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Using Video-microanalysis to Examine Identity Construction During Teacher Collaboration

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Introduction

Urban high school teachers in the U.S. work under challenging conditions and are often isolated from their peers during much of their school days (Shank, 2006). As a consequence, learning communities that develop organically (Wenger, 1998) in urban schools tend to emerge as informal social support networks more than as intentional collaborations (Shank, 2006). Recent studies show that teacher collaboration and a sense of community are essential for stimulating substantive classroom change that does more than just perpetuate the status quo of the school (Glazer and Hannafin, 2006; Shank, 2006; Snow-Gerono, 2005).

When it comes to integrating technology, collaboration is essential because using technology in the classroom is not simply another pedagogical technique. For teachers, reconceptualizing who they are as teachers, transforming their identity or sense of self in the classroom, is a necessary part of technology integration because this may go against the grain of everything they have experienced in their own education and their teacher training experiences. For many urban teachers, using technology in their classrooms, specifically in ways that empower students, may be unfamiliar and daunting. Consequently, being able to collaborate with like-minded educators can serve as one step toward envisioning new ways to teach that involve technology use for students. The English/Technology Curriculum Writing Group at the Discovery Institute, College of Staten Island, CUNY was designed with this in mind. The intent was to create a space where teachers with diverse experiences and backgrounds could collaborate, exchange ideas, and gain new resources, thereby beginning to transform their identities as teachers and technology users. The purpose of the study was to use video microanalysis to identify when and how teacher/technology user identities are re/constructed during teacher collaboration.

Problem

According to Technology Counts 2007, technology availability in U.S. schools has steadily been improving over the past decade; yet, “much evidence suggests that schools are a long way from leveraging technology’s potential” (Technology Counts, 2007). As explained in the executive summary, “Today, nearly all schools can get online, and the percentage of instructional computers with high-speed access hovers around 95 percent.” In addition, “NAEP data shows that about half of 4th and 8th grade students had access to computers in

their mathematics classrooms in 2005,” while “more than three-quarters of students could access computers in a lab or media center” (Bausell & Klemick, 2007). Nationwide data for 2006 shows that there were on average 3.8 children per computer and the student-to-computer with high-speed Internet access ratio was 3.7 (ibid). Yet, often technology availability and access in urban schools is different than in their suburban counterparts, and technology is put to little use aside from using computers for word processing and Internet searching.

While there are still no studies that can conclusively prove that technology improves learning (Viadero, 2007), access and availability to technology-infused curriculum is still a matter of equitable schooling. There are many benefits that have been linked to technology use in schools, such as, “improvements in writing quality and communication, heightened student engagement, deeper understandings of some abstract concepts, changes in teaching practices, and the opportunity to give students new windows opening onto previously unseen worlds” (Viadero, 2007). However, urban schools are less likely to have computers in their classrooms for regular student use. Often computers are housed in computer labs and reserved for completing specific tasks like writing papers or gathering Internet data, as opposed to being used seamlessly in daily classroom practice. As a result, urban students are less likely to experience the benefits of digital learning. Equitable access to technology in schools is a moral and ethical issue because as Tobin (2005) explains, unlike middle and upper class students, many urban students who often come from lower and working class backgrounds will “encounter learning technologies for the first time in schools”, and “they may not be disposed to use the different technologies and may be unaware of their potential as learning resources. In this regard, disadvantage is contained by the boundaries of social class and may be confounded with ethnicity” (Tobin, 2005, p. 149).

Given the terrain U.S. urban teachers must navigate daily, technology integration, while desirable, does not always seem feasible, particularly without the support of others who share the same vision and goals. As a result, even if teachers are very versed in how to use technology for their own purposes, technology use in the classroom is often set aside. Yet, much literature about technology integration still considers educator competence the number one obstacle to integration (Bausell and Klemick, 2007), and not enough attention is paid to what it means to identify as a teacher and technology user in a culture that does not readily afford teachers agency or professional community that is beneficial to utilizing technology in the classroom. As such, it is easy to simplistically cite the teacher as being at fault for a lack of technology integration. The end result is a self-perpetuating cycle that denies students meaningful technology-rich education.

Context

Public Schools in New York City

Urban schools in the U.S. service populations of students that overwhelmingly are members of ethnic minorities, English Language Learners, low-income, and/ or special needs. In New York City, the nation’s largest city, this description of urban schooling is no different. The

New York Department of Education (NYC DOE) is the largest public school system in the country, housing nearly 1.1 million students in approximately 1200 school buildings (New York City Department of Education, 2008). According to the 2000 U.S. census, the population of New York City is 37% White (non-Hispanic), 28% Black, 27% Hispanic, and 10% Asian. Thirty-six percent of the population is foreign born, and the median household income is \$38,293. New York City also has the greatest income disparity between school districts with the wealthiest district having a median household income of \$188,697 and the poorest district having a median household income of \$9,320. Yet, the students within the NYC DOE do not reflect the overall demographics of New York City. Forty percent of all public school students live in a household where a language other than English is spoken. Hispanic students at 36.7% are the largest group represented in the public schools, followed by black students at 34.7%, then Asian students at 14.3%, and White students at 14.2% (NYC DOE). Of all students in the NYC DOE, 73.4% are eligible to receive free or reduced lunch (National Center for Education Statistics, 2003). These same schools that house the nation's most vulnerable populations of students are also more likely to be under-funded, understaffed, overcrowded, and plagued by high teacher and administrator turnover (Kozol, 2005).

