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THE ART AND TECHNOLOGY WRITING WORKSHOP: THEATRE ARTS AND TECHNOLOGY IN AN OUT-OF-SCHOOL SETTING

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Abstract

This paper is a descriptive study of an after-school program that integrated writing workshop, theatre arts, and computer game-making activities. The writing program emphasised concrete images of the five senses. The theatre arts activities used body and voice, drama games and improvisation. The computer game engine allowed students to invent stories and 2-D characters, and assign rules for their behaviour. Research in new literacies and computer game studies is discussed. Activity theory is used to analyse the complex interactions.

Abrégé

Cet article est une étude descriptive d'un programme extrascolaire qui intégrait un atelier d'écriture, l'art dramatique et des activités de création de jeux d'ordinateur. Le programme d'écriture mettait l'emphase sur des images concrètes des cinq sens. Les activités d'art dramatique utilisaient le corps et la voix, les jeux et l'improvisation théâtraux. L'outil de création de jeux d'ordinateur permettait aux étudiants d'inventer des histoires et des personnages en 2-D, et de fixer des règles pour leur comportement. La recherche dans les études de nouvelles alphabétisations et jeux d'ordinateur est discutée. Une théorie d'activité est utilisée pour analyser les interactions complexes.

Sumario

Este articulo trata de un estudio descriptivo de un programa llevado a cabo después de las horas de escuela. El estudio integró un taller de escritura, artes teatrales y asimismo un juego computarizado para la creación de actividades. El programa de escritura se enfatizó en imágenes concretas de los cinco sentidos. Las actividades artísticas teatrales utilizaron el cuerpo y la voz, juegos teatrales y la improvisación. El generador del juego computarizado permitió a los estudiantes inventar historias y personajes de dos dimensiones, y a asignar pautas a sus maneras de actuar. El articulo puntualiza la investigación sobre nuevas formas de aprendizaje para leer y escribir y los juegos computarizados. La teoría de actividad es aplicada para analizar la complejidad de estas interacciones.

Author's biography

Dr J. David Betts is an Assistant Professor of Literacy and Technology in the Department of Language, Reading and Culture in the College of Education, University of Arizona. His research focus is the integration of literacy, technology and the arts in in-school and out-of-school settings. Recent work includes a longitudinal study of after-school multimedia arts education, an artists-in- the-schools project in theatre arts in a seventh grade writing class, a community computing study with the Pascua Yaqui Tribe of Arizona, and an investigation of the integration of computer game-making software in a writing workshop.

THE ART AND TECHNOLOGY WRITING WORKSHOP: THEATRE ARTS AND TECHNOLOGY IN AN OUT-OF-SCHOOL SETTING

Introduction

This paper describes the first iteration of the Art and Technology Writing Workshop (ATWW), a weekly after-school program that combined theatre arts and computer game-making technology to stimulate young people to write. ATWW was a voluntary program based on the idea that new multimodal literacy activities would address the literacy needs and interests of this middle-school population. We undertook to mix a good writing program and proven theatre arts activities with technology, word processing and a game-making computer program that would allow them to express the narrative, character, description and dialogue that they created. We hoped to reach about ten to twelve middle-school and early high school boys and girls aged eleven to fifteen. Ultimately, several fourth and fifth graders (nine- and ten-year-olds) were welcomed, as well as some younger visitors.

We combined the work of two teaching artists: a writer, Mac Hudson, and a theatre specialist, Paul Fisher. Both had extensive experience in teaching in their respective areas and were interested in incorporating these techniques and technologies in their work. My involvement was as a researcher in literacy, technology and the arts working on integration. With two local arts agencies — ArtsReach, a non-profit in-school writing program for youngsters in primarily Native American elementary schools, and the Tucson Pima Arts Council, which supported the theatre work in writing classes — and the University of Arizona Provost's Office, we initiated this pilot program by purchasing the software, engaging the teaching artists and hiring the venue.

ATWW was housed in a small computer lab at the House of Neighborly Service (HNS), a church-sponsored community social service centre. HNS is located in South Tucson, Arizona, an historically Mexican-American community 60 miles (100 kilometres) from the Mexican border. HNS serves low-income families with programs in nutrition, health, education and recreation. Many of those who use HNS are members of indigenous tribes who live nearby or on the adjacent Pascua Yaqui or Tohono O'odham reservations. The HNS Native American Youth programs for adolescents are often coordinated by youth probation services.

