with mild disdain (including Lina); and the majority, who avoided bonding with him and antagonizing him.

Derek was overly dependent on others, pushed and pulled over life’s finish lines, and I was never convinced he had ever been a full partner in his own learning as he had charmed and cajoled enablers to his side for years. His high school English teacher, who called him at home to make sure he did his homework, joined with his best friend “Logan,” to stay “on my butt” to ensure that he would pass high school (FWA). These dependencies continued into college where he boasted about his plans to have his roommate, who was in calculus, help him with his Basic Math take-home test (VT2).

Derek’s difficulty co-constructing knowledge was evident the day we workshopped his draft in the clicker peer workshop. As we had almost finished giving
him feedback, it seemed to strike him that we were not just asking friendly questions about his friendship with “Logan,” the topic of his draft; he was going to have to use these questions to craft a new draft. When I asked the class for final suggestions, he said, “Don’t nobody say nothing. Now what am I supposed to do with this?” (VT5) There were a few more comments (including Lina’s request for “more flow”), and I alerted him that he was getting hard copies with comments written on them from classmates that might help him know what to do, but he seemed overwhelmed. “This is too much work,” he said. Maybe taken in this form, the task ahead seemed more overt and more overwhelming than the conversational small group sessions where advice may have been more easily digested or ignored. In the clicker feedback lesson, he may have seen more clearly than he had in small groups how feedback cycles back into more work; thus, he was smacked with the unexpected recognition of responsibility and resulting confusion and alarm.

In retrospect, I see that I should have better translated the feedback Derek received into tasks. In the lesson, I was at first thrown by the splayed results where students chose five of seven different sections as the “strongest”: “When it’s all over the place, it’s kind of confusing to me,” I said. “You’re going to explain this a little bit, folks” (VT5). However, except for the peer tutor’s mentioning how he liked the second paragraph where the two friends met, the discussion about that first meeting veered into areas where the draft needed improvement, namely, what caused Logan, who told Derek on that first meeting that he disliked him, to change his mind. This part of the class seemed more conversational, and Derek appeared comfortable with that, responding to questions about his experience rather than his draft. Perhaps I might have asked the
students presenting their papers for feedback to take notes, a make a “to do” list based on feedback they received during these sessions, but that might be counter-productive to the relaxed discourse about discourse attitude I wanted to achieve.

Decoding Interaction: Initiators, Reactors, and Independent Contractors

Student interaction patterns in the two classes differed greatly: in the H class, students’ verbal contributions stood in isolation while in the G class, one student statement usually gave rise to another. G class participation might be characterized as initiators and reactors where groups of 2-3 students spoke on one issue at length while in the H class, students operated more as independent contractors and the exchanges were much shorter and mostly with me. (I define exchange as a cluster of discussion on one topic and speech as one time a student says something, whether it is one or 30 words.)

Comparing the dependent clause lesson in the two classes, there were four major sequences of discussion in the G class with three of them running 13-38 “speeches” with an average of 20 back-and-forth volleys between students and myself. Meanwhile, in the H class, in four exchanges, there were 3-7 “speeches” with an average of 5 speeches per exchange. Clearly, the G class students’ discussion was much more robust—questioning, bringing up examples and possibilities—while the H class discussion was more lateral—question-answer-reason, question-answer-reason. In the G class, Sherrice responded to Ashley and vice versa with Dan sometimes joining in or another student occasionally reacting. In the H class, student comments were usually not followed up by classmates. Examples of such “independent contractor” discourse from the H class include:

- Lina said that she liked the crash scene in Ethan’s paper for its detail (VT2).
• Cassie was unclear about where Ethan and his friends were when they went to get drinks after playing basketball. After Ethan explained, there was no follow-up or similar comment from a classmate (VT2).

• Ethan asked me an off-topic question about when drafts would be checked (VT5).

• On another day, Derek broached the same issue; he had missed the day when drafts were checked for points and argued to have them counted (VT2).

While a slightly greater number of H class students spoke (compared to the G class), they did not piggyback onto another’s statements like G class students Ashley, Sherrice, and Dan did. Most G class speech led to a related reaction by someone else in the classroom, usually a classmate but sometimes a peer tutor. Examples of this more extended social ping pong from the G class include:

• In succession, Sherrice and Ashley said they liked Dan’s use of figurative language, Sherrice noticing a metaphor and Ashley, a simile. (VT4).

• In separate parts of the same grammar lesson, Dan and Sherrice asked questions, which Ashley answered, and both times she was correct (VT1). More important, she advanced the discussion among students rather than allowing the discussion to fall into the familiar student-teacher-student-teacher pattern, demonstrating that students can co-construct knowledge.

• Ginny was clearly irritated with my not seeing what she saw in Dan’s draft and reacted to that by bringing it to our attention (VT4).

Despite the silence of most in this class, among those who did speak, a democratic dynamic was evident—Ashley’s suggestion for more description of the scenery in Dan’s essay was followed by (and maybe led to) a similar one by the peer tutor’s asking for
description of the cabin (VT4), Ashley and Sherrice asked me grammar questions but just as often answered one another before I did (VT1 and VT3), and Ginny was willing to stop me in my interrogation of Dan (VT4). In these ways, students demonstrated what basic writers’ co-construction of knowledge should look and sound like. However, it must be said that this dynamic had been established and maintained by Ashley and Sherrice. Had one or both not been in this class, another pattern, perhaps like that of H class, would have emerged. Ironically, more students might have spoken, but the quality of interaction might not have been so complex and rich.

In the H class, participation came from a greater number of students but in isolated, “independent contractor” comments. Derek spoke impulsively, often off topic, generally on issues related only to him. Lina spoke in deliberate, earnest and terse answers but had to be drawn out to explain her answers, and at least in these tapes, did not ask questions (VT2 and VT5). Brent asked a few idiosyncratic questions, including one in reaction to a sentence on the slide that said, “New York is known as the city that never sleeps.” Since there was a New York, he wanted to know, was there also an old York? (FN111007). These were answers that only Brent cared about, so there was no follow-up from a classmate and only a quick answer from me, trying to show that it was okay to ask offbeat but sincere questions. H class questions and comments probably mimicked their high school “participation” where they dialogued with the teacher in front of classmates rather than engaged in multi-person discussions.

Maybe one reason students spoke more in the H class than the G class was that this style of teacher-student discourse was more familiar to them. G class students may have been discouraged by the active discourse Ashley and Sherrice established, not
drawn in but cautious and avoiding. Perhaps developmental students feel safer with a style of discourse where exchanges are mostly with the teacher and not ones where classmates question and answer one another in the robust way that Ashley and Sherrice did.

In my frustration at the G class’ silence, it was easy to recognize the negative side of the social pressure that kept students self-contained in their mini-cliques, rather than dare to, as Ginny described in those braced words, “go in there” (1227). However, though limited, the participation in the G class had a more dynamic nature than that of the H class. Still, I wonder if the dynamic nature of the discussion generated by Ashley and Sherrice intimidated and unconsciously blocked other students and how a teacher might ease the way for more students to participate as they had.

Since the pattern of discussion in the H class was more the familiar teacher-single student exchanges, students may have felt more comfortable speaking. Twice my questions on the written response sheets asked if anyone in class had influenced them or changed their thinking, and H class students referenced each other often, easily, and by name. After the grammar lesson, Derek, Cassie, Kim, and Terry mentioned classmates who they said had helped them understand. Meanwhile, in the G class, even though Ashley and Sherrice were the dominant verbal participants and contributed many ideas and questions, their classmates never mentioned them (nor others) in written responses or interviews. There were not even indirect comments, such as, “How could I talk, with those two taking over the discussion?” The closest any G student came to referencing another as influential was when Ashley mentioned the PowerPoint slide with Penny’s “Before” and “After” examples in the portfolio upgrades clicker lesson: “I included more
detail like the number three B” (WR5). Even there, she named the slide number but not Penny, all the more odd since classmates’ names were given as authors on the slides, and this was a small class where she surely knew Penny. This could simply be an example of the distancing effect of this medium. For good and for ill, students may have seen the answers and peer-created slides as disembodied, all the more so when silent classmates did not often claim their own answers or ideas. Second, this lack of mutual influence shows another layer of non-involvement by most G class students. Perhaps this is a result of the lopsided participation dynamics or simply their Groucho Marx-like disdain for any club that would have them as a member.

Part Three: Learning from the Overlap in the Three Data Sets

As I moved between three spheres of data (past participation, personal technologies, and clicker lessons), I realized that past class experience was more pertinent to individual student participation in clicker lessons than their involvement with personal technologies. All the students in this study were intensely involved with personal technologies, so it was not as if the more tech-involved a student was, the more he or she responded to a technologically-based lesson style. That itself shows how fully personal technologies have been woven in the fabric of these students’ lives.

The data did not reveal any “type” of personal technology user that experienced clicker lessons more or less profitably; for example, frequent video game users were not more or less likely to interact profitably with clicker lessons than avid users of social networking. However, aggregate findings about these students’ opinions and practices with personal technologies are relevant to the aggregate findings about the ways students
experienced clicker lessons, and I will discuss those before exploring how these students’ past class experiences shed light on their clicker lesson experience.

Aggregate Links between Personal Technologies and Clicker Lessons

I included the personal technologies piece with this study because I thought that for some students, clickers might harness the learning principles of video games that Gee writes about (2003b, 2004, 2005, 2007a, 2007b). I thought I might find avid video gamers who engaged more in clicker lessons than in other lessons, but student unwillingness to expose an extra-curricular interest of questionable repute (or recognition that there was less time for diversions in the increasingly demanding schedule of a first year college student) brought me to my first dead end. In fact, opposing my original hypothesis, three students who admitted frustration with video games (Ashley, Lina, and Kim) emerged among the most engaged with the clicker lessons.

Students who showed compatibility with clicker lessons had similar personal technology profiles as those who expressed apathy or dislike for clicker lessons: they all liked cell phones, and most rated video games and email as least used and liked. However, aggregate findings from the written responses about personal technologies inform findings from response to the clicker classes, creating four areas of aggregate discovery:

- What is easy or difficult is usually more a social issue than a cognitive one, but where something may be difficult on a learning level, students were reluctant to reveal that or may not be sufficiently aware of the difficulty to identify it.
Students have three communications preferences that relate to their behavior in the clicker lessons: they prefer multiple low-risk interactions to fewer high-risk ones, they prefer communicating in “hubs” to “channels,” and they are more comfortable with lateral communications than with vertical ones.

- The terseness of text messaging is reflective of students’ starting points (as verbal participants in class and as writers) from which teachers must move them forward; students’ tacit knowledge needs avenues for expression and continued, patient questioning by their teachers.

- Students’ wishes to multi-task are counter-productive to learning and particularly inconsistent with learning something as recursive as writing.

Easy or Difficult?

One of the themes from the personal technology survey was “Easy versus Difficult” as students extolled the ease of texting and talking on cell phones and bemoaned the difficulties of email and video games. While the students did not describe clicker lessons as being difficult, Ginny with her braced “go in there” phrasing to describe the pressure of a new set of peers “judging” (I227) may have represented the view of the G class, that awkward silence or lopsided participation by a few was more tolerable than stepping out of line to speak.

While some students may be provoked to defend answers they have committed to via a clicked answer, similar to students protesting a test answer after processing had led them to another choice (Bruff quoting Hill, 2009, p. 200), this data shows that G class students either had not committed so fully to their answers that they were moved to speak
or were so humbled by the specter of opinions that they had decided to play it safe and remain quiet. This response may be a variation on the “spiral of silence” (Noelle-Neuman, 1974) where individuals, sensing they are in the minority, are reluctant to speak. Here, such sensing is not intuition or an inhibited reaction to a vocal individual (as in “spiral” theory) but a reaction to visual proof of other opinions on the histogram. Speaking in class was obviously difficult for G class students perhaps in part due to their reaction to those others perceived as “more judgmental peers” sitting all around them.

Another issue in the Easy-Difficult continuum was students’ willingness to answer questions thoughtfully; I did not want them to take this to the extent of the worrying implied by Randy’s view that these lessons were like a test (WR1), but neither did I want them to take their processing too lightly. Only Derek’s “easy points” view of clicker lessons (WR1) and 34 percent on the grammar lessons confirmed my pre-study worries that some students would not carefully consider options before clicking a response.

When we wrapped up giving feedback on his draft, recognizing the outside class time responding to such feedback in a latter draft implied, he reversed himself, going from taking things too lightly to seeming overwhelmed: “This is too much work” (VT5). Ironically, where things in the classroom are difficult for students, whether socially or cognitively, they do not use words like “hard” or “difficult,” so “too much work” was about as far as any of them went in this vein, pushing the blame indirectly on the one asking for that work—the instructor. (Even when they wrote about the personal technologies, the “easy” comments outweighed the “difficult” ones by a margin of 21 to 12. Students were not apt to express feelings that something was difficult for them.)
Randy was one of the few students to admit difficulty: “Metaphor is hard for me in the first place. Doing it with a clicker is very hard” (WR1). Had my solicitation of metaphors to go with clickers not been part of a study, I would have asked for students to share ideas for metaphors for clickers aloud before having them write, but wanting to avoid contamination of the results, they wrote with no such lead-up. That may have been the nexus of difficulty for Randy, that he felt isolated by the clickers and isolated by the writing about clickers for my research. Too, he’d shown wariness about metacognition from the beginning. Writing about his previous class, he said, “…sitting here writing about my writing class seems kind (of) silly. What’s the point of writing about writing?” (FWA) Students better able to reflect upon their experience mid-clicker lessons, to think about thinking and write about writing, to interact with themselves amid the question-answer-view results-discuss-conclude rhythm are better equipped to make the most of these lessons.

Even though no students used language like “hard” or “difficult” to describe the peer feedback sessions using clickers (except for Penny’s “too much of a hassle,” WR3), this style of feedback appeared to be both socially inhibiting and more cognitively demanding than the traditional small group style of feedback, which may be why three-quarters of the students preferred the traditional small groups. Students said they felt less negative pressure to be silent and more positive pressure to speak out in these groups; the clicker sessions were focused on drafts more than on stories, and involved decisions, if not judging by all students, whether speaking or not. The caution students may have felt regarding their classmates was likely heightened in these sessions, and for Derek, brought feelings of being overawed at the specter of work implied by the discussion.
Clicker peer feedback was more work for students and for me. Students provided one another with a resource that required specificity—the writer’s draft in hard copy form, one for each classmate. Further, the clicker lesson format presented them with decisions to make: which part of a draft was strongest and which part most needed more work, but that upped the ante on the critical thinking, and to use Ginny’s word, the “judging” (I227) required of them, something that they were loathe to do. For me, instead of listening to students give feedback on a draft and waiting to give my own at the end, the clicker lesson format put me in the role of a mediator and extender when they spoke and a prodder and interpreter when they did not. Instead of holding my comments for the end, my contributions were interspersed and even directing (too much so with Dan’s draft), helping students explicate their choices, interpret histograms, and connect ideas.