According to Technology Counts 2007, New York state schools lagged behind the national average in technology availability and use. New York received a D+ on its state technology report card, with only 49% of students having access to a computer in the classroom and 74% of students having access to computers in a lab/media center. New York was also behind the U.S. average in student to computer ratio, weighing in at 4.3 as compared to the nation's 3.8. In addition, the disparity in access between high poverty and low poverty students and minority and white students in New York schools was significantly wider than the national average. Students per instructional computer in New York showed was 4.1 to one for high poverty students and 3.5 to one for low-poverty students, as compared to 3.7 to one and 3.6 to one respectively for the U.S. average. Schools with high minority populations showed an even greater distance with 5.7 to one for high minority and 3.5 to one for low minority as compared to the nation's 4.0 to one versus 3.6 to one. Students per high-speed Internet computer fell in at roughly the same numbers (4.2 to one high poverty vs. 3.2 to one low poverty and 5.8 to one high minority vs. 3.2 to one low minority in NY, as compared to the 3.8 to one high poverty vs. 3.5 to one low poverty and 4.1 to one high minority vs. 3.5 to one low minority U.S. average).

By extension, NYC DOE teachers are faced with unique challenges when integrating technology. While professional development is offered and technology learning standards for teachers and students are mandated, with some exceptions, these opportunities and mandates often amount to training sessions about new curricula or classroom strategies that have been designed by parties outside the schools. Teachers who seek to take ownership over technology by integrating it into their own curricula designed for their own students' needs will often find themselves flying blind and solo. When understood in this way, a lack of technology use in urban public schools is not simply a result of teacher apathy; rather, this is a strategic agentic choice. With so many other pressing concerns, teachers' immediate goals will likely not include pioneering technology use in their classrooms. In addition,

informal learning communities that will naturally emerge among the staff may have more to do with coping strategies than curriculum innovation and technology integration.

The Discovery Institute: Improving Teaching Through Teacher Collaboration

Founded by former public school teachers, the Discovery Institute (DI) at the College of Staten Island, City University of New York (CSI-CUNY) (the site of this study) was developed as a response to the unique challenges faced by teachers and students in New York City's public schools. The DI began in 1987 with a \$6,000 grant and six collaborating teachers. Believing that teaching and learning could be improved by encouraging teacher professionalism and empowerment, the DI's philosophy is that no lessons designed by "experts" can promote learning as well as "imperfect" lessons designed passionately by the teacher who will administer the lessons in the classroom. As such, DI professional development activities were not designed to provide teachers with curricula; rather, they provide teachers with space and incentive to engage in professional learning communities where they craft their own discovery (inquiry) lessons with their peers from around the city. This is the premise behind perhaps the largest DI initiative, the DI curriculum writing groups. Teachers leave their home schools and come to the College of Staten Island where they collaborate with and receive feedback from other teachers. Also recognizing that teachers are professionals and should be treated as such, the DI provides monetary compensation for the teachers' participation. As an indication of the institute's success, now 21 years later, it is a multi-million dollar grant funded operation with more than 200 participating teachers (<http://discovery.csi.cuny.edu>).

Espousing the belief that collaboration is essential for the transformation of teacher practice, and recognizing the success of the DI curriculum writing workshops, I implemented the English/Technology Curriculum Writing Group. My goal was to provide this same sense of community support and professionalism for NYC high school English teachers who were interested in integrating technology into their classrooms.

Purpose of the Study

The English/Technology Curriculum Writing group at the Discovery Institute at the College of Staten Island/City University of New York emerged as a response to my own experiences teaching graduate education courses that were designed to help teachers use and integrate technology in their classrooms. For the most part, while many teachers found the classes helpful and enjoyable, their participation in the courses did not translate into technology integration. I recognized that acquiring computer and technology skills simply was not sufficient for helping teachers to transform their practice. In many cases teachers did not have a community of support in their schools and they found it difficult to be innovative by using technology in their classrooms. Often teachers would use technology for their own purposes, such as creating lessons or handouts, but not often did they use technology with their students. By initiating the English/Technology Group, my goal was to provide urban teachers with a much-needed space for collaboration in which they could begin to re/construct hybridized teacher/technology user identities.

This study aims to understand how identity is re/constructed within the group in order to develop a deeper understanding of what it means to be a teacher and a technology user in an urban school. By examining the ways in which teachers engage with technology and each other during group interactions, I attempt to bring to light the ways in which teachers come to see technology use in their curriculum as a part of who they are as teachers. Ideally, this collaborative identity construction within the group would lead teachers to envision themselves and their students in new ways, enabling them to transform their practice and integrate technology into their classrooms.

Theoretical Framework

To make sense of how this process of identity construction works, I draw from identity theory (Roth and Tobin, 2007; Wenger, 1998), learning community theory (Lave and Wenger, 1999; Wenger, 1998), sociology of emotions (Collins, 2004), and socio-cultural theory (Swartz, 1997; Sewell, 1992). By looking at the phenomenon through these four lenses, identity construction can be understood as a dialectical process of that is contributed to by both the individual and collective.