We envisioned that a small group of interested youth would start with Mac's dynamic writing program. Paul would lead drama activities to develop dialogue, character and voice from the materials that the students had written. When the kids had developed some stories and characters, we would introduce the computer game engine program to let them create multimedia based on their writing and creative activities.

Writing

Mac's writing component emphasised 'two secrets of successful writing', using the five senses, and contrasting the concrete with the abstract. In the second workshop session, for example — between disruptions for behaviour and dinner — the five kids who were there that night took turns listening and reading aloud poems and short pieces that Mac had brought. They identified concrete images in the lyrics of a rap music CD-ROM on the boom box. Then they got out pens and notebooks to do automatic writing to music. Their instructions were to keep their pen on the paper at all times and write without stopping until the song was over. They were prompted not to think, to keep writing. Most of the kids were able to produce two pages or more. They wrote about where they were from. Some were from neighbourhoods where 'sirons [sic] are like music'. A young lady from southern California wrote about missing her gang and her 'homies'. Kids who had come from Mexico remembered the music and the 'smell of burnt wires'.

The writing always referred back to the previous work and encouraged editing and revision. They always shared what they had written and then looked for concrete images and the senses in each other's work. They wrote about their neighbourhoods and families (see Appendix A) and learned to improvise scenes and to consider dialogue as an important part of storytelling.

Drama

Many studies have been done on the efficacy of using the arts for instrumental outcomes (Hamblen

1993), and theatre arts in education particularly (Betts 2004, 1999; O'Day 2001; Burnaford et al. 2000; Wagner 1998; McMaster 1988). Paul's theatre process, 'the path of theatre', introduced students — at their own pace — to a variety of theatre skills and reinforced paying attention, respect for each other and themselves. It became a dynamic group experience which complimented the writing workshop. Drama started in the third week for an hour or so after the break. They began a dialogue to explore the nature of acting — that acting is pretending. They worked with body and voice as instruments doing physical and vocal exercises as warm- ups. They worked on basics like showing emotion, showing action and showing location. They talked about narrative and how computer games were mostly all based on a story. Paul did his coaching from the side, helping the onlookers understand what they were seeing, and encouraging the actors to think on their feet.

Some students were not comfortable at first in talking to a group. The incremental drama activities gave even the shyest student an avenue of expression. Paul used peer-encouragement techniques to use the more extroverted students as mentors for their shyer colleagues. They began with simple drama games, based on acting basics: feelings, places, actions and lying. They started slowly, building on the more outgoing kids to mitigate some adolescent shyness. For example, the first time Paul worked with the group they did a drama game which Paul calls 'Show an Emotion'. After introducing a brief warm-up routine and getting them to stand up and stretch, they talked about faces and emotions. Volunteers who would show an emotion for their peers to guess got to sit down.

Remixing

They took regular breaks to evaluate, develop and, as the students said, 'remix' their improvisations. They were not all as keen to write or edit as they were to 'remix'. They would start by reading their texts, but soon the text would be abandoned as they translated it into a vernacular and adapted it to the plot-sense, which made it easy for them to remember, repeat and modify. This was a motivational tool as well. Sometimes they were hard to stop. 'Remixing' brought energy, spontaneity and group creativity. There was much laughter and learning. They would 'riff' on the original idea for minutes without stopping.

This process required the whole group to focus, and they would be moving, talking, writing and improvising together. They utilised an array of presentation and feedback skills without formally recognising the activity. By writing down their improvisations, they were able to edit them and find characters and setting in their improvisations to people the story they were writing.

Computer games

The new literacies and new technologies present challenges as well as opportunities for young people (Gee 1998; Taylor 1983). Video gaming is a shared experience among many youth in the United States. As players, they learn a great deal about a bounded virtual world in order to play (Gee 2005; Fromme 2003). However, it is not commonly part of the discourse community in their schools, although there are recent efforts to establish its place in education. In fact, many in education are unaware of the impact that this new Information and Communications Technology, or ICT, is having on our culture as a whole. There are over a hundred courses in videogaming in higher education today, and graduate programs are seemingly being created every week. Meanwhile, classroom teachers are looking for ways to engage young learners in literacy activities that will help them succeed in school (Baker et al. 1995).