While there was more opportunity for critical thinking in clicker peer feedback, no doubt something had been lost in these lessons. In small groups, students sometimes took charge of the discussion about a draft, which Lina characterized as “…when kids and opinion flys (sic) around” (WR3). Here too findings from the personal technology survey are relevant to findings from the clicker lesson data: in their communications preferences, students preferred short, low-risk, multiple exchanges via text messages or posts to social networking sites to the often longer compositions of emails that, because of the fewer exchanges and the audience (like professor, mentioned by Randy (S)), may be viewed as higher risk and lower reward. Whether in a group with a tutor, me, or “independent” of both, for most students, talking in small groups was easier, a more familiar way of relating and communicating. For all these reasons, peer feedback clicker sessions were harder—for students, for me. Even though no one said so, clicker peer
feedback sessions, were socially and cognitively difficult. That does not mean there is not a place for them in the Basic Writing classroom, just that the characteristics of this sort of lesson (and its difficulty for some students) need to be understood and addressed.

Communications Preferences

In the personal technology survey and the clicker data, students made it clear that maintaining an easy and constant flow of communications between them and friends was of paramount importance. They also expressed communications preferences and practices that shed light on their experiences in and opinions about the clicker lessons. They preferred multiple low-risk interactions to fewer high-risk ones, which was discussed in the previous section, “hubs” to “channels,” and lateral communications (simple question-answer rhythms) to vertical ones (where one is asked to explain answers).

First, students prefer multiple low-risk interactions to fewer high-risk ones. They liked texting because it allowed them to compose a “short, choppy message” (Darnell, S) rather than with email, where Derek said, “I hate typing on the computer and it always takes so long” (S). That their audience with texting is a low-risk one of friends and emailing is often the higher-risk one of professors (Randy, S) is another reason students gravitate to one form of communications over the other.

Second, these students preferred “hubs” to “channels,” hubs being virtual hangouts of multiple people, those group texts or social networking sites, and channels being narrow, uncertain portals such as email between two people. A description of the hub dynamic at work in social networking comes from a 56-year old mother who spoke
of three generations of her family’s interactions on Facebook as being like "our living room…Everybody can tell what everybody else is doing" (Sutter, 2009). Lina’s comment about Myspace was similar: She liked to be able to see “how everyone(’s) life is going!” (S) In other examples of students gathering in tech-hubs, participants in this study appreciated being able to text multiple people, to check in on a mass of friends through social networking, and to be a part of a mass, interconnected communications system. Penny said that texting “is pretty much the in thing to do right now,” and Todd admitted that he did not like to text that much, but since all his friends did, he had gotten “used to it,” (S) adapting to the technology to be part of this social world.

Conversely, these students disliked the loneliness and uncertainty of channels like email, the perceived unreliability and clunkiness of it, and how it seems to be more of a student-to-adult mode of communications. Email was a narrow, dark channel for them, one-to-one, sent by one full of doubts about where this interaction might lead.

Students’ views of clickers either cast the interactive technology as hubs, where they could see what everyone else was thinking (and either appreciated it or were slightly intimidated by it), or channels, where they tentatively sent out answers to an uncertain fate, fixing on where the answers put them, right or wrong, majority or minority.

Speaking for the “hub” viewpoint, some students remarked upon the opportunity to “see” what everyone was thinking via the histograms; the messages were more easily interpreted by some than others, and for a few, the group “voice” may have contributed to (but likely not caused on its own) a disincentive to speak. Students’ comments speaking to the hub dynamic include:
In peer feedback sessions, Lyn said that “you can see how many people agree with your answer and how many disagree” (WR3).

“…I got opinions from my peers so that I could improve my story. I got the ‘vibe’ that they wanted more than what I have putten down on a piece of paper. They wanted the (whole) story” (Penny, WR3).

Lina described the clicker lessons as ones where “everybody’s opinions…goes straight through the clicker and you see it on the board” (I207).

Representing an example of a channel-view—Randy, who had written about his dislike of email, felt literally tested by clicker lessons rather than challenged. In the last three grammar clicker lessons in which he’d participated, he did well on the first two (100 and 75 percent) and tanked in the third, getting zero out of 5 when his classmates averaged 63 percent (ER). He’d shown wariness about metacognition from the first week assignment when he chuckled on paper at the absurdity of “writing about writing class” (FWA). Randy did not seem comfortable using the pauses in clicker lessons to process, to dialogue with himself, or to use the feedback to reconfigure his own ideas in light of exposure to the verbal and electronic input from classmates.

Students writing and speaking in “channel” terms to describe the clicker lessons did not integrate well with the technology as those using “hub” imagery did, seeming more comfortable re-imagining thought amid the visible thinking of peers, engaging in the kind of internalizing that enabled students to have a more successful experience with clicker lessons.
Finally, these students prefer lateral communications to vertical ones, that is, those that proceed in quick question-answer, question-answer rhythms rather than those that ask them to go into depth exploring and explaining a single answer. Some students are somewhat stymied at being asked to show or extend thinking through discussion, spending what they might think as a “wasteful” amount of time continuing along one line of questioning-thinking. For example, when we worked with Derek on his draft about his friend “Logan,” and as I tried to get him to better explain parts of his draft, he deflected:

MM:  Why did you almost beat him up? ‘Cause you were hurt? He hurt your feelings?

Derek:  I just wrote that.

Here, Derek attempted to dissociate himself from what he had written, clearly not wanting to explain why he almost beat up this new kid. When he did not respond, I brought up another disconnection in his draft:

MM:  That’s another thing between paragraphs B and C. I was kind of curious. Logan doesn’t want to give you the time of day when you first met, and then in paragraph C, you start to be good friends. Why was that? How did that change? Why did that change?

DEREK:  I don’t know. (VT5)

At this point, Derek and Cassie shared a joke (unintelligible to me and recognized as a joke only by these two’s subsequent laughter), and Derek escaped having to explore the kind of examination of his first meeting with his friend that would have given perspective on the beginning of the friendship. In what he did write, his almost beating up this new kid he just met, he did not want to explain or examine conversationally, let alone in writing. This is an example of one student’s discomfort with the vertical thinking of exploring multiple levels on one issue. Answering questions and finding out if one is
wrong or right, majority or minority is one thing; examining one question for thinking that goes beyond answers to a cascade of questions and answers was several steps too far for Derek.

Texting, Terseness, and Expression of Tacit Knowledge

While I came into this study expecting to find overlap between video games and students’ experiences with clicker lessons, ultimately I saw more connections between students’ experiences with text messaging to clicker lessons. Like texting, clicker lessons offer multiple, low-risk interactions, giving opportunities for a sort of participation that for some students seemed to preclude or excuse the need to speak. Like texting, clicker lessons facilitate a kind of bloodless but not soulless connection with others. Writing about texting, students extolled it as a way of talking when they did not feel like talking; writing about clicking responses in clicker lessons, some students gave a sort of “I gave at the office” reply to justify their not speaking. Table 18 illustrates the similarity of what students said about texting to what they said about clicker lessons.

Table 18. Students’ Similar Comments about Texting and Clicker Lessons

<table>
<thead>
<tr>
<th>Comments on Texting (S)</th>
<th>Comments on Clicker Lessons</th>
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<tbody>
<tr>
<td>• You can “communicate… without having to actually talk to someone on the telephone. I am not one to talk all day… so I rather type a quick choppy message” (Darnell, S)</td>
<td>• “With the clicker, it’s just have to press the button and pretty much that’s like speaking out, and that’s your answer” (Lina, I207).</td>
</tr>
<tr>
<td>• “I like to text on a cell phone because I really don’t like talking on the phone” (Penny, S).</td>
<td>• “I was basically saying the same thing” as the revealed answers in the grammar lesson. “Just never said it out loud” (Bob, WR4).</td>
</tr>
<tr>
<td>• “…it is quick and easy. Plus you don’t have to talk on the phone for 2 hours just to talk about nothing” (Ethan, S).</td>
<td></td>
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</tbody>
</table>
This similarity of what students said about texting and clicker lessons shows that students may be drawn in by seeming low investment of clicking answers to questions, but they may not be so willing to explain those decisions. However, as much as possible, the teacher must use that as an opening to guide individuals to explain and extend their thinking, moving them beyond their text-speak ways. Basic writing students need practice with elaboration, explanation, and extrapolation in the classroom so that they may begin to adopt those internalized ways of thinking in their writing.

Multi-tasking, Focusing, and Learning Writing

One of the themes emerging from the personal technology survey is an almost pained awareness among these students that time can be easily squandered. They listed the ways texting helped them save time and wrote that they disliked video games because they wasted time (S). Two students, one who chose social networking as a “most liked or used” (Lina) and another who chose it as a “least liked or used” (Gary) gave essentially the same reason for their opposite ratings, that the social networking world enraptured and ensnared them. They preferred activities they could juggle above activities that commanded a complete share of attention.

To Brent and Ginny, listening to a lecture and taking notes seemed a less active and “involving” experience than lessons with clickers. This is how that may not encourage the recursive thinking that college writers should find a helpful habit.

While they seemed somewhat aware of the transactional value of spending time in their responses to the Personal Technology Survey, in their comments about clickers,
they seemed less so. They were quick to call something “a waste” perhaps simply because it demanded more concentration than they were comfortable giving for an end that they could not see or predict.

Sherrice’s insistence that she did “revision papers in high school, so” she already knew “how to revise a paper!” is an example of these students’ cut-to-the-chase approach to learning. However, learning writing is a multi-step, convoluted, recursive process that is anything but efficient and that requires development of the habit of dialoguing with oneself. Sherrice’s portfolio revision work evidenced in her final revision (PR1207) was much more multi-leveled than this written response might indicate. Either she had a fairly sophisticated background doing “revision papers” in high school, or she had better internalized strategies for revision throughout Basic Writing than she had given herself credit for. Here she was similar to Kim, who in her written response about grammar said that she would prefer to avoid the “unnecessary” sentence structures like appositives that must be enclosed with commas (WR4), but her portfolio revision showed she had revised some simpler sentences to include such more complex structures (PR1207). In these two instances, students gave answers that reflected that wish to not waste time, but with their portfolio revision, they showed they were willing and able to invest time, to concentrate and see an improved final product as a result. Certainly, to be successful writers, students must act like Sherrice and Kim acted and not like they wrote.

**Social Construction of Knowledge: Inexperience and Reluctance**

In a one-to-one manner, these students’ high school experiences with literacy learning were more relevant to their experiences with clicker lessons than anything they
said about their involvement with personal technologies. In most instances, students brought limited experience with social construction of knowledge from high school, so student reactions to my attempts to instigate it in clicker lessons were decidedly mixed.

Early in the semester, a moment in a non-clicker lesson alerted me to a realization that many of these students had an ingrained reluctance to co-construct knowledge in the ways I’d hoped they might in clicker lessons. Groups of students reviewed each other’s sentences on comma use with conjunctions to choose examples to put on the board. Telling them they could correct sentences before handing the assignments in, I said, “Help each other out.”

However, as I mingled, I saw students sharing sentences but no helping or fixing. To make helping more attractive, I raised the stakes: “I will write down the names of students in each group, and if any group has all correct sentences, I will give the students in that group 5 bonus points.” I did not expect all groups to qualify for bonus points, but I expected at least one group from each class to do so. Instead, not one of the ten groups qualified. Each group had 1-2 individuals with all correct sentences (and it would be assumed the ability to help those having trouble) and 2-3 students with some incorrect sentences. Returning the graded assignment, I expressed surprise about these results to the Y class, and a student said, “We had Frank in our group.” (FN93007). Luckily, Frank was not there to hear this, but immediately, I understood. Frank was known as the least competent student in the class. Having to help or explain to him seemed too difficult to even attempt, so why bother? I realized then that the social sort of knowledge construction I pictured might not be as plentiful as I’d hoped in clicker lessons.
I first viewed “constructing knowledge” as something that went on in the open through discussion; I would easily spot examples in the data. Instead, “out in the open” knowledge construction by even the most open and elaborative students, Ashley and Sherrice, was relatively shallow. Except for these two, students usually interacted with me, the authority, directing questions and answers to me. Discussion dealt with issues of correct-incorrect, connections to previous lessons, and praise for drafts and questions seeking clarifying detail from writers. While students frequently asked classmates to explain what they found unclear in a draft, they did not ask one another about writing choices, such as why they used a particular kind of introduction, nor did they ask questions like the one I asked Dan about whether his use of metaphor was a conscious choice (VT4). Questions about someone’s writing process were unspoken possibly because of the perceived social risk of asking them but more likely, such questions were unformed by students unused to consciously thinking about the decision process behind their own writing and thus unlikely to question it in others.

*Four Ways of Negotiating Clicker Lessons*

Far more than anything they said about personal technologies, students’ writing on past participation in a previous similar class helped me differentiate among the 11 cases four types of students as they engaged (or did not) with clicker lessons:

- Those whose past English class experience was consistent with clicker lesson involvement
- Those whose past class experience had been more comfortable than clicker lessons and who expressed some resistance to and difficulty with clicker lessons
Those whose past English class experience had been alienating and who enjoyed and did well with clicker lessons

Those who turned on the high school student they had been and used clicker lessons to reinvent themselves as college students

There were significant parallels between Ginny’s, Sherrice’s and Penny’s previous English class experience and their Basic Writing experience with clicker lessons. For Lyn, Randy, and Derek, these lessons marked a difficult departure from the kind of English classes and teachers they were used to, so clicker classes made an environment that to some degree, was uncomfortable for them. Todd, Brent, and Kim found clicker lessons to be more involving than what they endured in their previous classes, and Lina and Ashley used clicker lessons as part of their reinterpretation of themselves as high school students and reinvention of themselves as college students.

High School Parallels: Ginny, Sherrice, and Penny

Ginny’s, Sherrice’s, and Penny’s experiences with clicker lessons bore striking similarities to the high school experiences they described in their first week assignment. In clicker lessons, they either relied upon high school strategies or relived similar situations with different twists.

In high school, Sherrice and a few classmates separated from the troublemakers who gave the student teacher a hard time, working ahead on the syllabus; in Basic Writing, Sherrice teamed with Ashley, and as a pair, they answered, questioned, and sought to connect disparate lessons and ideas more than any other students in either class. Still, as her eye-on-the-syllabus comment foreshadowed (FWA), Sherrice finished her

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portfolio revision while a week of potentially helpful class input remained (WR6). She said that she made her decisions in the “Before” or “After” clicker lessons by judging her classmates—“I just looked at the clicker revision lesson just to see if they did their paper right”—rather than using them as a learning opportunity where she might envision possibilities for her writing in the work of others (WR5). For someone who questioned and answered so forthrightly throughout the class, this was a disappointing end, showing Sherrice as someone whose past experiences may have overlaid so heavily onto her present, little new could shine through.