Identity, Individual | Collective, and Communities of Practice

At first glance, identity seems to be a simple concept. An individual's sense of self, the answer to the question "who are you?", seems the most obvious interpretation. However, Roth and Tobin (2007) explain that there are "at least two aspects to identity" (p. 1), a relatively stable core identity in which a person recognizes her narrative biography, and an unstable or fractured collective identity in which a person recognizes who she is in relation to a collective group. Meaning that, while an individual may always have a core sense of who she is and where she comes from, this sense of self will fluctuate depending upon her relationship with others in her collective groups. "Thus, from one setting to the next, our identities, as revealed by our transactions with others, change" (ibid). The implications of the duality of identity for teachers is important because this suggests that transforming classroom practice is not as simple as applying one's agency as one chooses. Teachers' identities in their schools are inextricably tied to the identity of the collective, which regulates pedagogical transformation in the classroom depending upon how teachers understand themselves and their practice in their particular settings. When opting for or against technology integration, teachers in part are considering who they are in relation to their collective group. In a school where technology integration is not a key component of classroom culture, an individual might not envision herself as being a teacher who can or should integrate technology since this is not an integral part of the collective identity. On the other hand, if a teacher is part of a collective that values technology integration and uses technology with students consistently, a condition of that teacher's membership in the group may hinge on her own use of technology in the classroom. Technology use in the classroom is then seen as a necessary part of what it means to be a teacher in this setting, thus an integral part of the teacher's identity.

Wenger (1998) further articulates that identity is directly connected to people's communities of practice, which he describes as groups who share a mutual engagement. He

explains that identity is “a way of talking about how learning changes who we are and creates personal histories of becoming in the context of our communities” (p. 5). As people participate in group interactions, their identities “become interlocked and articulated with one another through mutual engagement, but they do not fuse” (p. 76). So in this sense, members of a group will always be both “self” and “other” simultaneously (Roth, 2005). This inextricable connection between learning, identity, and community provides rationale for the purposeful creation of meaningful collaborative experiences for teachers as they begin to transform their classroom practice to include technology use.

Emotional Energy, Sacred Symbols and Technology Use in Teacher Collaboration

To understand how identity is negotiated in a social space, it is useful to turn to sociology of emotions, specifically Randall Collins’s theory of interaction rituals (IR), since this will allow us to examine the nuances of group interactions on an extremely micro-level. As Collins (2004) explains, IR is “a theory of momentary encounters among human bodies charged up with emotions and consciousness because they have gone through chains of previous encounters” (p. 3). As people participate in practices together, successful interactions have the potential to develop positive emotional energy (EE), which can build group solidarity and lay a foundation for more successful interactions to occur. The IR and EE cycle is a cumulative one; whereby, successful IRs lead to more positive EE and positive EE leads to additional successful IRs. These successive IRs are referred to as an IR chain. However, social interactions are not always positive. Groups may also experience IR chains that result in very negative EE. These types of IR chains are least productive for building group solidarity. Relating back to the definition of Wenger’s communities of practice, since positive EE is more productive for promoting group solidarity, a collaborating group that experiences a chain of positive IRs will have a stronger sense of mutual engagement. Furthermore, Collins explains that as groups engage in interaction rituals, they develop “sacred symbols.” In a group that convenes about technology integration and curriculum, technology becomes a sacred symbol essential to the functioning of the group. Sacred symbols like people’s bodies have the potential to become charged with EE. As a group engages in successful IRs around their sacred symbol, that symbol then becomes charged with positive EE, while conversely unsuccessful IRs lead to a charge with negative EE. In another setting, the sacred symbol will then have positive or negative connotations for group members. In the English/Technology Curriculum Writing group, technology became a sacred symbol of the group. When interactions were successful, the positively charged sacred symbol had the potential to facilitate pedagogical transformation the school setting because the technology became a positive force fused into the group members’ identities.

Methods and Data Collection

The 2004 English/Technology Curriculum Writing Group met four days a week, four hours a day, for four weeks. All regular group sessions except the first and last were videotaped. During the four-week session, I also conducted a PowerPoint and a Web design workshop in a computer lab. The two workshops were not videotaped. Data collected consisted of

videotapes of the group's interactions, group artifacts (lesson narratives, hand outs, web sites and PowerPoint presentations), and observations recorded in a field journal.

The group consisted of 10 participants with diverse personal and professional experiences. Nine were in-service teachers and one was a retired teacher who was the group facilitator. All members were or had been high school English teachers, but the group was diverse in that their populations of students, grade levels and type of English (ELL, SPED, literacy, etc.) varied. One teacher was an ELL and SPED teacher, two (2) were SPED team teachers, two (2) were 9th grade Ramp-up (literacy) teachers, one (1) was a 10th grade teacher, one (1) was a 9th grade teacher in a laptop school, one (1) was a librarian and AP English teacher, and one (1) was a 10th grade teacher at an elite private school.

In order to identify when and how identity was being constructed within the English/Technology Curriculum Writing Group, I selected video-microanalysis and discourse analysis as my primary means of analysis. By videotaping the group's interactions, I was able to not only look for patterns in what participants said, but I was also able look for patterns in what they did. By isolating vignettes and using QuickTime, I slowed down the video to 1/30 of a second in order to identify rhythmic body movements such as head nods and eye gazes, which are indications of mutual engagement referred to by Collins (2004) as "entrainment". By cross-analyzing body movement with conversation, I was able to identify instances of overlapping and anticipatory speech, since another indicator of entrainment is when participants are so in tuned to each other that they finish each others' sentences or murmur affirmative utterances. I also used discourse analysis to identify patterns in the themes of conversations. This combined with the video-microanalysis enabled me to identify which types of conversations generated positive emotional energy and entrainment that is indicative of identity construction.