I argue, however, that in order to be fully literate in this mode, users must be able to create their own games. We used a simple game engine called *StageCast Creator2* ™ (SCC) (www.stagecast.com). Originally created as a tool to teach programming, SCC uses a simple graphical programming scheme where learners can manipulate objects and create simulations without using a programming language. Students are able to 'look behind the curtain' at how games are made. SCC has drawing and graphics tools to create objects and characters, and tools to establish rules for their behaviour and relationships. SCC is also a tool for constructing interactive presentations called sims that can be quite sophisticated (see Figure 1).

Figure 1: *Stage Cast Creator 2*™ tutorial screen shot

This ATWW activity encouraged students to change roles. They went from being a participant in a previously programmed context — the player — to becoming an actor or director controlling the movement of the characters and the camera. Students learned to use computer terminology and gaming terms such as file size, digitising and machinimation. Students began to create stories and visualise them by constructing a graphic narrative including character, goals and obstacles.

New literacies

New information communication technologies and media (e.g. the internet, hypermedia, CD- ROM) make it unreasonable to speak of literacy in the singular, or to view literacy as being based on written language only (Cope & Kalantzis 2000). What students do encounter are situated new literacies (Gee 2000, 2003) in the 'post-typographical world' (Reinking 1998), where contemporary texts often consist of different interrelated modes of communication and new ways of thinking about writing (Kress 2003; van Leeuwen & Kress 2001). Computer games that contain bounded virtual worlds and game rules are popular with this age group. We see youngsters learning a great deal in order to play (Gee 2005). Some teachers use video games to teach about character and storytelling. Yet there is little opportunity for students to create their own interactive games.

Outside of school, young people regularly engage in creative processes of meaning-making that integrate several modes of communication. New literacies studies build on these multimodal communication skills and interests that students possess (Kress 2003; Kress & Van Leeuwen 2001). To be literate in today's society (Leu 2002) means having access to the best information in the shortest time, to be able to identify and solve important problems and communicate this information (Leu et al. 2004).

Cultural Historical Activity Theory

Arts learning environments like ATWW are dynamic activity systems. To better understand them, we used Cultural Historical Activity Theory (CHAT), which takes human activity as the basic unit of analysis and views human consciousness as emerging from this object-oriented activity (Leont'ev 1978; Engström 2004). CHAT emphasises the socio-cultural aspects of learning as well as the cognitive, acknowledging the nature of the developing learner. CHAT is also useful in focusing on the mediational processes that innovative tools can bring to educational settings by taking into account the goals and motives of the

learners in the context of the setting and its social aspects, and focusing on interactivity of the various aspects. In reciprocal relationships, participants transform objects and vice versa, and each system component influences this transformation.

ATWW was a dynamic system mediated in several ways by technological and language tools. To help with analysis, the ATWW activity system can be simplified and visualised as in Engeström's triangle (see Figure 2). From the point of view of the kids (*subjects*) in this activity system, they had as an *object* of the activity something to do with writing. They were offered several new *tools* to use to help them become better writers. Those new tools included word processing software and the SCC program, as well as creative writing exercises and drama activities. Reading their work aloud and editing using the 'remixing' process they invented were new writing tools as well.

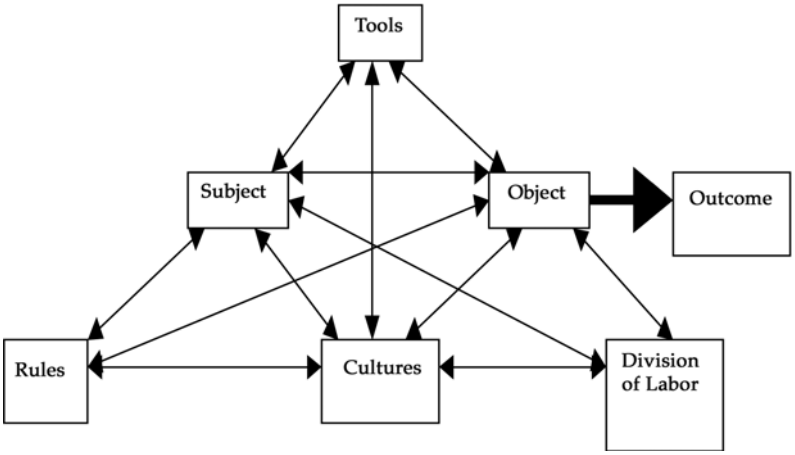

Figure 2: Activity triangle (after Engström)

The *outcom*e of the workshop for the students was a body of written products, presentation experience, and perhaps a new view of themselves as writers.