Still, Sherrice’s second portfolio essay that came in a week after that written response showed a product that was much more sophisticated than her answer might have indicated. Her final draft showed revising on multiple levels, where she:

- Eliminated her previous, more personal introductory paragraph and replaced it with a slower starting, more distanced and literary introduction (on the topic of oft-told cute stories of funny things a now-grown child once did)
- Fleshed out the conclusion, adding an explanation of the current family relationship as it evolved from the earlier part of the essay
- Added bookend questions as the essay’s first and last sentences in an attempt to connect with a reader
- Added sentence structures from class, such as semicolons (PR1207).

In light of this multi-layered revision, either Sherrice’s high school revision lessons were thorough and multi-dimensional (unlikely, given the way she portrayed her class as a mutinous one where Sherrice and others worked independently of a teacher), or she got more out of Basic Writing (clicker lessons, non-clicker lessons, Writing Lab
appointments, etc.) than this written response indicated. For example, of all the content additions she made in the revision, only the improved conclusion was in response to my margin questions from the earlier draft; the other changes show independent decision-making that ended in a much improved product. Even so, the outgoing, product-focused, independent yet partnership-oriented Sherrice of high school remained very much evident in her Basic Writing clicker lesson incarnation.

Of all 39 students in this study, Ginny was the only one to write about student-to-student feedback on content issues in middle-stage drafting in her high school English class (FWA), and in the class where we workedshopped Dan’s draft, she spotted and called out a detail that I had missed (VT4), something that would not seem notable except that no other student did so in any of the other data. The high school experience with student-to-student feedback she cited may have served her here and inspired her in at least that one class to speak up when no one else saw what she saw. Her insights into students’ social apprehensions that limited their verbal participation show that while she was well-grounded in high school practices, she chose to keep one foot there, somewhat uncertain about this new place, or the “judgment” of new peers who could affect her experience.

The similarity between the Penny of high school who said she spoke in class every week (S) and the student who sat front and center in Basic Writing but rarely said a word is less clear than it is with Ginny and Sherrice. Still, writing about high school tutoring and clicker lessons, she used the same verb, prescient for the first and seeming unconscious for the second, “clicked” (FWA, WR1). Maybe this is just a favorite word for her, but still, it stands out. In each answer, she showed herself struggling with “information” (FWA), which after time and work, eventually “clicks into place,” the
same words used 13 weeks apart for different learning experiences. Through most of the effort, she struggled with “information,” and when she attained success, she became one with the material.

Quiet as she was in class, Penny’s written responses had an integrity about them that I respected a great deal; when, for example, she alerted me there that classmates were “doing other things” in clicker lessons (WR4) or that the clicker peer feedback was “too much of a hassle” (WR3), it carried a great heft of believability. Penny, along with Todd and Kim, were the quiet students who, nonetheless, seemed to integrate their energies profitably in clicker lessons.

Challenging Departures: Lyn, Randy, and Derek

Lyn, Randy, and Derek had difficulty recalibrating themselves as students in a classroom unlike their high school one. While I used clickers in only about one-third of our classes, the personal response devices seem to have cast a long shadow for these students, perhaps contributing to a disincentive to speak for two of them or simply part of a first-year anomie. Lyn and Randy were quieter in Basic Writing than they were in their previous class, where each claimed to have spoken at least once every four days (S). In the video tapes, Lyn did not speak, and Randy spoke only once (VT5). For Derek, who spoke in every video tape multiple times, verbalizing was not the issue so much as academically focused participation, which for him, was sporadic and short-lived. Clicker lessons required him to make and own decisions in a way that he had not in high school, where he had been dependent on a friend and a teacher (FWA). All three of these
students related clickers as something that had been imposed upon them—a test, a quiz that they could cheat on (almost a double assault), or hot sauce in the mouth (WR1).

Lyn’s and Randy’s comparing clicker lessons to a test or quiz (WR1) shows two students who did not integrate with this lesson format; even though for 20/21 of these lessons, it did not matter if the answer they clicked was correct, and 6 lessons did not have “right” or “wrong” answers. By evoking quizzes and tests alongside their experience of clicker lessons, Lyn and Randy expressed the stress of summative assessment rather than the give-and-take, live-and-learn flexibility of formative assessment. I think of these two next to what Gee (2007b) said about the learning principles of video games, where students “need always to see failure as informative and a part of the game, not a final judgment or a device to forestall creativity, risk taking and hypothesizing” (p. 40).

For Randy and Lyn, the electronic record on grammar work shows such a mixed record of highs (100 for Randy and 71 for Lyn) and lows (zero for Randy and 20 for Lyn) that it seemed they might have been discouraged, thrashing, feeling judged, taking failure as a final judgment rather than “part of the game.” Many classmates used game metaphors for the clickers, but for Randy and Lyn, they were just another test, another judgment, another imposition.

For Randy and Lyn in their previous classes, learning was an individual journey, not a communal one. Lyn worked in class on assignments in a solitary manner (I205) while Randy worked in a computer lab with group editing breaks that the teacher may have intended to be academic but turned out to be social “talkfests” (FWA). Both class descriptions were devoid of discernable teacher-mediated knowledge construction. In
Lyn’s senior English class, students “didn’t really do group-effort answering questions kind of things” (I205), an apt description of clicker lessons. For Randy and Lyn, clicker lessons were group-oriented yet isolating, causing them to rankle, quietly rebelling and distancing themselves, seeing this type of lesson as an intrusion and imposition.

However, in her interview (I205), one thing that caused Lyn to give more credibility to the clickers was that she used them in a biology class this subsequent semester. Through that, she saw this value in them:

I think they kind of help a little bit just because they are kind of like example questions, for like if they are going to be on a quiz, and in normal classes that don’t use clickers don’t have that, so you have to figure it out on your own. Clickers kind of give you an example.

Here, she finally shows that while she still holds to the “clickers equal summative assessment” template, at least she can see the advantage of the social atmosphere, through histograms, teacher mediation, class discussion, and ideally all three. Here, she can see that she does not have to “figure it out” all on her own, that she can be part of a community of learners.

While clicker lessons also marked a departure from accustomed high school ways for Derek, it was that first stage of having to process and answer independently that seemed to burden and confuse him. In his previous class, his best friend and teacher stayed on his “butt” to make sure he did his work; his teacher even called him at home to be sure he completed assignments (FWA). He spoke about a roommate, a calculus student, whom he hoped would help him do a Basic Math take-home test (VT2). The way Derek spoke of his coming session with his regular Writing Lab tutor sounded more like
a repair service than partnership for co-constructing knowledge: “I can just give this one to ‘Pam’” (VT2).

Derek sometimes delayed inputting responses, demanding that I “wait” (VT2) for him to register his answer seconds after classmates had done so. While this could have been another grab for attention, I suspected that Derek was usually last to input an answer, not because it took him the whole two minutes or so to arrive at an answer but because he only started thinking (in a panicked way) the last few seconds the question was open. Unfortunately, the electronic responses did not tell when students answered, but I suspect that he was often the last in his class to respond. His 34 percent correct average, lower than the 38 percent it would have been had he been answering randomly speaks to his difficulty with the material, a hasty, random manner, or likely both since they are, of course, related. His written comment about peer feedback expressing distrust of classmates’ answers, “The bad (thing) for clickers is people can just guess,” (WR3) is another clue that may reveal that he indeed was guessing much of the time. Derek wrote that these lessons brought “easy points” (WR1), and he seemed to use that as reason not to try very hard. Corroboration of this in part comes from the only clicker quiz I gave on a reading assignment, where he scored 4 out of 5 correct (ER920), much higher than the 34 percent average from the grammar lessons where right/wrong did not count.

Unlike Lyn and Randy, who often seemed thrown off-balance by “group effort answering questions kind of things” (Lyn, I205), the only time Derek seemed put off his game was when he presented his draft for peer feedback (VT5) and thrice asked what he “was supposed to do with all this?” (VT5) For Lyn, Randy, and Derek, clicker lessons presented an dynamic quite unlike their high school experiences, and in minor ways, all
three occasionally balked. The difficulty they had seems to emanate from their accustomed school ways coming from opposite ends of the independence spectrum; Lyn and Randy were used to working independently with little or no reconsideration of already-answered questions or metacognitive “waste” of time slowing them down, and Derek found himself at a loss when having to think on his own without someone to stay on him to complete work or even do it for him. The clicker lesson style of scaffolded, social knowledge construction was difficult for all three. However, while during the semester, all three were to some degree, “clicker resisters,” Lyn emerged to another class where her view of them evolved a little, and she began to use the social atmosphere more.

Clicker as Conduit: Todd, Brent, and Kim

Todd, Brent, and Kim had been outsiders in their previous similar class, often bored, sometimes ostracized, always sidelined. They had been victims of their environments—Todd by an often-absent teacher and a surfeit of in-class movies as well as feelings of confinement, Brent by a creative writing class dominated by “goth poetry” kids who mocked him, and Kim by the shyness that trapped and bored her in schools in her home country, a condition only exacerbated with the language difference when she emigrated to the United States (FWA).

All three gave descriptions of previous classes that were different kinds of grim. Todd had a sprightly, self-mocking way but may not have realized the irony of his a four-time mention of sleeping in class alongside a quotation he gave from his favorite movie shown in class, Dead Poets’ Society—“Carpi (sic) Diem’ Seiz (sic) the day” (FWA). Brent wrote about being called “loser” by the “goth poetry kids,” dropping “the F bomb”
to his teacher, and storming out of class to plead before the guidance counselor for a withdrawal before his talent for caricatures was discovered, and the class dynamic switched in his favor (FWA). In Kim’s English class in her homeland, she “never listened to what the teacher said” and “kept busy with my own mind, my imagination.” In the English language class she shared with immigrants of varied ages and backgrounds in the United States, she enjoyed the funny movies and sharing of foods and cultures but wished she could have learned more about punctuation than pronunciation, a reasonable wish for a shy student who would rather express herself in writing than by speaking (FWA).

Recognizing that his mentioning sleeping and watching movies in his previous English class might make him appear lazy, Todd wrote that he read the required books, just not in class: “I hate working in a classroom. I feel so confined and nervous that someone is looking over my shoulder” (FWA). That use of the word confined reminded me of Bruner’s (1966) use of it:

The will to learn becomes a “problem” only under specialized circumstances like those of a school, where a curriculum is set, students are confined, and a path fixed...(what) the school imposes often fails to enlist the natural energies that sustain spontaneous learning—curiosity, a desire for competence, aspiration to emulate a model, and a deep-sensed commitment to the web of social reciprocity. (p. 127)

Todd’s electronic record showed more than competence in clicker lessons; for the 5 of the 7 final clicker grammar lessons where he was present, he had 89 percent correct, higher than all the other cases. Todd’s writing about clicker peer feedback showed that he was amenable to peer models (as Bruner set in his formula above): He wanted to “make my essay…to be more of a story to make it flow better” and to fill out the introduction and conclusion more. He finished his response with a nod to his peers: “I think classes
like this help me out because most of my mistakes are the kind everyone has” (WR2). Here, he indicated that he is able to learn vicariously from others, both positively as he sought to improve his introduction and conclusion and to learn through others’ “mistakes.” Todd was able to use intellectual empathy to envision future versions of his own work in that of others.

Todd’s comparison of the clicker to the remote control is a surprisingly active choice. “I learn better using my hands. It keeps my attention and helps me stay awake” (WR1). While we may think of a remote control as the couch potato’s essential accessory, it gives a viewer an “increased level of autonomy” and “empowerment” (Bellamy, 1996, p. vii). The remote control is “a subversive technology…allowing the user to move rapidly between program offerings and avoid unpleasant or uninteresting material” (p. 1). While there was not much room to avoid uninteresting material in clicker lessons as there would be in front of a television, Todd apparently found it a conduit to learning, and clicker as remote is a theme repeated in the data from other students—besides Todd, Ginny and Melissa used remote control as their metaphor for clickers.

This connection with clickers and remote controls from Todd and the others is one of the few echoes of Gee’s (2004) video game work I saw in this data. One of Gee’s learning principles for video games is that of manipulation, where

(F)ine-grained action at a distance—for example, when a person is manipulating a robot at a distance or watering a garden via a web cam on the Internet—causes humans to feel as if their bodies and minds have been stretched into a new space...(H)umans feel expanded and empowered when them [sic] can manipulate powerful tools in intricate ways that extend their level of effectiveness (p. 18).

In his interview, Brent also actually called the clicker a remote: “You’re inclined to pay attention more when you can pick up a remote and answer a question than when
you’re just sitting in the back writing notes” (I211), an astonishing comment I will explore further in the following section. Like Todd, Brent was a visual artist whose quietness in Basic Writing was matched with indications of action below the surface; also like Todd, the story he told of his high school experience was drastically different from the way he conducted himself in Basic Writing. Brent was one of only two students of 39 to say that he “never” spoke in his previous class (S), something that surprised me, so I brought up to him in our post-class interview. He admitted that that silence was unlike him, that he normally liked to talk, question, laugh and joke, and in reaction to a class where the others were “anti-that,” he rebelled (I211).

Unlike Todd and Kim, Brent sometimes spoke in clicker lessons, but two questions he asked were idiosyncratic ones, asking if there was an old York (to go with the New York) and wondering if a “Brian” quoted in a slide was a “Brian” he knew (FN1001). Brent liked clicker lessons because it was “more you (meaning himself) involved” (I211).

Kim too was sidelined by a misfit with her previous school circumstances where her shyness and dislike of some of the lessons without an outlet to speak caused her to lapse into daydreaming and feelings of resentment (FWA). While she did not speak in the videotaped lessons, and neither do I have record of her speaking in class in my field notes, Kim was unrelentingly clear in her opinion that clickers helped her step past her shyness into involvement. She was one of the few students who preferred clicker lessons even for peer workshop, remarking how in the usual small groups, students “just hear from (in) the right ear and out the left ear. We didn’t pay attention on it” (WR3). Unlike most of her classmates, who liked the “stories” of small groups, she preferred to
concentrate on the artifact at hand, the writer’s draft and “directly read…the writer’s purpose” (WR3).