Findings

As a sacred symbol of the group, technology often sparked intense conversations. Sometimes conversations would revolve around group members asking questions to learn more about an unfamiliar technology like video editing software, and at other times a group member would ask advice on how to bring technology into a non-technology lesson. Discussion of non-technology lessons usually would result in a conversation about the possibilities of various types of technologies and their benefits and drawbacks. Technologies that were discussed ranged from digital video and photography to computer technology and what group members call "low tech" technologies such as TV, overhead projectors and chart paper and string. Technology infused lessons often would generate culture producing "Technology Talk," where the group would develop an understanding about a new resource and how it can be used in classrooms, followed by an identity constructing discussion where teachers would share past experiences that were similar, or they would envision other ways to apply the technologies in their own classes or in the classes of the other group members. I categorize these types of identity exchanges as storytelling (relating one's past experiences) and imagining (envision self or other in the future). While storytelling and imagining also occurred during discussions around non-tech lessons, the

exchanges tended to be longer and more intense during discussion of technology lessons. Below are micro-analysis of the three types of exchanges.

“Technology Talk”

(Duration: 1min. 9 sec.)

In the “technology talk” exchange, Gina, Carol and Andrew are the main protagonists, as Gina explained to Carol that students in her school use iMovie to do video projects. At about twenty seconds, Gina was prompted by a question from Andrew. This shifted the conversation into a new direction. She went into an in-depth description of the features of iMovie as Carol and Andrew responded with head nods, eye gazes, and complimentary speech. Throughout the exchange, all other members also displayed signs of synchrony in body orientation, eye gazes, head nods, hand gestures, overlapping anticipatory speech, and verbal utterances. Speech was quick, and turn-taking was fluid, usually prompted by questions with coordinating eye-gazes and body movements.

Speaker	Timeⁱ	Text
Gina	00:00:00	In our school I know we have, um, an iMovie camera. You could do this on iMovie if you had it... which is like a digital video camera that they can plug into the computer, and they can manipulate their actual video on the computer. Which is again, if you happen to have the equipment, but if you happen to have it, iMovie is really good for that. <i>(Gina looks down.)</i>
Carol	00:17:90	iMovie, I’m going to write that at the top. That sounds [good.
Andrew	00:19:96	[What do you mean [“manipulate”? <i>(Andrew seems prompted by Gina breaking eye contact with the group.)</i>
Carol	00:21:13	[iMovie.
Gina	00:21:60	You could put it in there, you could [cut it, edit it. You could add sound to the background like fake clapping, [you could add text to it, [scrolling credits. [You can do a whole lot of stuff [with it—still frames and things if you wanted, um::
Mark	00:23:03	[Edit...
Andrew	00:26:03	[Oh, text...
Carol	00:28:66	[Wonderful...
Andrew	00:30:40	[Music...
Sarah	00:32:16	[That’s a good idea...
Carol	00:36:13	So that’s a digital camera but it gets [connected to a...
Gina	00:38:10	[It plugs right into the port on the computer, and then you import the clips you’ve taken, which is basically the video, and then you can manipulate it in a program called iMovie. [Again I don’t know if that’s... that’s on the Mac. And uh::
Amy	00:49:13	[Is that on the iMac?
Lorraine	00:54:20	I’m sure there’s something comparable.

Speaker	Timeⁱ	Text
Carol	00:55:76	I'll ask about [it.
Gina	00:56:63	[Yeah, you could ask. I'm just saying if you had it, that's a next step you could take as far as doing this good project. That would just be another [step you could take.
Carol	01:03:36	[Yeah. That'd be wonderful. They would love that. 'Cause they love seeing themselves on the ??? (01:08:43)

Within the first nineteen seconds of the exchange, Gina established a mutual focus by initiating a discussion about a technology with which many of the teachers were unfamiliar. At just under twenty seconds Andrew took advantage of a turn-taking opportunity indicated by Gina breaking eye contact with the group. He zeroed in the focus of the discussion by asking for clarification about the specific capabilities of the program. While the group was already entrained in the conversation, Andrew's question opened up further elaboration about the software, which created an opportunity for not only gaining knowledge, but also building solidarity as the group members worked together to understand the capabilities of the program.