By examining the interconnectivity of its culture, the division of labour and the rules that were established, one can describe the context in which ATWW took place. Changes in the rules, for example, may be related to how the subject accesses the tools. As tool use becomes automatised, new objects are possible as the subjects are able to conceive of new outcomes.

The tensions or contradictions that naturally existed at each node helped to reveal the dynamic nature of the activity setting. The subjects were adolescents, conflicted by nature about identity and expectations. How they resolve these tensions is about how they learn and who they become, so it is important to examine them. The object of the activity setting — their writing — was at times too personal and at times too flippant, sometimes like school and sometimes fun. The technological tools they used were new and didn't always work, so dealing with the learning curve became how you get the program to do what you want it to.

The ATWW program ran for nine weeks between 16 March and 25 May. The sessions ran from 5.00–7.00 p.m. with time out to leave the lab and go to the lunchroom to eat dinner. The lab computers were not reliable, and initially were not hooked up to a printer. Saving to flash drive and carrying to the office to print out student work overcame this. There was no meeting during Easter week. There was one week where no one showed up, and one (the last) where only one young person came. It was unusual to get the same groups of kids twice in a row. After Easter, a major ceremonial season for the Pascua Yaqui and celebration for both tribes, we lost students to family obligations, school pressures and other end-of-summer plans.

However, a formative study such as this addresses more than outcomes. It asks how promising instructional interventions, such as ATWW, might be implemented to achieve valued pedagogical goals (Reinking & Bradley 2004). What we learned over the course of the twelve weeks of planning and

implementing this pilot formative study is organised below according to CHAT and the activity nodes in Engström's triangle.

Subjects

The primary focus of this study was the children and their interest in writing. In addition, the principal stakeholders were Mac Hudson and Paul Fisher, the instructors, myself as the investigator, and the associated agencies, HNS and TPAC. At the first meeting, seven kids aged twelve to sixteen and the staff filled out a preliminary survey form. This showed that this group had some shared characteristics. They liked hip-hop music (with one exception), they liked to write letters to family and friends, and they liked to make up stories. They were not the most sophisticated internet users. They did not read Manga books (Japanese illustrated stories, like comics), nor use the internet for shopping. Most said they liked to draw and to act. Most of the kids, but not the instructors, said they played video games a lot. About half the group had computers at home for homework. About half seemed to be invested in schoolwork, liked teacher praise for their writing, and wrote a lot in school. The group was split on whether a computer helped them to write.

It seemed that the low-income level of their families kept them from experimenting with the latest gadgets, cell phones, XBoxes, etc. available to some of their peers. However, no one needed instruction in how to use a computer. All had command of the keyboard, could use the internet to find games and to shop, and needed very little help with the word processing program used to rework their written assignments. The tutorials for the SCC program were easy for them to negotiate. Later, there were some younger drop-ins who needed more direct help at the computer.

Object

The object of this activity system for the kids was literacy, specifically writing. We took a broad view of literacy to encompass multimodality in narrative construction and creativity. Various tools were used to act upon this object and hopefully yield beneficial outcomes. The kids acknowledged at the outset that writing was important for them in school. For the most part, they were productive in their exercises and assignments. They did automatic writing and learned how to rough out ideas for later reworking. They worked on descriptions based on the five senses and wrote about their home neighbourhoods. They learned to act out stories they had written to edit and refine dialogue. These activities gave them new ways to think about writing and about themselves as writers.

In the group drama activities, they paid attention to each other, performed for each other and refined each other's material. They talked about what the characters would be wearing, how they would behave and where they would be. By working together through drama, they were editing their material.

Tools

The students used several new tools to interact with their object, writing. They used their voices and bodies as tools for improvisation, creative thinking, expression and communication. They invented 'remixing', where they spoke the dialogue they had improvised and written down. 'Remixing' is an organic re-editing process, where the original dialogue was continuously redeveloped until that group of students was satisfied. It was a focused, creative, high-level problem-solving process.

At HNS, the computer lab was a new tool, with six refurbished PCs, internet, and basic office software and some educational games. In addition to word processing, ATWW students were introduced to a computer game engine to create simple two-dimensional computer games and multimedia presentations. This allowed students to import graphics and create text to report research on a topic using multimedia. Students could create a story and then visualise it. This relates directly to the creative writing process.