Kim had a desire to immerse herself in reading and writing in a way that no other student demonstrated in this study. Even the personal technology she wrote about, email, was something she liked to use because with its emoticons and “capacity” it gave her greater latitude and longitude for expression (S). In silence, she seemed to engage in the vertical thinking that some other classmates preferred to avoid. Within herself, there must have been quite an inner dialogue because she made much of the clicker lessons—sentence structures like appositives, and metaphor, which she used as a guiding “mother as devil and angel” template for a portfolio revision (PR128). Along with Penny and Todd, Kim was one of the students most able to have a successful experience with clickers—in spite of and maybe even because of their reserved ways.

Reach for Reinterpretation and Reinvention: Lina and Ashley

Like many of these students, the high school students they had been lived on in Ashley and Lina, but more than many, these two seemed to be actively involved in shedding those former selves, including their own former misconceptions about who they were and what they needed to do about becoming who they wanted to be.

Ashley, a recent high school graduate, wrote that “(E)verything went downhill” when she discovered she had been placed in Basic Writing (FWA). It was a painful irony for her to be relegated to developmental in writing, which she considered her strength, while being simultaneously passed to credit-bearing math, a more difficult subject for her. Already in her young life, she had overcome an obstacle with literacy learning: in
ninth grade, her teacher criticized her writing, which netted her C-minus grades, so she “took an interest in reading” the following summer, and upon returning to school, “began putting” herself “into books that I read and papers that I wrote…then got As and Bs…it felt great to be known as one of the best writers in the class” (FWA). Placed in Basic Writing, it was as if all that effort was for naught, and now, she had been set back a few steps.

Lina, six years out of high school, was animated by the newfound academic ambition of a nontraditional age student. She used her self-introductory assignment to show herself as someone with ambitions, hope, and spunk: “I am a very creative person with a really big imagination and with that said, this girl can write a lot if knowing so” (FWA). Then, she assessed herself as a writer, at once gently taking former teachers to task and blaming herself:

- “I was never taught the right way or maybe I just never pay attention in class.”
- “I was told once that I write just like I speak that doesn’t make sense to others either.”
- “I don’t find (English) hard…I just prefer to have someone teach it knowledgeable and (effectively)” (FWA).

Lina also mentioned that she had had struggled with stuttering and using correct pronunciation in her early years; while those difficulties with spoken language were not evident in this class, the residual effect lived in her tendency to give short answers. Of the eight times Lina spoke in the videotapes, six times it was in four or fewer words. Lina personified the struggle of students working to move beyond tacit knowledge and needed questioning to progress to longer replies: her longest “speech,” 12 words of advice for
Derek in resolving his lack of “flow,” came in response to my questioning (VT5). Still, short though her replies were, she was the only case who spoke more in clicker lessons than she said she spoke in high school English, which was once every 1-2 weeks (S).

Ashley, on the other hand, frequently explained reasoning and reasoned aloud, asked questions and answered classmates’ questions. She was the only G class student to cite the influence of others; one time she cited my influence as helping her understand a grammar issue (WR4) and another time, she referenced Penny’s slide by number but not name—3B (WR5) that could serve as a model for her own revision.

While both Ashley and Lina exhibited outgoing behavior in class, speaking in every one of their class’ video tapes multiple times, each gave signs that such extroverted behavior was not a given for them. Lina felt clicker lessons, with their outlet of silent expression, were “especially” appropriate for “someone who’s kind of shy like me” (I207). Certainly, her tendency to speak in few words, sometimes giving answers with a lilting up-turn in intonation at the end that made them sound more like questions are signs of an introvert urging herself out. As for Ashley, the shy alter ego appeared only once in the data, with her metaphor for clickers of inflatable “floaties” giving her security that supported her wish to be involved in the lessons (WR1).

Both Ashley and Lina found themselves rebelling against their high school selves, seeking to move beyond those former identities, and clickers were a tool in their self-liberation. Opposed to the view she had in high school, Lina decided that she did want college after all, and here she was, ready to make the most of the opportunity. Ashley had realized that her journey to be the “great writer” she wanted to be was not over, and just because her placement in Basic Writing was a slide “downhill” (FWA), that did not mean
she could not push herself up another hill. Unlike Randy, who seemed discomfited by a test-like view of clicker lessons, Ashley seemed to see that clicker lessons giving “more room for error” (WR6) was a positive. Also unlike the students who saw some of these lessons as wasteful, in comparing clicker lessons to other lessons, she said that they were “(m)ore efficient because (they were) more involving” (WR6). In clicker lessons, Ashley and Lina were not reliving high school, failing at an attempt to relive high school, or even transcending high school. They reinvented themselves by reinterpreting themselves, and their involvement in the clicker lessons played a role in that. After all, reinterpretation is something one does as a consequence of an inner dialogue set off by outer experiences, just as Vygotsky (1962) theorized.

**Student Subterranean Construction of Knowledge**

In their interviews, Brent and Ginny said something that goes against much of what most writing teachers think they know about how students think when they write. Speaking about clicker lessons, Brent said, “You’re inclined to pay attention more when you can pick up a remote and answer a question than when you’re just sitting in the back writing notes” (211). Similarly, Ginny, also making a comparison with a traditional lesson, said,

(Y)ou have to write on a piece of paper...you can go and write it on your own and not pay any attention in class at all. Whereas if you do it with the clickers, you have to pay somewhat attention because otherwise you’ll miss it completely (I227).

Of course, those comments make me the teacher jump under my skin a little and makes me the researcher jump under my skin a little more but in a different way. As a teacher, I want students in a mindful, concentrated frame of mind when they sit down to
compose, revise, or work anywhere along the writing process from freewriting to editing. In Ginny’s instance, she is writing instead of paying attention, and in Brent’s example, he does not even appear to be tuned in to the words he is putting on paper, neither an ideal class practice. As a researcher, I find these comments by Brent and Ginny enlightening, showing me so much about the way they operate as students and writers. Such comments highlight that for some students, and counter-intuitive to what many instructors believe, note taking and writing has an automaticity about it that for some students, may turn off the brain rather than turn it on.

Opposing the children’s television research quoted earlier where the children could play with toys and still get the gist of a television program (Anderson & Lorch, 1983), Kirn (2007) told of an experiment by unnamed UCLA researchers, which had 20-somethings sort index cards once in silence and later with an added chore of listening for specific tones among random sounds. In each instance, they did equally well at sorting, but in the latter case, they did not remember what they were sorting as well as they did when the task was completed in silence (p. 72). Here, it seems that for students like Brent and Ginny (and probably others), in traditional lessons, they could write or they could listen, but they had difficulty doing both. That multi-tasking so many of them elevated as a virtue just does not apply to a concentrated task like writing. In clicker lessons, they had to listen, they had to respond, had to process feedback and go on to answer more questions, and somewhere in the sequence, found their own voices in the internal dialogue with the lessons, developing their own Vygotskian (1962) “inner speech.”

It is astonishing to a writing teacher to hear that a student would say that she could write on a piece of paper (even taking notes) and “not pay any attention at all,” but
clearly, this is what some basic writers do, which may in part be why they are in Basic Writing. For them, writing is a mechanical process of putting words on paper and not part of an ongoing internal conversation. The sorts of conversations experienced writers have with themselves are something that Basic Writers need to be initiated into, and data here show that some students were able to begin to move in this direction with some of the clicker lessons, particularly the portfolio lessons.

An example of a student describing such an internal conversation with oneself during a clicker lesson comes from Marie:

The clicker lets you think things through and helps you understand why one (answer) may be wrong or right. The clicker is like a tutor, it lets you figure something out for yourself but in the end will help you with the right answer (WR1).

Some of these students seemed to look at these lessons almost as if there was another person in the room, another teacher to go along with the imagined aggregate “voice” of peers in the histogram. They seemed to see the clicker apparatus as an entity apart from me even when it was obvious that I’d written the questions. Marie was another mostly quiet student who integrated clicker lessons well, one of the few who preferred them for peer feedback, and who seemed to easily adapt to and use the dialogic rhythm of these classes.

While overt examples of knowledge construction are shallow or nonexistent in this data, evidence of subterranean social construction of knowledge in clicker lessons appears in two ways: one, where some students demonstrated malleability to the influence of others, showing they were influenced by things classmates said and did in
clicker lessons with their own subsequent writing, and two, how students who were more savvy about “reading” advice in histograms were able to use classmates’ silent advice.

Evidence of subterranean construction is especially clear (not surprisingly) among the quieter students. Kim’s high percentage of correctness in the electronic responses (86 percent, ER), her use of metaphor to reorganize her portfolio revision about her “devil-angel” mom, and defense of her participation through clicking (I206) makes her a strong example of such subterranean construction. Perhaps Kim embraced these lessons because they were a way for her to answer questions and receive responses without speaking, something that also allowed her to avoid the daydreaming that may have been a side effect of the isolation in her previous classes (FWA).

Another example of a quiet student who seemed to construct knowledge below the surface was Penny, who described her thought process during clicker lessons with the surfer metaphor, essentially coaching herself: position (herself), balance, and understand. Then, she wrote, “information…starts to click into place” (WR1). However, what clicks in place is not so much information as Penny’s being able to transfer the kind of dialoguing she did with her high school teacher so profitably in after-school tutoring (FWA) to discussions she had with herself in these interactive Basic Writing lessons.

Integral versus Peripheral: Two Ways of Taking Clicker Lessons

The dividing point for students in assessing personal technologies’ role in their lives was whether a form of technology was integral to their lives, like cell phones, or peripheral, like emailing or video games. They liked and bonded with integral almost
instinctually and avoided peripheral or down-played its role in their lives. As it turns out, this dividing line is also applicable to their experience with clickers in Basic Writing.

For much of the analysis of this study, I mentally sorted technologies into Clark’s “transparent” (easily adopted, as cell phones are for these students) and “opaque” (difficult, clunky, as email is for some of these students) (2003, p. 37). However, that metaphor has proved insufficient for the way these students used and viewed personal technologies and clicker lessons. Borrowing a word from Clark’s definition of “transparent” as technologies that are “well…integrated with our lives,” (p. 37), I would re-form that word “integrated” into “integral.” That is the word that best shows a student who was able to profit from clicker lessons.

Further, as Clark writes of opaque technologies as being ones where we “distinguish sharply and continuously between the user and the tool” (p. 37). I would rename this category as “peripheral,” meaning on the outskirts, not integrated, often to the point of seeming irrelevant. Thus, I divide students’ experiences with personal technologies and clicker lessons as being either integral, meaning students find the technology as being essential to the experience, driving the experience, almost the experience itself; and peripheral, meaning apart, unnecessary, or to quote a memorable word in the students’ data, a “waste.”

Students able to integrate clicker lessons (including Ashley, Kim, Penny, and Todd) used words and phrases like Ashley’s “floaties” metaphor where she spoke of the lessons as enabling her, a non-swimmer, to be “involved” with others. Kim used the lessons to interact silently, and Todd found the lessons compatible with his hands-on
learning style. These students were also more comfortable with metacognition, more willing to self-reflect and adjust as needed.

That Ashley, one of the most frequent verbal participants, admitted needing something to enable her participation is eye-opening. Ashley wrote about the clickers not as an external device but as an enabling environment. Ethan, another frequent speaker, also evoked an image of clickers as environment when he brought up how these lessons made him feel like he was at the TV game show, “Who Wants to be a Millionaire?” when the contestant “asked the audience and we had to click the answer we thought was correct. The clicker lesson was cool because we all answer the questions without everybody knowing (our) answers” (WR5). Here, he mentions a competitive game but in this context, the audience is helping the contestant, not competing themselves—it is thus a cooperative effort, not a competitive one. Further, he alludes to the same anonymity that Ron mentioned in his behind the “wall” metaphor (WR1).

Students who experienced clicker lessons in a integral way were also better able to connect with classmates in those subterranean, virtual ways—to register their opinions given through the histograms, to consider their examples offered in peer feedback or portfolio before/after examples. Whether those peers spoke aloud or not, students who experienced clickers in an integral way showed that they were able to “listen” and in some cases, use what they had “heard.”

Students who saw clicker lessons as peripheral (including Randy, Derek, and sometimes Lyn) were apt to use words like “waste,” a word Lyn and others also used for video gaming. They were more likely, like Lyn and Randy in their metaphors, to see clicker lessons as a teacher-imposed quiz or test. Despite the fact that they were not
docked for incorrect responses, it was as if they felt judged by clicker lessons, and thus would resist inner dialogue that makes these classes an integral, successful experience.

Unlike the students who were discouraged by the anonymous peer “voice” (Joe, WR1), Terry wrote, “I don’t want to say an answer out loud because I may be wrong, but” on the histogram, “I see that someone doesn’t (sic) know it too. I would feel better about asking the question” (WR1). For Terry, seeing that he was not alone in his answer encouraged him to ask a question. The visual confirmation that a peer shared his opinion (whether right or wrong) gave him confidence to speak and or a goad to understand something he found out may have been a little shaky for him.

Whether something is integral or peripheral for a student may derive from those students themselves or it may derive from the lesson. In both instances, there are things the teacher might do to mitigate against a peripheral experience and encourage an integral one. “Peripheral” and “integral” are not fixed categories where individuals can never migrate from one to the other. It is, in fact, the teacher’s role to bring students from the periphery, to integrate them into a class, into writing decisions, rationales, and recognition of the consequences of those thinking processes. They need to work with students who make terse statements in expression of tacit knowledge, such as Lina as well as those students who eschew email for the “quick choppy messages” of texting.

Summary of Chapter IV

These basic writers brought limited experience with the social construction of knowledge to my classes, and given the social vulnerability of also being first year college students beginning a new stage of their lives, some were not inclined to openly
discuss their reasoning, hunches, doubts and hopes before these new peers. The frequent high school participation they claimed in the survey likely was in a quiz show “question-answer” rhythm, not one that spent more energy and time on reasoning and process than answers and product.

Therefore, the kind of class participation that I’d hoped for did not materialize in the ways that I hoped it would. In the G class, the style of discourse was robust, characterized by students interacting with one another and longer stretches of discussion on a single topic, but this was driven primarily by two students, and no student spoke of a peer as influencing their thinking during the lessons. Meanwhile, in the H class, a greater range of students spoke in class, but they tended to not often interact with one another (only with me), and exchanges on a given topic tended to be shorter in duration, but they were much more likely to cite each other as saying things in the lessons that changed their thinking. However, the participation I refer to here is the verbal participation; as students Kim and Lina and video game theorist Gee (2003b) hold, there are other routes to participation than speaking, and “clicking” opened up such a path for some students.