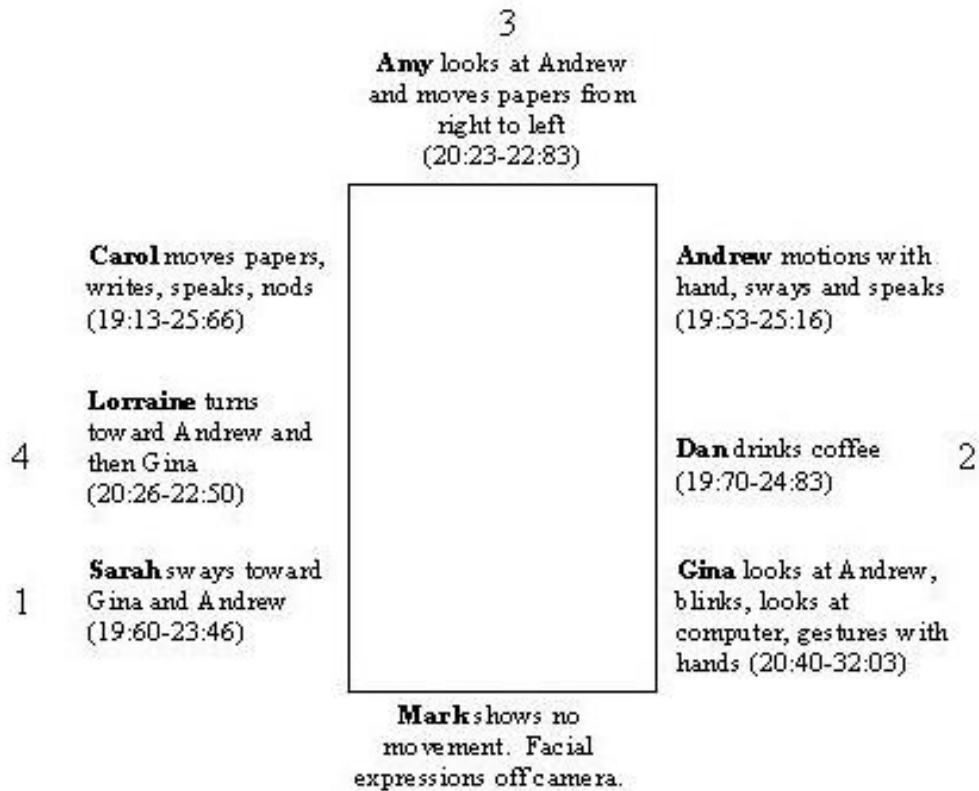
The conversation fluidly shifted from Gina and Carol to Gina and Andrew (and the rest of the group), and then closed with Gina and Carol again before moving on to the next topic. All participants were entrained and seamlessly shifted gears. Through microanalysis, this is evident in the rhythmic body movements that coincided with the verbal exchange. The group appeared to hit the peak in this phase of the conversation from the time Andrew asked his question at 19.9 seconds until Gina finished her explanation at 34.8 seconds. During this fifteen-second exchange, synchronous activity was concentrated and involved all members of the group either physically or verbally. Before and after the exchange, however, synchronous activity was more sporadic, usually involving only one or two members other than the protagonists. The table below delineates the synchrony and growing solidarity during the fifteen-second peak; See table on next page.

Even though this verbal exchange directly involved only Gina and Andrew, the other group members seemed to propel the discussion with their supporting comments and actions. For example, when Gina broke eye contact with the group at 18.8 seconds, Dan's, Amy's, Sarah's and Lorraine's actions followed shortly after and were in synch with Gina's, Carol's and Andrew's subsequent actions. As Andrew transitioned the conversation, the other members' movements appeared to "circulate" around the table in accordance with their seating arrangement. Sarah, in the foreground of the video and across the table to Andrew's left, began to sway. Dan, to Andrew's immediate left moved to reach for and drink his coffee. Amy, to Andrew's right began to shift her papers toward Andrew. And Lorraine swiveled her body, turning to face Andrew and then Gina. The actions of the four non-protagonists indicated that the group members supported and accepted the transition from Carol to Andrew; since, they occurred in time with Carol's, Andrew's and Gina's actions as indicated by the diagram on page 11.

Oral Textⁱⁱ	Gina	Carol	Andrew	Amy	Dan	Other Participants
19:96-21:10 Andrew: What do you mean “manipulate ”?	<i>Looks down (18:76- 19:30)</i> <i>Looks at Andrew (20:40-</i>	<i>Moves papers from left side to right side (19:13- 21:03), looks at Andrew and then down says, “iMovie” overlapping (20:33- 21:10)</i>	<i>Lifts head (19:53- 19:90) Lifts hand to head, looks at Gina (19:90- 20:83)</i>	<i>Looks up and toward Andrew (20:23- 20:63)</i>	<i>Moves right hand to reach for coffee (19:70- 21:26)</i>	<i>Sarah sways forward toward Gina (19:60-20:63) Lorraine turns toward Andrew (20:26-21:10) Sarah sways toward Andrew (20:66-</i>
21:60- 35:30 Gina: You could put it in there, you could cut it, edit it. You could add sound to the background like fake clapping, you	<i>looks down at computer (21:33- 21:56) blinks (21:73) Gestures with left hand (22:46-</i>	<i>Writing, nodding (21:60- 27:73),</i>	<i>Brings hand down, looks down (22:03- 22:56) looks to Gina (22:60) leans forward (22:66- 25:16)</i>	<i>Moves papers from right to left side, looks down (21:10- 22:83)</i>	<i>Brings coffee back and drinks (21:50- 24:03) looks at Gina, puts cup down (24:03- 24:83)</i>	<i>21:53) Lorraine turns toward Gina (21:60- 22:50) Sarah leans back (21:60 - 22:43)</i>

The climax of “technology talk” occurred at 34.8 seconds when Gina finished her description of iMovie’s capabilities. At that instant, Gina touched her hand to her mouth, Andrew nodded and blinked, and Carol broke into a smile. Their synchronous actions indicated entrainment and the accomplishment of their individual and collective goals. Afterward, another shift occurred, during which the conversation addressed whether or not iMovie was available at Carol’s school. The actual availability of the software, however, seemed less important than the discussion of it. Carol’s statement, “I’ll ask about it,” and Lorraine’s encouragement, “I’m sure there’s something comparable” indicate that knowledge of the software is most important in this field; accessibility could be dealt with in the teachers’ home schools. Yet in the curriculum writing group “technology talk” such as this did more than just provide technical knowledge. When Gina shared her knowledge of

iMovie in hopes that Carol could enhance her students' learning experience, she also showed that Carol's idea was valuable enough to build on. Furthermore, Carol's lesson and Gina's knowledge not only enhanced learning opportunities for Carol's students, but it also provided opportunities for individual identity construction within the collective of the curriculum writing group. Finally, it helped build group solidarity and set the stage for storytelling and imagining.