Culture

The HNS community centre was established in 1946. Most of its programs are bilingual in Spanish and many speak either Yaqui or O'odham. It is located in South Tucson near traditional urban Native American neighbourhoods. Most of the native youth who participate in its programs live nearby in the City of South Tucson, where 9.1 per cent of the population is Native American (compared with the national average of 0.9 per cent). Some Native youth also travelled from across town and from the reservation to participate in the HNS after-school programs. The youth in ATWW were 'computer literate', meaning that they had learned in school to use word processing and to surf the internet. Most had experience with

computer games but had never had a chance to make their own.

The lives of these young people were somewhat chaotic, as the HNS Education and Prevention Coordinator told us before we started. He described the prevention program that he was just wrapping up, making it clear to me that issues of drugs, gangs and violence were very real for this group of children and their families.

The context was friendly and supportive of students. They felt like they belonged there. Many were comfortable dropping in to get a meal. Within this open atmosphere, the eight or nine students who participated off and on in ATWW were fairly engaged while there. They were productive, and able to revise their own work and constructively criticise the work of others.

There was a drop-in atmosphere that did not encourage consistent attendance at ATWW. There were also issues of behaviour and mutual respect in the early weeks that required explicit rule making by all concerned.

Rules

The rules for ATWW were informally adapted from the previous after-school program about drug intervention run by HNS staff. Some of the students were required to attend by their parole officers. It was noted that the kids lacked certain boundaries with their behaviour. It was difficult to keep them focused. Rules were negotiated for behaviour in ATWW based on respect for themselves, for others and for the property of others. This helped with talking when others were reading their work. But generally they were enthusiastic, and often some expressed the desire to continue at the end of the class.

The theatre activities brought a kind of discipline based on having to focus for presentations to peers. Basic turn-taking behaviours had to be worked out. Individuals had to learn to speak up and to speak clearly.

There wasn't much discussion about rules for writing, spelling or grammar and usage, nor were the topics or language that came from the kids' experience off limits. At one of the last meetings, they used the printouts of what they had just written to act out the narratives they'd created. They did this enthusiastically, using lots of Spanish and scatology. Two new boys embarrassed themselves by reading aloud from what they had written. One boy couldn't get through his, dissolving in nervous laughter. His friend did but was criticised by his peers for being 'disgusting'. They were negotiating rules for themselves.

Roles

As actors, students enjoyed playing parts and experimenting with new identities. They also explored various roles as writers, editors and critics of their own, their peers' and other writers' work. Once they immersed themselves in their characters, new material emerged fluently. Once the group of improvisational actors embodied the mood, the activity, the place and the problem, their interactions created more than individuals can manage alone.

The age range was greater than we had estimated, and there was a good deal of cross-age interaction, as sometimes the younger kids knew more about using the computer than the older kids and assumed the role of teacher. They coached each other in reading aloud and collaborated freely in creating dialogue to match each other's story ideas, transcribing the improvised role- playing and making sure the dialogue made sense. Writing in such an unstructured out-of-school context seemed to allow them to approach expressing their ideas more freely.

Outcomes

We have very little specific data that we can use about these children and any effects on them and their writing due to several factors, principally the lack of motivation and attendance, and a lack of parental consent. Without these consent forms, we were unable to systematically collect data. The program started several weeks into the spring semester. It conflicted with Easter, spring holiday, the end of school and the beginning of summer.

In general, we can say for the kids who came it was a worthwhile experience. They were enthusiastic writers, ready to listen to themselves and to others, and willing to revise and refine their work based on

the theatre activities and the game-making goal. A review of creative writing samples against the Six Plus One Traits writing rubric (Ideas, Organisation, Voice, Word Choice, Fluency and Conventions, plus Presentation) (NWREL 2001) showed that they were learning to use language in more creative ways.

The program was adjusted to include negotiation of rules for cooperation and respect. The inconsistent schedule, tardiness and an irregular dinner break were problems. More structured time to include the three aspects of the workshop and a plan for motivating student participation would be necessary.

The willingness of students to read their work and to act it out in front of the group was greater than anticipated based on the shyness and lack of interest reflexively shown at the first sessions.

The HNS educational environment changed in two ways: the idea of writing as an after-school activity was new to this community, and the use of improvisation theatre, technology and the game-making software added a new aspect to the kids' interactions with games.