The students who made the most of this subterranean avenue for participation were those who saw it as an environment rather than a device, something that for them, could provoke the kind of inner dialogue that allowed them to see other possibilities for their writing and inspired them to take those. These were the students who viewed personal response clicker lessons as an integral experience, an environment, not gadgetry. They were, at the most evolved level, able to project themselves into the work of others and see possibilities for themselves on the screen.
At the opposite end of the spectrum—the students who saw clickers as peripheral or even a waste—they are not a lost cause. Clearly, there are ways their teachers can work to move them from the periphery into the same environment that other students may experience. In the Teaching Implications section of Chapter V, I will begin to outline this.
CHAPTER V
FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

In this chapter, I will review the findings of this study, discuss the teaching implications that spring from this research and present ideas for future research suggested by this study.

Case Study Synopsis

In this case study of 11 students in two Basic Writing classes, I investigated their practices with and views of personal technologies, their class participation and knowledge construction in classes where personal response devices were used, and whether the former had anything to say to the latter. I discovered that these students’ high school English class participation was probably more akin to TV quiz show question-answer sequences than the elaborative and multi-voiced co-constructions of knowledge that I had had in mind. Ill-equipped by their high school experiences to construct knowledge aloud as part of class discussion, these students, in their first-semester caution about new peers, were reluctant to speak out in the ways that most college writing teachers know makes for fruitful class meetings. Ironically, when students engaged in more elaborative and shared discussion, as Sherrice and Ashley did in the G class, the silence among the others seemed particularly noticeable. Whether that silence was simply wary classmates allowing others to take the heat of participation or students
cautious of a level of discourse they felt was too risky, I do not know. Discovering that a higher quality of discourse (including students’ questioning and engaging with one another, a student calling the teacher’s attention to something she missed, and longer strings of discussion) occurred in the class with lower number of speakers was notable, however. As is seen in the H class, more students were willing to jump into the discussion if discourse patterns fell into the more familiar string of dialogues individual students had with the instructor rather than the more complicated and probing multi-logues G class students, particularly Sherrice and Ashley, undertook.

There were other factors within the clicker lesson dynamic that may have contributed to student silence in both classes. Students sometimes seemed to see, as if for the first time, tangible proof that their classmates had come to different conclusions about questions than they did, a jarring discovery that perhaps inhibited as many or more than it liberated. The peer feedback sessions were problematic for some, who felt “pressured” and constrained by the format and reluctant to verbally defend the opinions they clicked. However, some students were able to construct knowledge silently, for themselves, as a result of taking part in the sequence of question-answer-discuss-reconsideration. As with their responses about personal technology, where they praised tech uses that blended seamlessly into their lives, students who were able to see past the clickers, to realize that these lessons were not “about” clickers but about them and their learning, these were the ones who had a successful, integral experience. We can learn from their success, but we must also learn from those who saw clickers as peripheral, incidental, those who did not easily enter the environment. From them, we can learn to better meet the needs of these students in future iterations of these types of lessons using personal response devices.
Teaching Implications

Here, I sought to answer questions that interested me; however, for me, a teacher investigating a type of educational technology I use, one ultimate end must be the teaching implications of the research. How is this going to change the way I teach? What can I learn from this research? What can I use? How will I teach differently as a result of this investigation? Some of those implications are clicker lesson-related, but a few are not. First, I will discuss those that are not.

General Teaching Implications

This study demonstrates that basic writers’ social construction of knowledge is in need of much more deliberate, conscious, and constant attention than I’d anticipated. First, many developmental students bring little experience with it from high school to college. Second, once in college, they may be constrained by worries about peers’ views of them and prefer to remain silent. Well into the semester, some remain distrustful of classmates’ opinions. Third, buffeted on one side by social fears and on the other side by doubts about what they have to give, some are unsure of how to help or advise one another. It seems imperative for developmental or even first-year instructors to recognize these bookend problems (distrust of others and lack of self-confidence) and when appropriate, seize the openings they do give to explore with students the strong advice they offer and to try to find ways to make that wise counsel credible to classmates. This may help students take that extra step outward themselves next time.

Next, when these students speak up, it is usually with a tentative expression of tacit knowledge, expressed in short sentences that the instructor must explore with the
students, asking the more lateral “why” and “how” questions, asking them to cite evidence for the points they make and consider ways to achieve the goals they espouse. Just as students sometimes reach too soon for closure in their writing, so too do teachers sometimes imagine they have finished up on one topic before students are done with it.

Such a misstep into a dead end came when I asked students if they agreed with Lina’s opinion that there was good detail in a particular section of a classmate’s draft. Not surprisingly, no one wanted to disagree, not wanting to call out a classmate, something no student did in this data, or even agree, perhaps feeling her having said something was good had exhausted the topic. A more productive line of questioning would have included, “Where is the good detail?” “What is the good detail?” “Why is it good?” and “How does this detail help you as a reader?” When students open doors, we need to reciprocate and extend, showing them and allowing them to show one another more thoroughly before moving on to the next issue.

Another overarching teaching implication of this study is the importance of instructors’ designing classes, assignments and other activities with the goal of drawing students from the periphery into a more integral experience, where they, their classmates, the lessons and the learning blend in a timeless, seamless way. More use of student written material (gaining permission to use their work in pieces to illustrate and discuss points) could help. More “flash mob” type group work where teachers put students into rotating configurations to resolve an issue might also help. The goal here could be summed up in Brent’s advantage of clicker lessons: “It’s more you involved” (I211). It is heartening that he—and many of his peers—truly want to be involved in the work and
play of the class. That alone ought to motivate teachers to try to find ways to make that happen.

Teaching Implications for Clicker Lessons

Two opposing truths were at work here: clicker lessons helped shy or uncertain students express tacit knowledge, allowing them to “speak” and receive feedback in a virtual manner. At the same time, for students to get the best possible experience from these classes, some (preferably several) students need to speak at length, not just giving answers but reasoning aloud. That is good for those students speaking, for the others around them listening, and particularly for writers who need to understand their draft through the eyes of a reader. Therefore, teachers must be ready to do everything they can to encourage and extend speech. Speech serves listeners, who may benefit from hearing readers’ reactions to their drafts or from hearing a classmate explain an answer to a grammar question, but they also serve the speaker. Gaining practice with explaining and extending ideas aloud is imperative for students who will be expected to do so in their subsequent classes.

Teachers of developmental students using personal response technology ought not assume, as I did, that everyone can make meaning of abstract bar graphs that symbolize the opinion just gathered. Especially early in the term as the first histograms appear, teachers might ask students to summarize the meaning of the graph results before discussing the individual answers and reasoning: “It looks like people liked the intro and conclusion but not the middle parts.” This sort of preparatory analysis would have to be returned to from time to time, particularly with lessons that utilize student writing.
samples. If students are sending messages to one another, it is necessary those messages be made explicit as much as possible. If such interpretation is not forthcoming, the teacher might try to interpret it, but only as a last resort and then with a pass back to the group—“Does that make sense to you? Your thoughts?” Normally, if the teacher has some perspective on the histograms, that would be best given after the students have made their summaries. In every case, the writer should be able—and ideally should be asked by the teacher to restate those summaries—to tell what he or she sees as the uptake from this feedback. Of course, all this is time consuming, but it is necessary. Feedback that does not nourish growth is not feedback.

In a related vein, as the peer feedback sessions wind down, teachers need to push students toward action, to ask a writer at the end of such a peer feedback session—what are you going to do with this? What did you think before this session, and what do you think now? What kind of changes are you thinking about?

Another teaching implication for peer feedback sessions is that as much as possible, these need to be sessions for students and by students with the teacher mediating and lightly guiding but not leading. As with my longstanding practice with the small group non-tech sessions, I had students give feedback first while I saved mine for last; unfortunately, as is seen in the class with Dan, I questioned far too long and in too heavy-handed a manner, turning the class into a mini-Writing Lab, which made Dan (and some classmates like Ginny) uncomfortable and did not really serve the needs of Dan’s writing as I’d hoped it might.

Also, in these peer feedback sessions, I tried to restrain any development of an opinion on which of the choices was “strongest” and “most in need of work” so as to
avoid seeing their opinions as right or wrong but only ideas worth discussing and developing. This calls back to mind the Gee (2003a) quote about the first grade teachers quoted earlier: “(T)he teachers were listening for certain ‘ways with words’ they were not getting from some children and failing to hear and appreciate the ‘ways with words’ they were getting” (p. x). Whatever the subject or motive of a clicker lesson in a writing class, the teacher needs to work hard to take the “ways with words” she is getting and use those as a foundation for discussion and potential construction of knowledge.

Too, I recalled the Cazden (2001) description of social construction of knowledge where it is clear that elicitation of and working with their ideas is what matters. While the teacher may help them develop, form, and articulate these ideas, she ought not inject too much. My examination and reflection upon my “badgering” of Dan the day we workshopped his paper strongly reinforced these beliefs that there is a time and place for me to give my feedback in a clicker peer feedback session; however, it needs to be much more low key than it was with Dan.

With lessons where there are right-wrong answers, such as the grammar lessons, when a class tends toward silence or domination by only a few eager students, two remedies may help. One would be to return to the format recommended by Mazur (1997), often used for large science classes, where students discuss in small groups before or after answering, perhaps followed by a second “vote.” Since my classes were small and verbal participation usually satisfactory, I tended to skip over the small-group-within-the-small-class step. However, this sort of huddling among the students might not only increase participation at another level but might also improve student trust for one another and confidence in themselves, both of which had been mentioned earlier as
central problems. Another way to encourage talk in right-wrong issues, particularly when results are close to 50-50, would be to ask students to find a classmate who voted the opposite way and talk about their disagreement and vote again, finishing with a discussion on who changed his or her mind and why (Erwin, 2009). Certainly, these different techniques for increasing interaction should be tried off and on, particularly but not exclusively in a quiet class, throughout the semester.

Teaching Implications for the Types of Clicker Lessons

In my examination of clicker lessons on grammar, peer feedback, and portfolio upgrades, I found teaching implications suited particularly for those types of lessons.

Of all the types of clicker lessons, students were particularly reluctant to speak out in the grammar sessions, and when they did, only a few were willing to explore their reasoning at length. Some of the techniques for encouraging discussion from above would likely be helpful. After all, when students did speak up in the grammar lessons, documented in the H class’ written responses, they were able to influence and be influenced by classmates. Another issue that gave me pause with using clicker lessons on specific sentence structures was that even students who got half or fewer questions correct expressed confidence in the written responses that they already “knew” these concepts prior to the lesson; that students who answered few questions correctly can still be so confident indicates that these students may not have done the re-processing between questions necessary to gain a stronger grasp on the material.

Peer feedback lessons were not popular with most of these students, but there may have been many reasons for this. Perhaps within the context of this study, the clicker peer
feedback lesson style appeared to have been explicitly set up as an either-or competition with the small group peer feedback lesson style. However, it is not either-or to me so much as how-when-why. There may be a place for clicker feedback in Basic Writing, but the way I used it this semester (requiring it for all students and allowing it to take half of the class feedback time) would not be a good choice. Given that some students reacted strongly against clicker peer feedback and that spending 40-50 minutes of a lesson on this took an opportunity for feedback for all students and gave it to only about three students, indicated that clicker feedback lessons might be better used in a volunteer basis perhaps at the end of the semester when students were revising for the portfolio. That way, mid-semester “required” recalcitrance about this lesson style might be replaced by late semester discussions about revising papers of students who volunteered for the experience.

In terms of student reaction to the clicker lessons, the portfolio upgrade lessons were the most popular. All students but three said that they were influenced by these questions where they had to look at two different versions of a piece of writing and decide which was the improved one. Helping students to understand what to do to revise papers they considered completed is often difficult, but this seemed to accomplish that end for most students. It allowed them to serve as role models with their own work, giving the more accomplished of these novice writers the chance to show the others how to do something that was of timely importance to them all, inspiring some to explicitly see that revision is more than proofreading. These sorts of lessons truly seemed to fit the idea of re-vision—seeing something once and then looking at it a second time, as a time-elapsed improvement. Of all the lesson types of this research, this was the most
successful, so I would like to find ways to create similar lessons of students’ volunteered work mid-semester to compare and contrast them in other ways. Students looked carefully at these paired sets in ways that helped them realize that things that were written had not been written in stone and could be reconfigured in a variety of ways that enhanced the final product. Through this careful examination of the successful work of peers, some students began to literally envision possibilities for their own revision work.

I might also create hybrid lessons based on current students’ products. Students’ products have more authenticity, immediacy and meaning to these students than some of the canned grammar lessons I used with previous classes’ student writers’ sentences as examples. The difficulty is presenting such lessons in a way that does not make students feel targeted as some might have in the peer feedback sessions. Any of the material used in such lessons would, of course, be volunteered by the students. Ideally, this sort of hybrid lesson might allow students to experience writing as an elastic, organic thing that evolves with exposure to audience just as the writers themselves grow.

Future Research

Since this research had many tentacles, future research springing from this study may move into a variety of directions: research on basic writers, social construction of knowledge, clickers in the writing classroom, connections between student experiences with personal technologies and their learning and classroom experiences, and more.

Possible Research on Social Construction of Knowledge

Here are three possible directions for further research on student experiences with social construction of knowledge:
1. Writing about their high school experience in the previous class, none of these 39 students wrote explicitly about in-class construction of knowledge with classmates and/or teachers. Only one wrote about peer feedback focused on content, and the overall picture of past experience with social construction of knowledge is pretty barren. Perhaps in the same way that Lunsford contrasted content of basic writers’ entrance essays with that of skilled writers (1980), a study could be centered around a contrast and comparison of the ways basic writers write about past high school knowledge construction versus the ways students who placed into honors English composition do.

2. A fuller, more focused look at student interaction in clicker lessons is suggested by this study. This study included only five approximately 40-minute, videotaped sessions with two sets of students and is thus limited in its findings. Ideally, such research would encompass a longer period of time than this study, where videotaping occurred Weeks 10-13 of a 15-week semester, and cover many more class sessions than this study did. Such a more intensive study should likely be discipline-specific, investigating the ways students speak and construct discipline-specific knowledge in clicker lessons.

3. This study suggests that basic writers have two ways of constructing knowledge socially: one, engaging in a series of mini-dialogues with the instructor, as many of the students in the H class did; or two, picking up on topics initiated by a classmate and joining in, as Ashley and Sherrice from the G class did. How might teachers encourage the latter and move students away from the former? How might teachers encourage the sort of multiple-student interactions to spread
beyond just a few students? In a related vein regarding the peer feedback clicker sessions, do students perceive such lessons as having an inherently confrontational dynamic in them, and is that a reason some do not participate? If so, are there ways to mitigate against that?

*Research Ideas for Educational Ties with Personal Technologies*

More research investigating possible connections between students’ uses of and relationships with personal technologies might inform many types of educators—of writing as well as other subjects, middle and high school as well as post-secondary. Our students use these technologies to create who they are becoming in ways that we too might be wise to understand or even able to harness. One idea behind this study, that clicker lessons may “push the same buttons” as video games, was unproven partly because students appeared unwilling to reveal such interest to a current teacher and also partly because the study was not focused primarily on this issue. Still, more work in this vein is worth future research.