Storytelling & Imagining

(Duration: 4 min. 18.5 sec.)

In the following section, I analyze the storytelling and imagining phenomena as separate occurrences; yet, coincidentally in this vignette, they occurred together in a nearly alternating pattern. After the “technology talk,” Carol and Mark had an exchange about storyboards and the proper length of commercials. However, I didn’t include that particular segment of the discussion in my analysis because it functioned more as two monologues rather than group exchanges. Instead, I picked up again two minutes later when all the participants were constructing identity together as a group. The incidents of storytelling and imagining were interesting because quite accidentally, as the protagonists took turns speaking, they alternately shifted the conversation between the two types of exchanges. Yet, this is not necessarily the case in all interactions; storytelling and imagining can happen at any time, as can “technology talk”.

The table below outlines the series of five short verbal exchanges in which group members took turns telling stories or “trying on” Carol’s lesson in their own ways. It began with storytelling by Lorraine, moved to imagining by Mark and Andrew, back to storytelling by Mark, Carol and Lorraine, then imagining by Amy, and finished with storytelling by Mark and Amy. Turn-taking was still fluid and quick, but individual group members tended to take longer turns at speaking; since, during each turn a group member was sharing a story or explaining how they could use the lesson with their students. All group members except Sarah and Dan took a turn at storytelling or imagining; some members took more than one turn. By doing so, they expressed their individual experiences and identities as they related to the collective experience and identity of the group. In turn, they also built group solidarity through their collective appreciation of video as a tool for learning.

Speakerⁱⁱⁱ	Time	Text
Lorraine (S)	02:25:30	Well anyway, I thought yours was so good because it was exactly what I [did, and I thought, so as I’m listening to you I’m smiling thinking, ‘that sounds great.’ And one of the reasons I think it works so well is because you can do it with any types of kids [at any level, and it really can be [very basic, or it can be very [sophisticated.
	02:32:40	[Group laughter
Mark	02:40:10	[That’s true. [I love this.
Mark	02:44:03	[I love it. I love it. (<i>Points to Andrew and Dan</i>) I was thinking about your kids with something like this.
Andrew	02:48:36	Yeah.
Mark (I)	02:49:53	I mean even if you have kids that are on a very, a very low level and you give them some of the vocabulary and you say ok, ‘this is what you’re going to say’ and now you put it together in a commercial, they would go crazy. They would love it.
Andrew (I)	03:08:06	Yeah I was kind of thinking how I could use this for the autobiography, and it could be about some interest that they really like or even a commercial [about themselves, or like you know...
Gina	03:15:00	[about themselves
Mark	03:15:00	[They would love it. They would love it.
Andrew	03:17:20	“I am...”
Mark (S)	03:19:10	I mentioned to you the last couple of years of my career, when I taught, I taught in the TV studio. And I’m telling you, the kids absolutely love it, and they’ll write! They’ll get it right! They’ll revise it. They’ll make it perfect. The motivation is up here. (<i>Motions above head with hand</i>).

Speakerⁱⁱⁱ	Time	Text
Andrew	03:37:03	Yeah.
Lorraine	03:38:43	Yeah.
Mark	03:39:03	It's [unbelievable.
Carol (S)	03:39:16	[It's...It's true because I taught it with a class that never did anything, and on the day that I said that—we had done a public service announcement—and on the day that we were filming, it actually took us three days. They wouldn't let me stop because for the first time they were all engaged in making the most, the best product and I did end up showing them what a story board was later, but at this point, I felt again, it gets complicated.
Mark	04:03:70	Incidentally, your principal would be interested in this.
Carol	04:07:00	He liked it very much.
Mark	04:09:00	He... he in the '70's, helped me design some innovation for the studio.
Carol	04:15:00	He did. He was helpful with this, with that whole... (trails off, motions behind her, nods and sways).
Lorraine (S)	04:22:26	Well my lesson was geared toward kids who, they really, really, could make an effort to manipulate someone using advertisement. So knowing that they had a certain level of mastery, the idea would be, could they con them, could they make the audience believe what they were saying, and what kind of, what kind of expressions would be memorable? So the plan was that they could create, they could actually design their own product and come up with an ad for that product, so it's very (inaudible). And I did it because I have been hooked on this commercial about the great news where I just saved so much money on my car insurance.
Amy	05:01:56	You mean the Geico, the gecko, the car insurance?
Lorraine	05:04:16	Every time I see it [I laugh.
Dan	05:05:30	[Mister Diggyfly?
Mark	05:06:96	Geico.
Carol	05:08:06	Yeah.
Gina	05:09:16	I always like the one when they're in the car, and he's singing 'everybody was kung-fu fighting.' And he's sitting in the backseat. I love that little gecko.
Carol	05:25:83	(to Lorraine) I'm happy because I didn't feel you were loving my lesson. (laughs)
Lorraine	05:28:83	(to Carol) I do because I (inaudible)
Amy (I)	05:28:16	(to Mark and Dan.) It seems like the kids would like to do,