The HNS staff were impressed with the potential outcomes, even though the program was not fully expressed in this initial effort, and indicated that they would be willing to pursue these ideas further in their future programs.

Those who came each week had a valuable experience. The writing samples and observations support their beginning growth as writers and communicators. The ATWW method of incorporating the theatre and writing exercises gave them opportunities to see how the influences of the different modes might be felt, and they came up with a 'remix' activity which involved editing dialogue based on short stagings of written interactions and improvisation.

Talking with students as they made use of the new tools, and their writing samples, showed the effects, if any, of the arts and technology activities. The teaching artists adapted to meet the realities of the out-of-school setting. This formative experiment will help us to take those portions of this curriculum that work best into other after-school programs and classroom settings. One other important outcome that was evident was the willingness of the parties to try ATWW again and build on the experience of this formative experiment.

Last meeting

The final meeting in late April was anticlimactic. Only one girl, M, from the original group and two younger kids came: C, a fifth grader, who had come for the first time the previous week, and his younger brother (fourth grade). Before we started, C was showing his brother the Create-a- Ride game from www.mostfungames.com. They discussed it in Spanish. M was working on her MySpace.com pages. I reintroduced the SCC software and went through the introduction, some example sims, and the tutorials. The adults went right to doing the tutorials and following the steps, but these kids jumped right in to the program and began creating characters and rules with little coaching and help as needed. Everyone was engaged with the program, and one student stated her understanding of the task. 'Oh. You mean make a game with the characters we wrote?' she said.

When we discussed the program's outcomes afterward, we noted the 'remixing' process as an important step for them. The students 'invented' it and then they named it. They effectively went through several levels of use (Griffin & Christensen 1999), from 'non-use' to 'refinement, integration and renewal' over the one session. Paul said: 'It was a breakthrough experience, where I learned something, too'.

It was also clear that the lack of structure to the after-school setting, with very inconsistent attendance, had been a big problem. It was also important to find ways to motivate students to come regularly, and to introduce the elements earlier. In retrospect, we felt that it was correct to introduce the writing techniques first, then the drama, and finally the game-making. It was clear that the writing and drama worked well together. It was less clear from what we accomplished that the technological component would fit as well. All the principals felt that it would be a good idea to find funding in order to repeat the program or some variant of it.

Implications for future research

Implementing integrated programs like ATWW that introduce students to authentic activities in multiple modalities can prepare them for the world after school and help them to see the relevance of their school

activities. Analysis of the evolution of the program in new literacies will allow us to determine how the arts and technology integration program worked best to improve writing and attitudes about writing in this after-school setting. In future, we will need to lay the groundwork by approaching a number of students and their families before the start date, and trying to recruit those who are actually interested in what ATWW offers. What we learn from working with these youth will help us design the best strategy for incorporating the ATWW model into the writing classroom.

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Appendix A: A poem and a story from G (a thirteen-year-old girl)

My Tia has brown hair and has a country accent She laughs really loud and is really nice. She says' Big boy how are you doing. Big boy is my mom that was what her grandparents call her Big boy replies 'fine how are you doing Tia Blanca.' 'Fine Fine how are the kids doing' replied my Tia Big boy said 'they are hanging in their.'	A Soldier in the War I'm afraid I'm not going to return to my family, My wife and my three kids. I want to see them again my wife and kids. All I hear are kids crying 'Help my daddy' cried the little kid 'be quite, just shut up' said one of the dads, and explosions. I just want to return to my house. I was sleeping when two men grabbed me the men said 'they are going to regret coming here uh Sadam' 'Yeah they will Jama' said Sadam. They had masks on Then they took me To this room it was dark I have been here for two days. No food or water and they torture me. They whip me and slapped me around. I wish I was home right now. Three days later my friend James came and got me out of this prison. I was so weak that I passed out. When I woke up I was in a hospital with my family around me. I told them that I loved them then I never woke up again.

References

Baker, L., Afflerbach, P. & Reinking, D. (eds) (1995). *Developing engaged readers in school and home communities.* Mahwah, NJ: Lawrence Erlbaum.

Betts, J.D. (2004). Theatre arts integration at a middle school: A formative experiment. *Youth Theatre Journal*, 18.

Betts, J.D. (1997). Arts integration: Semiotic transmediation in the classroom. *Arts and Learning Research Journal*, 20(1). A related article is available online at www.u.arizona.edu/~bettsj/SemTrans.html.