*Research Ideas for Clicker Lessons in Composition Classes*

Personal response devices are still very rare in composition classes, from basic writing through advanced English composition. While they will never be (and should not be) as prominent in writing classes as they are in other classes, there is a place for them. They give students unable or unwilling to participate another venue for participation and smooth the way for those apprehensive but willing, so in ESL classes, first semester classes and developmental classes, they have a role to play.
Each of the four areas of lesson types described in this study merits a focused study of its own. Grammar lessons, peer feedback sessions, work with metaphor, and comparison of different versions of students’ work all could form the basis of individual research projects. Despite the resistance some students exhibited to them, the peer feedback sessions deserve more research. These lessons had much value for students who could understand the histograms, using them in conjunction with what was said in class. There are things teachers might do to make the lessons more valuable and helpful for all. A researcher could, for example, test the idea (suggested by the case Derek’s experience) that weak drafts receive advice that is more splayed and less clear than strong drafts do. It would also be interesting to know how stronger and weaker students see themselves: to see if they “voted” the same section as being strong and the same section as needing work as their classmates did.

Another research project suggested by this dissertation is a study comparing students’ self-efficacy before and after they use clickers. Ideally, this research would be done with students with no previous experience with this classroom technology and with students who used clickers in more than one class, perhaps as part of a learning community where all students take the same sections of 2-3 classes, using clickers in each. Students’ self-efficacy at the beginning and the end of the experience could be measured and answers to these questions might be sought: After using clickers, are the students more confident, more methodical decision-makers? Do they show an increased ability to employ processes to reach conclusions rather than impulsively choose?
Ideas for Research on Affective Issues

There were a number of issues regarding students’ affective nature that surfaced in this research that may be studied further, including trust/mistrust, intellectual empathy, and introspection/reflectiveness.

Trust: One of the most surprising discoveries in this research is that some of these students—usually the less successful students and writers—are limited by a profound mistrust of classmates’ opinions (electronic and oral). One cannot construct knowledge with a “peer” group whom one does not regard as peers, no matter whether one envisions oneself as the superior or inferior of the others. Some basic writers do not fully respect the abilities of classmates they perceive to be less able than they are and may consequently be unwilling to explain what they know or think they know to them. Others suspect that they are not even up to the level of the others in the classroom and may pull back in shyness or act out in frustration. Research into these students’ mistrust (possibly borne of the perceived or intuited inequality among classmates) might include the origins of this mistrust, examination of which students exhibit mistrust, possible categories of mistrust, and how teachers might mitigate against these tendencies and build trust among the students. Also: in a composition classroom or a clicker lesson (or both), what kind of activities or questions might help students gain the respect and trust for the opinions of others? Dealing with trust issues is essential to helping students come to being able to construct knowledge in a fuller social manner.

Intellectual Empathy: One thinks of empathy as a function of the heart, not that of the mind. However, in the portion of the study where students looked at one another’s
“before” and “after” portfolio work, some students expressed a capacity for seeing themselves—their papers, their possibilities—in the writing of others while others were stymied by the idea that there was anything they could gain by deciding which of two snippets of writing was the improved version. Being able to visualize future change for oneself in lingering over a change that a peer made as seen on a screen seemed to be an essential component in the difference between students who had a productive, integral experience with clickers and those who had a “wasteful,” peripheral experience. Research through this type of clicker lesson (or similar types where peer changes are examined) may help shed light on how to encourage and use intellectual empathy.

Introspection and Reflectiveness: It seemed that students with a propensity for introspection and reflection did particularly well with clicker lessons; sometimes they were the quiet, introspective ones, but they were also the talkative introspectives like Ashley. Students able to use the questions and answers of clicker lessons to set off inner dialogue were well-served by these lessons. A question that may be researched is this: Is it that it is a type of lesson that works well with these personalities, or is it also possible that the repeated practice of clicker lessons (question, silence, voting, seeing, discussing, finding out answers, more discussion) builds up a capacity for introspection and reflection? Research might also consider connections between introspection and reflection with their opposite, multi-tasking.

Suggested Development for Personal Response Devices

While this is not a suggestion for research, it is a suggestion for the companies that market the personal response devices regarding how they might help teacher
researchers. In their redesigns, they might consider creating systems that allowed a more detailed audit trail of student answers: including how quickly individual students answer, if or how often they change their minds, etc. With Derek in particular, an impulsive student who seemed not to process deeply or carefully, having the opportunity to see if his answering was as impulsive and last-second as I suspected would have been helpful.

Where I Am Now

As I complete this dissertation, I find myself two years removed from my fall 2007 Basic Writing classes, whose time in my class forms the basis of this study. I still use clickers in my classes, but I look at them not as magic wands but as communications devices, another way for students to talk to me and each other, which at times is magic in itself. Clickers do not increase all students’ willingness to speak aloud in front of their classmates, but they do provide for some a spur to explain a choice; for others, they constitute an alternate participation channel; and for all, they give the opportunity to witness the alternate processing and conclusions of others. With these increased options and opportunities, valuable consequences may arise.

I have made adaptations in my use of clickers since this study. After my inaugural, unsatisfying try with clicker peer feedback, I stayed away from this lesson style for a few semesters. Eventually, I tried it again at the end of the semester with students working on portfolio revisions. I made presenting an essay for feedback voluntary, which seemed to increase students’ acceptance and interest. Also, since students were working to improve essays that they had chosen to revise and work that was more evolved than the drafts the fall 2007 students brought for feedback, student-
writers may have felt both more confident about presenting their work and more interested in input that would help them make a “final” draft even better as a portfolio revision.

Also, since this more recent version of clicker feedback was later in the semester than it was when I used it in fall 2007 (weeks 13 and 14 versus week 6), students were more familiar with one another and comfortable with giving and getting feedback. Keeping in mind my mistakes in the fall 2007 peer feedback, I tried to mediate more than lead, encourage extensions, and in equal parts, restrain myself and allow them more freedom to help one another. I was pleased with their relaxed and trusting demeanor and the level of their questions and comments. With these adaptations, we accomplished the focused look at students’ work that I had wanted all along, this time without the negative fallout of the fall 2007 attempt.

Once in awhile, I may plan to use the clickers, but for whatever reason, I am not able to. I miss the input, the information, the connection, and it seems the students do too. It is as if a dimension has been removed, limiting the experience and taking away a channel for them and an in-the-moment data source for me. Without the clickers, to understand how students are taking things mid-lesson, I have these sources: the students who will talk, body language, “vibes,” and not much else. A student’s verbal answers may be intertwined with their personality and given too much or too little credibility, similar to Robert in the Hull and Rose (1990) study and Maria with her teacher June in the Hull, et al. (1991) study. With the histograms that clicker lessons provide, students and I have a resource that allows us to abstract whole class answers and thinking in ways we could not without them.
Without clickers, I might ask students whether they had been to the Writing Lab for the essay-in-progress, a few would answer, and we would discuss the answers, but the light and heat beamed only upon those speakers. With clickers, all students key in their answer (a. I have had an appointment; b. I have made an appointment; or c. I have not yet made an appointment) and wait to see the results. When the histogram shows that about half the students in class have not even made an appointment, they burst into laughter, understanding that this is not the answer I would like to see but perhaps gently prodded into making that appointment; light and heat, self-awareness and responsibility for self is spread throughout the whole class.

Strangely enough, using clickers has also changed the way I teach in the non-clicker lessons too. I dole out big chunks of wait time, those “excruciatingly long pauses” of *Blues Clues* that Gladwell (2000) discusses. More than before, I appreciate and make room for processing time between question and answer. After giving students a question, I give them time to freewrite an answer, discuss with peers, or both. Even without writing or small group talking, I allow a long break of silence before I expect any of them to respond. Class time is more conversational as we find and use a variety of technological and non-technological ways to talk with one another.

Having completed this research, I understand better than I did going in the snowflake-like uniqueness of each class and the fragility of the students in them, fragility that sometimes reflects and sometimes belies their exterior presentation. That makes me glad that in clickers I have another way to bring students in, get them acting and reacting, processing and re-processing. Whether a student talks or not, he or she will answer with the clicker, and in differing degrees, listen to those who do talk, and compare and contrast
their thinking with peers in ways that seem to increase the cognitive traffic within. When they do talk, I have a window into students’ thinking that is clear, eye-opening, and full of opportunities for me to use what they have given me so that I might better fashion something to give them in return.

For me, clickers increase the collaborative improvisation of the educational experience and my respect for and understanding of students’ integrity as thinkers. I see the logic behind the errors that Shaughnessy (1977) writes about in a more three-dimensional, Technicolor, and useful way; I also am able to see the way clear to the unexpected flashes of brilliance. Clickers continue as a classroom communication tool and as a research interest for me; I cannot imagine going back. It would be like having gained a sixth sense and later having to go back to five.

Summary

The case study presented here is wide-ranging and exploratory, spanning several forms of personal technologies and students’ relationships with them, and examining several sorts of basic writing lessons that use something not often used in these classes: clickers. This research finds these basic writers demonstrate a greater degree of mistrust for peers and communications apprehension than I had anticipated. While the clickers opened up a new channel for communication, it caused students to recognize peers as co-thinking, processing beings just like themselves, causing some to connect to the intellectual energies and output of others and inhibiting others. Since this research had many tentacles, much future research remains in the areas of clickers in English composition and developmental coursework; for knowledge construction with basic
writers, for affective factors that inhibit and encourage basic writers’ class participation as well as possible fruitful overlays of students’ use of personal technologies with classrooms that provide meaningful and authentic learning for basic writers, learning that lures and challenges them.
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APPENDICES
APPENDIX A

INSTITUTIONAL REVIEW BOARD

APPROVAL LETTER

October 16, 2007

Michelle A. Miller
880 Whipple Drive, Apt. B
Akron, Ohio 44313

Ms. Miller:

The University of Akron’s Institutional Review Board for the Protection of Human Subjects (IRB) completed a review of the protocol entitled “Interactive Scoring: A Study of Personal Response Devices in Basic Writing.” The IRB application number assigned to this project is 20071005.

This protocol was reviewed according to 45 CFR 46 Subpart D, “Additional IRB Protocols for Children Involved as Subjects in Research.” The IRB has determined that the study represents research permissible under 45 CFR 46.404.

The protocol qualified for Expedited Review and was approved on October 16, 2007. The protocol represents minimal risk to subjects and matches the following federal category for expedited review:

7) Research on individual or group characteristics or behavior or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation or quality assurance methodologies

This approval is valid until October 16, 2008, or until modifications are proposed to the project protocol, whichever may occur first. In either instance, an Application for Continuing Review must be completed and submitted to the IRB.

Enclosed are the informed consent documents, which the IRB has approved for your use in this research. Copies of these forms are to be submitted with any application for continuation of this project.

Please note that within one month of the expiration date of this approval, the IRB will forward an annual review reminder notice to you by email, as a courtesy. Nonetheless, it is your responsibility as principal investigator to remember to complete the renewal of your protocol’s review. Please submit your renewal application at least two weeks prior to the renewal date, to ensure the IRB has sufficient time to process your application.

Please retain this letter for your files. If the research is being conducted for a master’s thesis or doctoral dissertation, please file a copy of this letter with the thesis or dissertation.

Sincerely,

Sharon McWhorter
Associate Director

CC: Sandra Spickard Prettyman, Adm. Director
Cecelia Hall, IRB Chair
Office of Research Services and Sponsored Programs
 Akron, OH 44325-2132
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APPENDIX B

STUDENTS’ CONSENT LETTER

Informed Consent Letter to Participate in Study
Examining Clickers in Basic Writing

Date ____________________________
Name (Last) ____________________ (First) ___________ (MI) ___________
Street Address __________________
City: ___________________ State: ___________ Zip: ___________
☐ I am ☐ I am not ___________ years of age or older.
If you are under 18, when will you turn 18?

Dear Student,

As part of my research for my dissertation in the College of Education, I am studying how students in my classes experience clicker lessons in Basic Writing. This study will occur in two stages, the first involving all three of my classes. In this stage, I will ask you to answer questions in a survey. I may also use examples of writing that you have produced as assignments or any time in the semester. In the second stage of the research, I will study one class in further depth. At that stage, I will have some class sessions videotaped, and I will ask students in that class to do in-class writing about what happens in those classes regarding the clickers. Finally, after the class is over (probably in January), I will interview some students from that one class about their thoughts about clickers in Basic Writing.

Confidentiality of you and your responses (in the survey, the videotapes, the written work, and the interviews) will be protected throughout the study and publication. You will in no way be identified. Your participation in this study is voluntary. If you decide not to participate, there will be no need to explain and no penalty. However, please understand that your feedback will be appreciated and will help the validity of the study. You may also decide later in the study to change your mind; if you originally gave consent, you may withdraw it up until the time of the interviews in January, and if you originally did not give consent and later decide to, that will also be fine. However, you need to speak to me should you want to change your status as a participant.

If you have questions or comments concerning this study, you can contact me at my office (330) 972-2156 or by e-mail at micheller@akron.edu or my adviser, Dr. Harold Foster, hfoster@akron.edu. The Institutional Review Board for the Protection of Human Subjects at the University of Akron has approved this research. Questions or comments can also be directed to the Institutional Review Board via Attention: Sharon McWhorter, (330) 972-8700, Office of Research and Sponsored Programs, The University of Akron, Akron OH 44325-1902.

Thank you for your assistance.

Sincerely,
Michelle Miller

☐ I consent to this study. ☐ I do not consent to this study.

Student ____________________________ (Sign here)

APPROVED

IRB

Date ____________________________
The University of Akron

293
APPENDIX C
SURVEY

ID Number ______________________________

Survey about Technology/Writing Class

I. Past Class Participation: Circle the answer that fits your experience.

1. In my previous English/writing class, on average, I participated in class by raising my hand to ask a question, give an example, or voice an opinion:
   
   A. At least once every 1-4 days
   B. About once every 1-2 weeks
   C. About once every 3-6 weeks
   D. Less often than every six weeks
   E. I cannot recall raising my hand to participate in my previous English/writing class.

II. My Use of Personal Technology: Circle the answer that fits your use of technology:

1. I do do not have a cell phone.

2. I do do not use my cell phone for text messaging.

3. I do do not have a personal Myspace or Facebook webpage

4. I have have not downloaded music, movies or media online.

5. I have have not uploaded material online (a posting on a message board, a video on YouTube, photos on MySpace, etc.)

6. I do do not have access to a computer at my residence (residence hall if I live on campus; otherwise, apartment or home.)