Speaker ⁱⁱⁱ	Time	Text
		um, like you were saying, your kids would like to do, um even something for um, an audition, an audition tape for a reality show using a story starter. There's all those floods of reality shows; you could make up your own reality show with them. (inaudible, trailing off)
Mark (S)	05:51:50	As soon as you take out a camera and start to roll, [their composition, everything changes. Everything changes; kids are completely different. It's wonderful.
Carol	05:53:83	[Oh yes.
Carol	06:03:70	They were on time. They got dressed. It was incredible. It was really... wonderful.
Amy (S)	06:12:06	I used it as the kids made, as a training tape for getting ready for a job interview. And it was really... you know, at first they hated to look at themselves, but it was very, very helpful to get the finger pointing to, you know their body language, how they made eye contact, and what was that limp handshake all about. It was very helpful, more helpful than just role-play. Really. (smiles, looks down at papers.) (06:43:56)

The most dramatic display of solidarity involved Carol and Lorraine who, during the exchange, discovered they had designed very similar lessons. Throughout Lorraine's thirty-eight second explanation, during which she elaborated on the way her students were supposed to design commercials, Carol was deeply entrained in the conversation. She displayed nearly constant movement that was synchronous with Lorraine's movements. Other members of the group were also entrained, as indicated by fixed gazes, but synchronous actions were minimal until Carol and Lorraine opened the conversation to the group. When Carol leaned back in her chair and nodded (5:00:00, 05:01:30) and Lorraine leaned forward and looked at Andrew and Dan (05:01:43), their actions signaled that the conversation had shifted to a more inclusive topic, in this case a popular television commercial.

The group interaction began to peak at about five minutes and zero seconds when Lorraine revealed that the Geico commercial was her inspiration for the activity. All members at the table recognized the ad, and as a collective, they laughed and chimed in with verbal quips. During the seventeen seconds that followed, their bodies moved synchronously as they nodded and smiled. Gina took the opportunity to share her favorite Geico^{iv} commercial as well, and after the collective effervescence reached a climax, there was a five second lull in the conversation. The extended break in speech indicated that the storytelling/imagining session was reaching its conclusion. This created an opportunity for Andrew to excuse himself from the table and for Carol and Lorraine to engage in a short

verbal exchange between themselves. The table below illustrates the seventeen seconds of synchronous activity at the peak of the conversation.

Oral Text^v	Lorraine	Carol	Amy & Mark	Gina	Andrew & Dan
05:01:56-	<i>leans forward,</i>	<i>lifts head, leans back</i>			<i>Dan looks at Lorraine</i>
05:03:10	<i>looks at</i>	<i>(04:59:46-</i>			<i>(05:01:00)</i>
Amy: You mean the Geico gecko, the car insurance?	<i>Andrew and Dan (05:01:43) looks at Amy (05:02:10)</i>	<i>05:00:00) nods (05:01:30) turns head left</i>	<i>Amy smiles (05:02:50)</i>	<i>looks at Lorraine (05:01:40)</i>	<i>Andrew looks at Carol (05:02:46)</i>
		<i>to look at Amy (05:01:83)</i>	<i>Amy looks at Andrew (05:03:06)</i>	<i>places hand on computer (05:04:10)</i>	<i>Andrew looks at Amy (05:02:70) Dan smiles (05:02:76) Dan, wide smile (05:04:00) Dan unfolds arms (05:04:23-05:05:16) Andrew looks at Lorraine (05:04:36) Dan: "Mr. Diggyfly?" overlapping (05:05:30) Dan smiles (05:06:40) Andrew smiles (05:06:86) Andrew looks at Gina, smiles (05:07:26) Dan looks at Gina</i>
05:04:16-	<i>looks at Dan (05:04:10)</i>	<i>Lorraine (05:03:10)</i>	<i>Mark turns head slightly (05:05:63)</i>	<i>looks at Lorraine (05:04:83)</i>	
05:06:14	<i>lifts head, places left hand on chest (05:04:40)</i>	<i>blinks (05:03:90)</i>	<i>Mark moves hands (05:06:26-05:06:83)</i>	<i>looks at Lorraine (05:04:83)</i>	
Lorraine (laughing): Every time I see it I laugh.	<i>looks at Carol (05:05:00) gestures with hands (05:05:63-05:06:13)</i>	<i>chews gum (05:04:33) tilts head to the right (05:04:96) turns head to the left (05:05:66) turns head slightly to the right (05:06:63)</i>	<i>Amy, smiling, looks at Mark (05:06:60) Mark : "Geico" (05:06:90) Amy looks at Lorraine (05:06:93)</i>	<i>smiles (05:06:53) turns head toward group (05:06:83)</i>	