Brown, A. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *The Journal of the Learning Sciences*, 2(2).

Burnaford, G., April, A. & Weiss, C. (eds) (2000). *Renaissance in the classroom: Arts Integration And Meaningful Learning*. Mahwah, NJ: Lawrence Erlbaum.

Children NOW (2001). *Fair Play: Violence, Gender and Race in Video Games — 2001* http://publications.childrennow.org/publications/media/fairplay_2001.cfm.

Crosbie, W.W. (2005) Instructional design does not equal game design: Lessons learned in delivering a course in game design and education. In P. Kommers and G. Richards (eds), *Proceedings of World Conference on Educational Multimedia Hypermedia and Telecommunications 2005.* Chesapeake, VA AACE.

Design-based Research Collective (2003) Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher*, 32(1).

Eisner, E.W. (1994). *Cognition and curriculum reconsidered*. New York: Teachers College Press.

Engström Y. (1999). Activity theory and individual and social transformation. In Y. Engström, R. Miettinen & R. Punamaki (eds), *Perspectives on activity theory*. Cambridge, MA: Cambridge University Press.

Fromme, J. (2003). Computer games as a part of children's culture. *The International Journal of Computer Game Research*, 3(1), www.gamestudies.org/0301/fromme.

Gee, J. (1998). Teenagers in new times: A new literacy studies perspective. *Journal of Adolescent and Adult Literacy*, 43(5).

—— (2003). *What video games have to teach us about learning and literacy.* New York, NY: Palgrave Macmillan.

Griffin, D. and Christensen, R. (1999). *Concerns-based adoption model (CBAM) levels of use of an innovation (CBAM-LOU)*. Denton, TX: Institute for the Integration of Technology into Teaching and Learning.

Hamblen, K.A. (1993). *Research and theories supporting arts instruction for instrumental outcomes*. Paper presented to AERA, San Francisco, CA ED 351 250.

Kress, G. (1997). *Before writing: Rethinking the paths to literacy*. London: Routledge.

—— (2003). *Literacy in the new media age*. New York: Routledge.

Kress, G. & van Leeuwen, T. (2001). *Multimodal discourse: The modes and media of contemporary communication.* London: Arnold.

—— (2006) *Reading images: The grammar of visual design*. London: Routledge.

Leont'ev, A. (1978). *Activity, consciousness and personality*. Englewood Cliffs, NJ: Prentice- Hall.

Leu, D.J. Jr (2002). Literacy and technology: Deitic consequences for literacy education in an information age. In M.L. Kamil, P. Rosenthal, P.D. Pearson & R. Barr (eds), *Handbook of reading research, Vol. III*. Mahwah, NJ: Lawrence Erlbaum.

Leu, D.J., Jr, Kinzer, C.K., Coiro, J. & Cammack, D.W. (2004). Toward a theory of new literacies

emerging from the internet and other information and communication technologies. In R.B. Ruddell & N. Unrau (eds), *Theoretical models and processes of reading* (5th edn). Newark, DE: International Reading Association, www.readingonline.org/newliteracies/lit_index.asp?HREF=leu.

McMaster, J.C. (1998). 'Doing' literature: Using drama to build literacy. *The Reading Teacher*, 51(7).

Northwest Regional Education Laboratory (2001). *6+1 Trait™ Writing.* Available online at www.nwrel.org/assessment.

O'Day, S. (2001). Creative drama through scaffolded plays in the language arts classroom. *Primary Voices K–6*, 9(4).

Reinking, D. & Bradley, B.A. (2004) Connecting research and practice using formative and design experiments. In N. Duke & M. Mallette (eds), *Literacy research methods*. New York: Guilford Press.

Ruggill, J., Moeller, R., Pearce, B. & McAllister, K. (2005). Teaching media culture with computer games. *The International Digital Media & Arts Association Journal*, 2(1).

Rossi, P. (1997). Having an experience in five acts: Multiple literacies through young children's opera. *Language Arts*, 74(9).

Taylor, D. (1983). *Family literacy: Young children learning to read and write.* London: Heinemann.

van Leeuwen, T. & Kress, G. (2001) *Multimodal discourse: The modes and media of contemporary communication*. New York: Oxford University Press.

Vygotsky, L. (1971). *The psychology of art.* Cambridge, MA: MIT Press.

Wagner, B. (1998). *Educational drama and language arts: What research shows*. Portsmouth, NH: Heinemann.