7. I do do not play video and/or computer games.

Please continue on the next page.
**III. Most to Least Used:** Give a “1” for the one you use the most and a “6” for the one you use the least. For the number ranking, do not use any number more than once. (Feel free to cross out and change things, but make your final answers clear.)

<table>
<thead>
<tr>
<th>Form of Technology</th>
<th>Number Ranking</th>
<th>In a typical 7 day week, how many days do you use this form of technology?</th>
<th>In a typical 24 hour day, about how much time (hours, minutes) do you use this?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cell phone for talking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Cell phone for text messaging</td>
<td></td>
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</tr>
<tr>
<td>3. Email: getting and sending letters</td>
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<tr>
<td>4. Internet browsing in general</td>
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<tr>
<td>5. Internet for Myspace and/or Facebook posting and or browsing</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6. Playing video games</td>
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</tbody>
</table>

**IV. Written Explanation of Part III Answers:**

From the list above choose one that is **among your favorites** and another that is among your **least liked.** Label each and write at least 30 words on why you like the one and another 30 words on why you dislike the other.
APPENDIX D

MATERIAL FOR GRAMMAR LESSON

Grammar Lessons: I used grammar lessons for almost half the clicker lessons, or 10 of 21 lessons, starting with lessons on sentence fragments and run on sentences and proceeding to use of quotation marks and lessons from our class text, The Course in Basic Writing (Horn & Pramuk, 1996), a sentence combining text. I include one abbreviated PowerPoint presentations here, the one used Week 14 reviewing lessons on appositives, relative clauses, and participial phrases, all under the umbrella of the LUCI “U” rule. This comes from a mnemonic for comma use that we use in our department. The “U” rule advises that commas enclose sentences structures that are grammatically unnecessary but that add descriptive elements. In this lesson, I used (with permission) examples of students’ sentences, not saying whether they had been correct in their original version or not. Following this lesson, I asked students to answer the written response questions.
2. Which is correct?

A.) They wanted to go to a club, but Marty who was already married with kids chose to go back to the hotel.

B.) They wanted to go to a club, but Marty, who was already married with kids chose to go back to the hotel.

C.) They wanted to go to a club, but Marty, who was already married with kids, chose to go back to the hotel.

--Terry

1. Which is correct?

A.) I had friends that were from the TV production crew, the stage techies, and my show choir, Music in Motion.

B.) I had friends that were from the TV production crew, the stage techies, and my show choir, Music in Motion.

--Ron

Relative clause

They wanted to go to a club, but Marty, who was already married with kids, chose to go back to the hotel.

Unnecessary info—Descriptive but not needed to identify Mikey.

--Terry

Appositive, CBW 119

I had friends that were from the TV production crew, the stage techies, and my show choir, Music in Motion.

--Ron

3. Which is correct?

A.) Walking down the small dirt road back to the truck, we were hoping not to get caught by the police.

B.) Walking down the small dirt road back to the truck, we were hoping not to get caught by the police.

C.) Walking down the small dirt road back to the truck, we were hoping not to get caught by the police.

--Todd
4. Which is correct?

A. Going into 7th grade, we moved back to Berea....

B. Going into 7th grade we moved back to Berea....

---Cassie

Sometimes a phrase is a SUBJECT:

Signing that sheet felt like I was signing a speeding ticket or a detention slip.

---Bryan

NOTHING is unnecessary!

---Slide #7

---Slide #10

LUCI "I" Rule AND LUCI "O" Rule:

Introductory phrase

Grammatically unnecessary

Being the new girl on the block,

I mainly covered the night shifts.

---Slide #8

6. What is the next logical word?

A.) Turning around, is....

B.) Turning around, I....

---Jerrie

---Slide #11

5. Which is correct?

A.) Signing that sheet, felt like I was signing a speeding ticket or a detention slip.

B.) Signing that sheet felt like I was signing a speeding ticket or a detention slip.

---Bryan

---Slide #9

Descriptive phrase is next to what is described.

Turning around, I walked over to the cabana bar and met my soon-to-be best friends Lacy and Mia.

---Jerrie

---Slide #12
8. Which is correct?

A.) The coach, excited with his team's performance congratulated them.

B.) The coach, excited with his team's performance, congratulated them.

Slide #13

9. Which is correct?

A. The coach, excited with his team's performance, congratulated them.

B. Excited with his team's performance, the coach congratulated them.

C. Both

Slide #14

Both are correct!

The coach, excited with his team's performance, congratulated them.

OR

Excited with his team's performance, the coach congratulated them.

Slide #15
Electronic Report

<table>
<thead>
<tr>
<th>Students</th>
<th>A</th>
<th>B*</th>
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<tbody>
<tr>
<td></td>
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<td>B</td>
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</tbody>
</table>

Response Percentages: 11% 67%

Student Responses

A  B  NA
WR4: Your Experience of a Grammar Lesson Using Clickers

Respond to these questions, first choosing the answer that fits your view for Question #1 and then picking question #2 or #3 and writing at least 30 words for your answer.

1. Hearing others discuss their thinking in today’s clicker lesson, my own thinking about issues connected to writing did or did not change (circle your answer).

2. If so, how? Be specific on how your thinking changed, using names of classmates, what they said, and the impact it had.

3. If your thinking did not change, why not? Be specific, telling why your thinking did not change.
APPENDIX E

MATERIAL FOR PEER FEEDBACK LESSON

Peer Feedback Lesson: Students brought copies of drafts that they distributed to classmates. This November 12 class was the final clicker peer feedback lesson, with the previous ones held Mondays of weeks 6, 8, and 10. Student-writers marked their draft into 4-8 sectors, putting an “A” in the margin for their introduction, a “B” for the section following the introduction, a “C” for the section after that, and so on. Students could have as few as 4 sections (A-D) or as many as 8 (A-H). This was the first semester that I used clicker peer feedback. Immediately after the lesson, I gave the first handout soliciting written responses, and two days later, on the day they handed in their final draft, I gave out the section handouts seeking written response. These two written response handouts follow the PowerPoint as well as two of the drafts that were workshopped in class this day, Derek’s draft and Dan’s draft.
**Feedback:**

Readers' ideas may influence writer's choices and changes!

**More thoughts:**
- Other thoughts?
- More questions?
- Suggestions?
- Additional comments?

---

**The strongest part of this essay is...**

A.) the introduction  
B.) the first part of the body  
C.) the second part of the body  
D.) the conclusion

---

**This part needs the most work:**

A.) the introduction  
B.) the first part of the body  
C.) the second part of the body  
D.) the conclusion
My Best Friend

Basic Writing
November 11, 2007

I'm going to write about my friend. My friend and I meet him when I moved to Ohio into my grandparent's house in the second grade. When I moved to Ohio I didn't know anyone it was kind of wired because it was only a 2 mile small town a suburb of Cleveland, Ohio.

I meet him when I was riding my bike down the street as a matter of fact it was his street it was called Street. When I meet him I saw a lot of kids playing in his back yard, so I asked if I could play. looked at me and said I don't even know you and he could tell he didn't even like me, without even knowing who I was.

It felt like a car running me over that's how bad it hurt. A few days later we started school at Elementary school and he was in all of my classes so then we started hanging out. I could tell he would be my best friend from then on. We went threw all of our years of middle school and even high school together.

Are friendship is so strong it's like fresh paved concert. is my best friend and will always be. I will never step on his toes and I know he would never do that to me either. I also know he will always be their for me and I will always be their for him to. There's a lot of good things about us and a few different things not bad or nothing though. His mom, step dad, and even his real father are like my second parents. My family is like
his second family to them loves that kid to death and I am different like he's a clean freak and I'm not a dirty person but it's like he had OCD to the cleaning that he does. To this day and I are in college now at and we also live together in a 4-bedroom apartment with are roommate James who is a pretty cool dude. and I are still really close and are still best friends and we are also having the time of our lives.

We have two famous quotes that we always say the first is we ride together and we die together but we're bad boys for life. The second is you owe you everything and doesn't anybody owe you shit and I are thinking about transferring next year to a different college not saying isn't that fun its just I'm so sick of the shitty weather and I want to meet a lot of more new people then I have already so far.

We're trying to see if are roommate now is trying to do the same thing and he said it sounds pretty good. I believe is the coolest best friend that anyone could ever ask for and I know if I ever need anything like rent money or a co-signer I could ask him for anything and if he needed to ask me for anything he does and he knows I would give it to him.
“TROUT RIVER LODGE”

My grandfather is a jack-of-all-trades, he’s a realtor, taxidermist and a real great man. He married my grandmother, on November 22, 1985. They love everything that has to do with nature, especially hunting and fishing. Because, they love fishing so much that, they have been taken a fishing trip to Canada since August 1986. They always stay at a place called “Trout River Lodge.”

In August 1992, I was living in Kentucky, with my mother and sisters, and . When, my grandparents came to visit us, for the weekend and they invited me to go along with them. Although, I’ve been fishing before, I never fished in Canada, so I was very excited to go. The night before we left, I was dropped off at my grandparent house. It was my grandparents, Uncle , Aunt , cousin , and I, would be spending a week and three days, catching fish at “Trout River Lodge.”

The morning we left, was a hot, sunny day at 5:45 am, all six of us, crammed into small, 6-passengers Chevy van. We were off like runners in a New York Marathon. After driving all day, stopping only to fill up with gas, eat, and stretch our legs in places like Wisconsin and Minnesota. Finally, we arrived in Canada at 7:45 am, it only took us 26 hours and then with a loud roar like a Lion. He yelled, “We’re here, we’re here.” Right after we pulled into the Lodge, and , the owners, of the lodge, came out to greet us and help us unload the van.

Twished everyone would hurry. Because, I couldn’t wait to grab my pole, bait my hook, and start catching some fish. My grandfather says “First we have to go buy a fishing license and a hunting permit.” On the fifth day, 6:00 am, my grandparents and I in one boat my Uncle , Aunt , and in the other, head out to a cove shaped like a boot. After we fish all morning about 11:00 am, we pick a spot on the beach and have a cook-out with we caught that morning. Next, we clean up and head back to the lodge. We get back, around 5:00 pm and my grandmother says, “Who’s playing Canasta?” We cut the deck, to see who teams. Because it my grandfather , knows when to hold them, and Uncle , Card Shark, they usually win the card game but sometimes they lose.
WR2: Your Experience of Clicker Lesson, Peer Review of Drafts, Part One

Respond to these two questions. If Question #1 applies to you, write at least 30 words. If it does not apply to you, you don’t have to answer it. Everyone should answer Question #2 in at least 40 words.

1.) If you had your essay considered today or a previous day in a clicker peer review session, how was the experience? Did it help you find ways to improve your draft, or did it not help you find ways to improve your draft? Be as detailed and clear as possible about what did or did not help.
WR3: Your Experience of Clicker Lesson, Peer Review of Drafts, Part Two

Write at least 40 words for each question,

1.) Some peer feedback sessions are done in small groups where writers read, and group members give ideas to make the essay better; other feedback days, we use clickers to give our thoughts on the writer’s draft.
   
   a.) Which style of feedback session helps you better understand what is good in writing and how to accomplish that? Circle your answer.
      
      Small group workshop       Clicker workshop
   
   b.) Why?
   
   c.) So far as learning about writing goes, what are the pluses and minuses of each style of lesson?

2.) Were there any changes you made in this particular essay that result from what you took from Monday’s clicker feedback session?

   What were these changes or adjustments, and why did you make them?
APPENDIX F
MATERIAL FOR METAPHOR LESSON

Metaphor Lesson: After two questions to get students into the mode of metaphorical thinking, this lesson’s questions encouraged students to make their choices based on their opinion, and for each question, the final option was “other,” which I provided for those who had ideas that went beyond my choices. In other parts of this unit of lessons, students read essays by past Basic Writing students that use metaphors. The PowerPoint of this lesson immediately follows. After these lessons, students freewrote metaphorical ideas and had the option to use/not use metaphor in their next essay. Kim took such an opportunity in her portfolio revision. The October draft of her essay is followed by her portfolio revision of the same paper, where she integrates throughout a metaphor comparing her mother to a devil and angel. At the end of this section is the handout asking students to give a metaphor for clickers. This gave them an opportunity to practice metaphor and to give me a view into their views about clickers.
Metaphors
A Writer's Opportunity

Two metaphors, one topic:
My family life is like a warm blanket on a cold winter night.
My family life is like a scar that won't heal.

1. My family life is like a scar that won't heal.
   This means:
   a. We are always scraping our arms and knees.
   b. We are in the health care profession.
   c. Before we heal from one wound, we hurt each other again.

2. My family life is like a warm blanket...
   ...on a cold winter night. This means:
   A. We tend to catch cold in the winter time.
   B. We comfort one another through difficult times.
   C. We are cold-blooded.

3. Friendship is like...
   A. A carton of milk— it will nourish you, but after awhile, it sours.
   B. Bottle of fine wine— it grows better with time.
   C. An ever-changing journey
   D. Something else I have to juggle in my busy life
   E. Other...

4. When I study—— I am like...
   A. A sponge
   B. A kid in a dodge ball game
   C. A wrestler
   D. Someone on an assembly line who sorts the good and bad
   E. Other
5. I choose a boyfriend/girlfriend like...
   A. Some one picking number balls out of a lotto machine
   B. I'm throwing darts at a dartboard
   C. I'm buying a car
   D. I'm choosing an accessory (a purse, cufflinks, etc.)
   E. Other

6. If my life were a game, it would be...
   NOT your favorite sport, but...
   A. Chess
   B. Football
   C. Soccer
   D. Basketball
   E. Other

7. If my life were a season, it would be...
   A. Spring
   B. Summer
   C. Fall
   D. Winter
   E. A bright, warm winter day
   F. Other
Listening to parents is a key to get a bright future. Parents always know what the best for us especially our mom. Sometimes she will use all tricky way or force us to do something that we don’t like. I believed that’s merely just for our goodness. She would not let us down or let us go to the wrong direction in our life. Like the way she applied her discipline to me.

I never had good relationship with my mom when I was a little girl. She made me study and study every time. She put me in piano class and dance class when I was 5 years old which I did not like. I had to go to those courses twice a week for each of them and that made me feel that I lost my freedom. I felt that I could not watch the TV shows that I liked. Every afternoon after I come back home after school, she will make me take a nap although I did not like it at all. She said that it is good for me, because it will help me to concentrate on my study. Sometimes I just ran away and sneaked off to the living room and quietly watching TV when I thought she was sleeping, but she always found me and brought me back to my bed. I was trying so hard to please my mom with my grades at school. I did my homework everyday, studying for my test, then, she will give me a quiz. If I could not answer the questions she told me to study again until I could answer her questions. If I don’t have any homework or test, she would tell me to review my lesson from piano course over and over until I got tired.