Oral Text'	Lorraine	Carol	Amy & Mark	Gina	Andrew & Dan
	<i>turns and looks at Mark</i> (05:07:63)	<i>"Yeah"</i> (05:07:36) <i>looks at Lorraine</i> (05:07:96) <i>nods,</i>			<i>Dan looks at Lorraine</i> (05:07:76) <i>Dan looks at Gina</i> (05:08:16) <i>Andrew looks at Lorraine</i> (05:08:33)
	<i>hands papers to Mark</i> (05:08:66)	<i>chews gum</i> (05:08:03-05:10:20)	<i>Mark takes papers from Lorraine</i> (05:08:66)	<i>looks left and down at computer</i> (05:07:83)	<i>Dan looks at Mark, wide smile</i> (05:08:40)
05:09:16-05:17:16 Gina: I always like the one when they're in the car and he's singing 'everybody was kung-fu fighting.' And he's sitting in the backseat. I love that little gecko.	<i>settles hand in lap, looks at Gina</i> (05:10:10)	<i>looks at Gina</i> (05:10:33)	<i>Amy looks at Gina</i> (05:09:70) <i>Mark tilts head down</i> (05:10:33) <i>Mark tilts head toward group</i> (05:10:70)	<i>turns head right toward group</i> (05:09:56) <i>leans back, motions with hand, turns left toward Lorraine</i> (05:10:03-05:11:66)	<i>Dan looks at Gina</i> (05:10:00) <i>Andrew looks at Gina</i> (05:10:06) <i>Dan smiles</i> (05:10:60)
	<i>smiles</i> (05:13:90)	<i>chews gum</i> (05:12:80)	<i>Mark moves right arm</i> (05:11:20-05:11:76) <i>Amy looks at Lorraine</i>	<i>blinks</i> (05:12:40) <i>makes fist</i> (05:14:5	<i>Andrew smiles</i>
	<i>nods</i>				

Oral Text^v	Lorraine	Carol	Amy & Mark	Gina	Andrew & Dan
	(05:14:03-05:15:10)	<i>nods</i> (05:14:90-15:17:00)	(05:13:33) <i>Amy looks at Gina</i> (05:14:96)	6) <i>brings hand down, swivels head and body to the right</i> (05:14:90)	(05:15:33) <i>Dan smiles</i> (05:15:36) <i>Dan wide smile</i> (05:16:86) <i>Andrew leans forward,</i> (05:16:36-05:17:66)
	<i>sways back, puts head down</i> (05:15:33-05:17:33)	<i>smiles</i> (05:17:43)	<i>Amy looks at Lorraine</i> (05:17:40)	<i>leans back</i> (05:15:30) <i>turns toward Lorraine</i> (05:15:96)	

By the end of the discussion, it was evident that the solidarity experienced by Carol and Lorraine had spread to the rest of the group. This was particularly apparent in the amount of activity displayed by Andrew and Dan. Throughout the group interactions, Andrew and Dan tended to show less movement than the other participants. Often their facial expressions were nearly unchanging, and eye-gazes were their most common indicator of entrainment in a conversation. Yet, by the end of this exchange, they showed significantly more movement than Carol who in general had a tendency toward constant rhythmic movement during entrainment. When Lorraine and Gina shared their stories about their favorite advertisements, they did more than illustrate the inspiration for Lorraine's lesson. They also connected the lesson to the group members' non-teacher identities. The group members smiled and laughed not only at the description of the advertisement, but also when Lorraine laughed at herself at 05:05:00. Taking advantage of the tone that Lorraine had set in motion, Gina heightened the group's positive energy into an effervescence by sharing her favorite advertisement, as well. She sang the song from the ad and mimicked the character's actions, which provoked more smiles and laughter from the group. By the end of the entire discussion at 06:43:56, there were at least five resulting outcomes:

1. every member of the group had spoken (at least with a small quip) and most members had shared some knowledge or experience with the group,

2. Carol's lesson was connected to the in-school and out-of-school lifeworlds of the group members,
3. Carol's and Lorraine's lessons were charged with a positive emotional energy,
4. group solidarity was increased, and
5. individual and collective identity had been constructed.

Conclusions and Implications

Integrating technology into curriculum is not simply a matter of learning how to use technology; it is also a matter of how teachers see themselves in relation to others as technology is being integrated. While skills and support are essential in any technology integration initiative, technique and technical support alone will not necessarily translate into successful integration. Like any type of new pedagogical strategy, technology integration is a matter of identity. Teachers need to see themselves and others as members of a group in which technology integration is a valued practice. In addition, being part of a diverse collaboration provides new perspectives and possibilities for teachers who wish to begin integrating technology but do not work in a school where this is a typical part of school practice.

Supporting teacher collaborations by providing time and space for teachers to begin working together to integrate technology can be a helpful addition to technology integration initiatives. Collaborations such as the English/Technology curriculum writing group can enable teachers re/construct their identities as technology users within the group. This can enable them to transform their classroom practices in ways they had not envisioned before. It should be noted that, collaboration is not a panacea for successful technology integration, since teachers must have resources and support in their home schools as well. However, through sustained collaboration, teachers will not only have new resources and ideas at their fingertips, but they will also begin identify themselves and their students as technology users in the classroom.

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ⁱ Time is measured in minutes, seconds and hundredths of a second. An open bracket [indicates the beginning of overlapping speech.

ⁱⁱ Time is measured in seconds and hundredths of a second.

ⁱⁱⁱ Beside the speaker's name (S) indicates storytelling; (I) indicates imagining. An open bracket [indicates the beginning of overlapping speech. Time is measured in minutes, seconds and hundredths of a second.

^{iv} Geico is a U.S. insurance company that has a series of humorous T.V. advertisements featuring a talking gecko.

^v Time is measured in minutes, seconds, and hundredths of a second.