When I was in elementary school, the teacher always make our parents come to school and have a little counseling to discuss our grades. Basically my grades were not bad or too high, but I had never liked if they asked my mom come to my school. It could be because the way my mom wore her clothes. It was like a teenager. I was ashamed when I saw that my mom just wore a shirt and jeans whenever she met my teacher. I thought that was not the polite way to go to school and meet the teacher. I did compare my mom with my friends’ moms who always wore skirts and collared shirts or formal dresses, and for me that’s a good example. The other reason is my friends looked at my mom like she was my sister. Yeah, to be honest it made me kind of jealous, and I know that was really immature.

Our conversations never went smoothly. Mostly we got in big arguments which made me avoid talking to her. As a kid who lived in a traditional family, I always saw my mom as a bad figure. I dreamed that my mom would change someday into another ordinary mom like my friends’. I remember that she had dyed her hair with purple color one day. I didn't like her style at all. I ask her why did she have to change her hair color? She just said if that was just for fun. I couldn’t believe when she was listening to techno music. Whenever she played that music in our car, for the first time, it really bothered me. When I ask for reason, she kept saying that music would help her to stay awake and drive safely at night. As the time went by, her habits didn’t bother me anymore; as I grow up, suddenly I started to fall in love with my mom’s style. My interest in fashion and music turned like my mom did since I became a pre-teenager. I began to ask my mom to buy me a sport shoes and a high heels, which was I had never liked before. I persuade her to get me a new beautiful dress and sometimes I asked her to lend me few of her collection. Since then I also learned to put make up on, I liked to do some
experiments on my hair, and listened to a music which she was crazy about. I did not feel bad at all when I knew my mom's influence really hit me; instead it made me happier and indeed understanding her reason - to keep ourselves young although our age does not.

I know I could not do anything without my mom. Although I am twenty but going to the mall alone is not my habit. Normally I always went there with my friends, but since I moved to Ohio, I have not found any close friend yet, so I always ask my mom to go with me wherever I'll go except for go to school. When I realized everything what my mom's doing, I got better understanding about hers, and how life's in her opinion. Now we can talk like a friend or sister, I could share my opinion with her and ask her to help me solve my every problem. I always have a great time whenever she's with me, like I had a great time with my friends.
Angel, Devil, and Mom

Mom – devil and angel – what makes them different? Mom is like an angel, always knowing what’s good for us. Sometimes she can be like a devil; she will use tricky ways to force us doing something that we don’t want to do. However, mom is only a mother who has never wanted to hurt her kids; I believe that everything she has done was merely for our best. In an angel and devil’s disguise, she wouldn’t let us down or let us go in the wrong direction like the way my mom applied her discipline to me. It doesn’t matter whether she’s in her angel or her devil appearance; she has always been my world and cloud whenever I needed protection.

To be honest, my relationship with my mom – my angel and devil - wasn’t really good when I was a little girl back in Indonesia. Her streak to make me study created her image as a devil in my eyes. She put me in piano and dance class when I was five years old, which I did not like. I had to go to those courses twice a week for each of them, and that made me feel as though I have lost my freedom. I felt that I couldn’t do what I wanted to do like other normal kids about my age. Every afternoon after I come back home from the school, she would make me take a nap no matter whether I liked it or not. She said that it was good for me because it would help me to concentrate on my studies. Well, in this case the angel was right. It helped me though I didn’t realize it. Sometimes when I thought she had already fallen asleep, I jumped out carefully from my bed and sneaked off to the living room, slowly and quietly watching TV. No matter what strategy that I’ve done, she always knew when I wasn’t in my room, then, with a devil’s face she would take me back to my bed. I was trying so hard to please my mom with my grades at school. I did my homework, studying for my tests, practicing my piano lesson, and doing the same activities everyday.

One day when I just awoken from my napping time, my mom brought me to the backyard of my home. She sat me on the small, nice chair beside the well, and started to cut my long, nine inches of hair. I said to her slowly, “Mom, don’t cut it too short. Just cut it at least two inches from my shoulder.”

She replied my to request, “No problem, just wait and see.” I believed that my angel wouldn’t break my trust of her, so I just let her cut my hair down without any comment. After a few minutes, even without a mirror, I could clearly see on how short she was cutting my hair. I started to ask her not to cut it too short, again, but it seemed like she didn’t care. I ran as fast as I could to my bedroom when she was finished. When I saw myself on the mirror, I was shocked because what I found wasn’t what I wanted. She had cut my hair up to my ears.
“This is not what I want!!” With an angry feeling, I went outside to see my mom and let my anger out. I yelled at her with a half crying, “Mom, how could you do this to me? You had said it wouldn’t be this short."

Calmly with a devil’s smile she answered me back with a question, “What do you want me to do then? Put some glue on your hair to make your long hair back?” I didn’t know what to say, so with a quiet step I went back to my room and tried to accept my new hair. I still remember that she loved to see a girl with a short hair. She said that it would be cuter for a nice little girl like me. I noticed a new me in my mirror and tried to see myself from the angel’s side. Once again, she was right, and I was wrong. I looked cuter in my short hair.

The next day after my hair cut, the teacher in my elementary school made our parents come to school and have a short session to discuss our grades. I hate when this moment comes. I had never liked if they asked my mom to come. I wasn’t afraid about my grades that they would talk about. It was because the way my mom wore her clothes. It was like a teenage devil. I was ashamed when I saw her just wearing a shirt and jeans whenever she met my teacher. I thought that was not the polite way to go to school and meet the teacher. I did compare her with my friends’ moms who always looked like beautiful angels - wearing skirts and collared shirts or formal dresses. The other reason is my friends looked at her like she was my sister. I didn’t like when they said that because it made me feel I had gotten old too soon. Yes, to be honest I was kind of jealous. I know that was really immature, but nowadays, I see a lot of middle age women who have started to wearing a casual style like my devil mom did; they wanted to look younger. This fact hit me one more time and made me realize that she was right in her taste of style.

As a kid who lived in a traditional family, I always saw my mom as a bad, ugly devil. I dreamed that my mom would change someday into a pure angel who wouldn’t show her devil side ever again. I remember that she had dyed her hair purple one day. I didn’t like her style at all. I asked her why did she do that? Her devil side came back with smile a and said, “Just for fun, honey..” The other thing that surprised me was when she listening to techno music. Whenever she played that music in our car for the first time, it really bothered me. When I asked for her reason, she kept saying that music would help her to stay awake and drive safely at night. As the time went by, I became more mature and her habits didn’t bother me anymore. Slowly but surely, I started to fall in love with my mom’s style. My interest in fashion and music turned like my mom’s did since I became a teenager. I began to ask my mom to buy me sport shoes and high heels, which I had never liked before. I persuaded her to get me a new beautiful dress, and sometimes I asked her to lend me few of her collection. I also learned to put make up on in my eighth grade. I liked to do some experiments on my hair and listen to music which she was crazy about. I did not feel bad at all when I knew my mom’s influence really hit me; instead it made me happier and indeed understanding her reason - to keep ourselves young, although our age does not.
Since I came to the United State one and half year ago, I have not found any close friends yet; consequently, I always put my mom in every decision that I have to take, and it makes my relationship with her even better. All the big arguments that we had been through made me realize that nobody’s perfect in this world. Everyone has two sides personality, including me; however, as long as we can control the devil’s side, I think that it won’t be a big matter. Whenever I go, wherever I am now, there will always be my angel on my left side and the devil on my right side. From all the events that happened in my life, I am thankful that I have a mom like an angel and a devil so that I can take a lesson on how to be a good parent for my kids in the future.
WR1: Your Experience of Clicker Lesson on Metaphor

Respond to this question in at least 50 words.

We have studied metaphor, the idea that a writer can take an abstract idea, like friendship, and compare it to something concrete, like a carton of milk with an expiration date on it. Thinking back to the lessons we have done using clickers, write a metaphor or simile for what clickers or clicker lessons are like for you. Feel free to think on paper, to freewrite your way to an answer.
APPENDIX G

MATERIAL FOR PORTFOLIO LESSON

Portfolio Lesson: For this lesson, I solicited student-generated excerpts of portfolio revisions, a “Before” and an “After,” showing the original and the improvement. I read over these assignments and picked those that I felt showcased interesting and complex examples of revision. I chose some where the improvement was fairly obvious and others where it was more debatable, where each version had its pluses and minuses. The PowerPoint here is a shortened version that gives examples from students in both classes.

Immediately after this lesson, I distributed the following “Part One” written response form. Later, on the day the final portfolio revision was due, I asked students to fill out a two-page written response form, the first page asking what changes they made in their portfolio revision that were inspired by the clicker lesson and the second page, an overall assessment of clicker lessons, given in landscape style asking students to give words and phrases that applied to clicker lessons, non-clicker lessons, and a third category that encompassed all lessons.
Portfolio Choices:

Which is the before, and which is the after?

Fall 2007 students

1. Which is the revision?
A.) I've been out of h.s. for 5 years now. I just never thought college was for me, so after graduating from h.s. in 2004, I never attempted trying to apply to any colleges.

B.) I've been out of h.s. for 6 years now. I just never thought college was for me. I hated school. I hated waking up in the morning just to make it to classes. I hated those long hours of studying for tests. Quizzes and homework. So in June 2004 after graduating from h.s., I felt like a free person who can finally leave stress-filled studying and homework behind me.

--Lina

2. Which is the revision?
A.) Mom—devil and angel—what makes them different? Mom is like an angel, always knows what is good for us. Sometimes she will use all tricky ways to force us to do something that we don’t want to do, like a devil.

B.) Listening to parents is a key to get a better future. Parents always know what is best for us, especially our mom. Sometimes she will use all tricky ways to force us to do something we don’t like.

--Kim

3. Which is the revision?
A.) The one reason I would think people would make fun of her is because of the way she dressed and looked. She was raised by her father and brothers only. So, this way of living made her dress like a boy, and sometimes do things with the guys instead of the girls.

B.) The one reason I would think people would make fun of her is because of the way she dressed and looked.

--Marie

4. Which is the revision?
A.) Wally and I met in the first grade and became really close friends because we both had the same classes. Wally always knew how to make people smile with his amusing charm.

B.) Wally and I had been friends since the first grade we both had the same classes together. To lose someone that was not only close to me but, everyone knew him was so overwhelming. Wally was such a great person he always knew how to make people smile and laugh.

--Julia

5. Which is the revision?
A.) At the beginning of the dance competition, I received word that Bev, my dance instructor, said I was going to do a solo. I got really excited and we got started immediately. I've always wanted to do a lyrical solo.

B.) It was my junior year, and I was ready for a challenge. I wanted to compete against girls my own age. That’s when I decided to do a solo. I told Bev, my dance instructor, that I wanted to do a solo this year. Surprisingly, she said that I could do one. I got really excited, and we got started immediately.

--Penny
WR5: Your Experience of Clicker Lesson,
Portfolio Revisions “Before” and “After,” Part One

Respond to each question in at least 40 words.

1.) As we chose between examples of changes classmates made from their original drafts to their portfolio revisions, what was it like for you to decide which version was the revision?

2.) What can you take from this lesson as you revise your second portfolio essay?
WR6 (part one) : Your Experience of Clicker Lesson, 
Portfolio Revisions “Before” and “After,” Part Two

Respond to this question in at least 40 words.

Were there any changes you made in this portfolio revision that result from what you took from the clicker feedback session on portfolio changes? If so, what were the changes you made, and why did you make them? If there were not changes that were at least partly inspired by the clicker “before” and “after” lesson, tell why not.

When you finish page one, go to the next page and fill in the other side.
Retype landscape document here.

Student ID Number ___________________

In the first column, write words and phrases that describe your thoughts and opinions on writing class lessons that are based in books, lecture, and non-technological discussion. In the far right column, write words and phrases that describe your thoughts and opinions on writing class lessons that use “clickers.” In the column between, write words and phrases that describe both types.

<table>
<thead>
<tr>
<th>Non-technological writing class lessons</th>
<th>Things both lesson styles have in common</th>
<th>Clicker lessons in writing class</th>
</tr>
</thead>
</table>
APPENDIX H
MATERIAL RELATED TO INTERVIEWS

December 5, 2007

Dear BW Student/Participant in my Clicker Study,

After school resumes in mid-January, I will contact some students from your class to be interviewed about their thoughts on clickers in Basic Writing. If you are chosen to be interviewed, and you agree, you will come to a place to be determined in the (area) of (building), and for about 20-30 minutes, I will ask you questions, you will answer, and I will audiotape the conversation and use it as the final category of data in my study. As a thanks for your participation in the interview, I will give you a $10 (cut) gift card. So that I will be able to contact you, please fill in the following information:

Name: ____________________________________________________________
Contact information: Phone numbers: ________________________________
Email address: _____________________________________________________
Preferred Pseudonym: By what first name do you want me to call you in the dissertation? You may not use your real first name, but if you gave a fake name (pseudonym) in your clicker registration, you might consider that. Use a real name, not something like “Spongebob,” or I may overrule your choice of a name with my own.

________________________________________

Again, thank you for your help in my study! It is greatly appreciated.

Sincerely,

Michelle Miller
Demographic Information (for interviewed students)

Student Number

I.) Demographic Questions: Circle the letter of the answer that best answers the question.

1. My age is:
   A. 18-24 years of age
   B. Age 25 or more

2. My gender:
   C. Female
   D. Male

3. My race/ethnicity:
   A. African American
   B. Caucasian
   C. Asian
   D. Hispanic
   E. Biracial or multiracial

4. In fall 2007, I also took one of these classes:
   A. Basic Math (I or II)
   B. College Reading and Study Skills
   C. Neither
Semi-structured Interview Questions

These are the questions I opened with; I also asked follow up questions like “Why?” “Why not?” “Why do you think that was?” “Can you think of an example?”

The starting questions:

1.) Go back to the English or writing class that you took before Basic Writing. Tell me about your participation style, meaning, how you spoke, questioned, or actively participated in the class lessons.

2.) Now we are moving to this last semester in Basic Writing, specifically the lessons where we used clickers. How is your participation in this type of lesson in comparison to other kinds of lessons?

3.) How are clicker lessons different for you as a student than other lessons?

4.) How are clicker lessons the same for you as a student than other lessons?

Finally, I took this chance to clarify questions I had in the data for the interviewee. For example, if a student wrote a response in one of the post-class writings that I didn’t understand or would want them to elaborate on, I brought out a copy of that data, showed it to the student, and where necessary, asked them to explain or elaborate. Also, if I had a question about something that happened in class that he or she said in one of the videotaped classes, I provided that student with a copy of the transcript and asked about it.